Appendix A – Agencies, Boards and Commissions Asset Management Plans

- Business Improvement Areas (BIA)

- Covent Garden Market

- Eldon House

- London and Middlesex Community Housing

- London Police Services

- London Public Library

- London Transit Commission

- Museum London

- RBC Place London

2024

Business Improvement Areas (BIA) Asset Management Plan

City of London

ARGYLE
THE ♥ OF EAST LONDON

DOWNTOWN LONDON

HAMILTON ROAD BIA

HPBIA

OLD EAST village

london.ca/CAM

London CANADA

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Acknowledgement

Land Acknowledgment

We acknowledge that London area Business Improvement Areas/Associations (BIA) including Argyle, Hamilton Road, Hyde Park, London Downtown, and Old East Village, reside on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis, and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the BIAs, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge respective BIA staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to each BIA Board and City Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

Argyle BIA Board of Management

Members: Rob Graham (Chair), Carol Taylor, Frank Boutzis, Chris Metron, Rob Aiken, Deborah Haroun, Lina Phillips, Shawn Lewis (Councillor)

Hyde Park BIA Board of Management

Members: Tom Delaney (Chair), Nancy Powell-Quinn, Lorean Pritchard, Corrine Rahman (Councillor), Vickie Balazs, Terryanne Daniel, Luke Unger

Hamilton Road BIA Board of Management

Members: Hadleigh McAlister (Councillor and Chair), Carolyn Luistro, Shahin Kardan, Rick Pinhero, Dan Martens, Jaydip Gopal Tilva, Gursharan Singh, Jelamoren Doremdez

Old East Village BIA Board of Directors

Members: Maria Drangova (Chair), Grant Maltman, Rob Campbell, Caileigh Robson, Michelle Scott, Kelli Gough, Rashad Ayyash, Scott Courtice, Robbyn Lindsay, Susan Stevenson (Councillor), Ross Sutherland

London Downtown Business Association

Members: Scott Collyer (Chair), Asaad Naeeli (Past Chair), Bonnie Wludyka, Carolynn Conron, David Ferreira (Councillor), Keith Brett, Kristin Nielsen, Michael Pottruff, Michaelanne Hathaway, Natalie Boot, Nick Vander Gulik, Scott Bollert, Steve Pellarin.

Section 1.   Executive Summary

1.1: 2024 BIA Asset Management Plan Introduction

The five BIAs infrastructure analyzed (Argyle, Hamilton Road, Hyde Park, London Downtown Business Association, and Old East Village) represent critical assets that enhance local business support, economic development, beautification, and community engagement.

This Asset Management Plan (AMP) is designed to enhance the management of BIA's infrastructure assets in a way that connects strategic BIA, City of London, and community objectives to day-to-day and long-term infrastructure investment decisions. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning BIA for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, and replaced).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that maintain current LOS and those that achieve proposed LOS;
- If necessary, establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet the respective BIAs Board approved LOS and associated lifecycle activities.

Key findings of the 2024 BIA AMP are:

- There are $582.5 thousand dollars of infrastructure assets under BIA management;
- Overall, these assets are in Good condition;
- No cumulative 10-year maintain current LOS and achieve proposed LOS infrastructure gaps have been identified; and
- The recommended average maintain current LOS reinvestment rate is 10.4% and based on an analysis of approved 2023 and 2024 BIA operating budgets, this level of infrastructure investment can be managed within existing budgets.

A summary of these results is presented in the following tables and figures:

- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of BIA's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets between those that are in Very Good to Very Poor condition;
- Figure 1.2 shows the optimal maintain current LOS expenditures compared to planned operating budget, and the resulting infrastructure gap, if any;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS.

Table 1.1 2024 AMP Summary Information

Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($Thousands)	$582.5	$582.5
10-Year Infrastructure Gap ($Thousands)	None Identified	None Identified
Infrastructure Gap as a Percentage of Replacement Value	None Identified	None Identified

■ Very Good ■ Good ■ Fair ■ Poor ■ Very Poor

39%	37%	20%	3%

0%   50%   100%

Figure 1.1 Overall Condition

■ Investment to Maintain Current LOS   ■ Projected Operating Budget to address infrastructure needs
━━ Cumulative Infrastructure Gap (Maintain LOS)

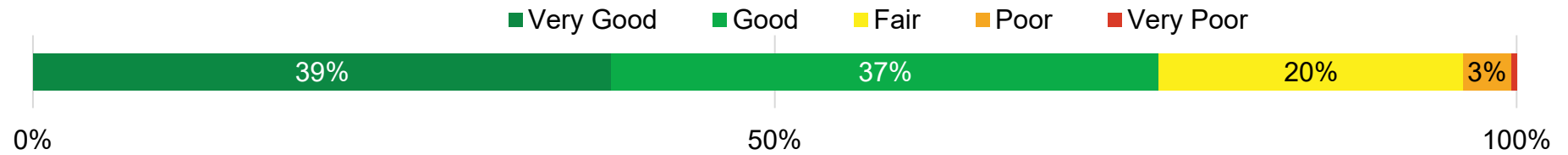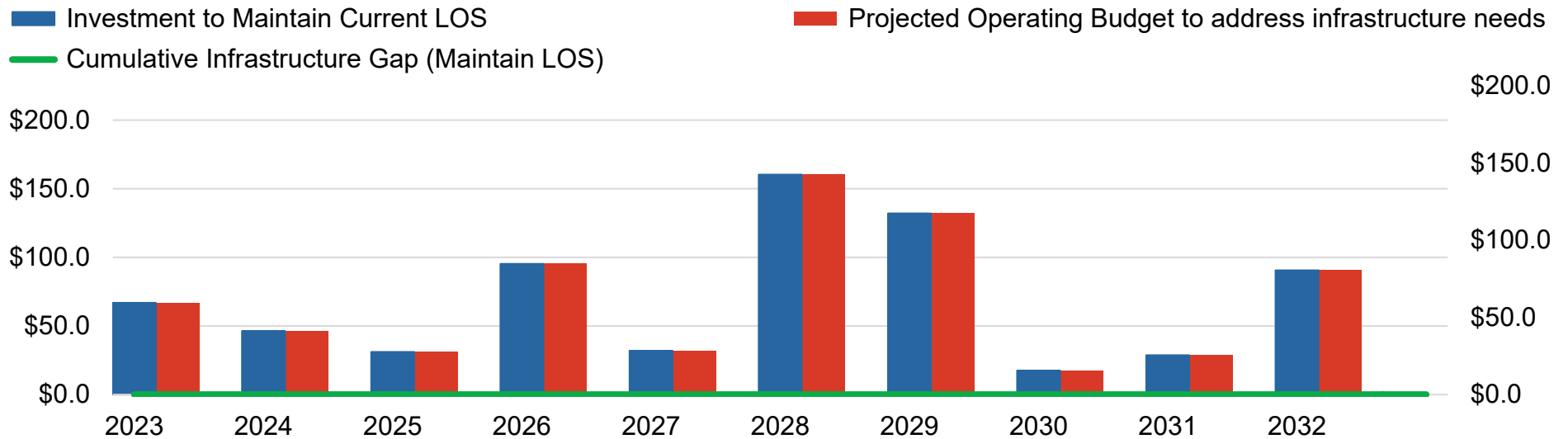Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps (Thousands)

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
10.4%	10.4%	10.4%

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.
- **Detailed Asset Management Plan** section summarizes the existing asset inventory, its replacement value, condition, age distribution, and how BIA stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies, and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.
- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to Board approval.
- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on BIA staff input and asset data, the BIA AMP is a tactical outcome of the City's CAM Program, outlining BIA's plan to manage its $582.5 thousand worth of infrastructure, and the required investments to expand the asset portfolio to meet maintain current LOS and achieve proposed LOS objectives. There are no easy solutions to how the entire infrastructure system works together to achieve an optimal delivery of community and economic enhancements. But this AMP, among other BIA strategic documents, help identify the efforts required to ensure appropriate infrastructure funding.

There are no identified cumulative 10-year maintain current LOS and achieve proposed LOS gaps. If they were to arise in the future, choices are available as to how BIAs manage the infrastructure gaps. These choices include:

- BIAs can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. However, funding sources are limited, thus, BIAs must continue to manage its services in an affordable manner with due regard to member, community, and staff impacts.

Overall, the BIAs have a long-standing practice of pursuing all possible means to achieve service delivery goals and have been reasonably successful delivering quality services. In effect the BIAs adopt a blend of the three approaches outlined and are continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

The Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against BIAs $582.5 thousand worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff. At this time, there are no additional funding needs associated with the completion of these administrative projects (i.e., initial projects will be completed leveraging existing staff and other resources).

Section 2.   Introduction

2.1: Supporting BIA Goals Through the Corporate Asset Management Program

London's BIA entities (Argyle, Hyde Park, Hamilton Road, Old East Village, and London Downtown Business Association) infrastructure systems support a range of services that enable residents, businesses, City of London tourists and community partners to have an engaging community experience in the City while enhancing economic prosperity. These service delivery results are based on BIAs strategic mandates that guide the BIAs in a way that aligns with the core values of our community. The respective BIA websites and staff feedback summarizes these mandates as follows:

Argyle BIA Mandate[1]:

Works to beautify and promote the area while fostering a sense of community for businesses and customers alike. It is the mission of the organization to build community between residents and the businesses to restore wellness, beautify and add value to the commercial area.

Argyle BIA collaboratively works to fulfill the three Strategic Areas of the Strategic Plan, which is to enhance community wellness, street improvements and positively impact the community by celebrating life in East London.

Hamilton Road BIA Mandate[2]:

Will develop, advocate, promote and invest in our unique community in areas of Economic Development, Beautification and Marketing and Promotion while simultaneously honouring the rich history and diversity of the Hamilton Road area.

Hyde Park BIA Mandate[3]:

Help bring new and exciting business opportunities to Hyde Park, while ensuring the development reflects the needs of the existing businesses.

The draft 2024-2027 strategic directions include a **Vision** of Businesses working together to foster a vibrant and connected community; a **Mission** of The Hyde Park BIA enriches and cultivates a thriving community by celebrating and promoting Hyde Park businesses and **Values** of Integrity, Fearless Innovation, Collaboration, Inclusive, Informed, Playful.

Strategic priorities include member engagement, business growth, community collaboration, and vibrant environment.

LDBA Mandate[4]:

Exists to represent the interests of member businesses, ensure retention, and maintain the public realm.

LDBA's mission is to steward the levy paid by member businesses by leading and championing programs and investments that make London's downtown a destination of choice and an economic centre that supports the entire community.

The Downtown London Strategy for calendar years 2021-2025 was created to build on the success of the past and plan to adapt and recover from the impact of the COVID-19 pandemic[5].

OEV BIA Mandate[6]:

Create a vibrant, diverse, and sustainable commercial corridor, at the heart of an inclusive community, where people live, work, shop, play, and produce.

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[1]https://www.argylebia.com/#:~:text=The%20Argyle%20Business%20Improvement%20Association,for%20businesses%20and%20customers%20alike.
[2]https://www.hamroad.com/
[3]https://hydeparkbia.ca/
[4]https://www.downtownlondon.ca/about-downtown-london-bia/why-we-exist/

[5]https://www.downtownlondon.ca/wp-content/uploads/2023/05/DL-Strategy-Final-Oct-21-2021.pdf
[6]https://www.oldeastvillage.com/about#:~:text=Our%20Mandate%3A%20Create%20a%20vibrant,shop%2C%20play%2C%20and%20produce.

It is also noted that Council's 2023 to 2027 Strategic Plan for the City of London identifies "Economic Growth, Culture, and Prosperity" as a strategic area of focus. These involve working better together for economic growth with Business Improvement Areas (BIA's) of London and continuing to build strong working relationships with such community partners.

The City's CAM Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[7].

This AMP was developed through the City's CAM Program and associated business processes and systems. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the communities, members, and Board approved objectives.
- Forecasts the expected impact that the average annual operating budgets, inclusive of projected operating budgets for 2023-2032 (hereon referred to as "planned budget" or "projected operating budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.

- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2: Provincial Asset Management Planning Requirements

This AMP builds upon existing BIA asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, the Province created O. Reg. 588/17 under the *Infrastructure for*

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[7] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

Jobs and Prosperity Act. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted BIA financials are consolidated within the City's financial statements. The following dates are provincially required:
  - o By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  - o By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS, and the costs to achieve them, and the financial strategies to fund the expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.
- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across the BIAs who are involved with managing infrastructure assets.

Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure
- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?
- Age and expected useful life of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects financing needs that go beyond historical costs, and where possible include replacement values that are inclusive of:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,
- Achieve Proposed LOS – meeting the desired LOS may require additional investments in existing or new infrastructure, and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

By acknowledging financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and helps BIAs to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with BIA mandates, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other Board approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to

determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, BIAs strive to provide services to the community and members that are accessible, cost efficient, provide customer satisfaction, demonstrate environmental stewardship, reliability, and safety, with suitable scope. As shown in Figure 2.1, to obtain a desired LOS, BIAs face a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.
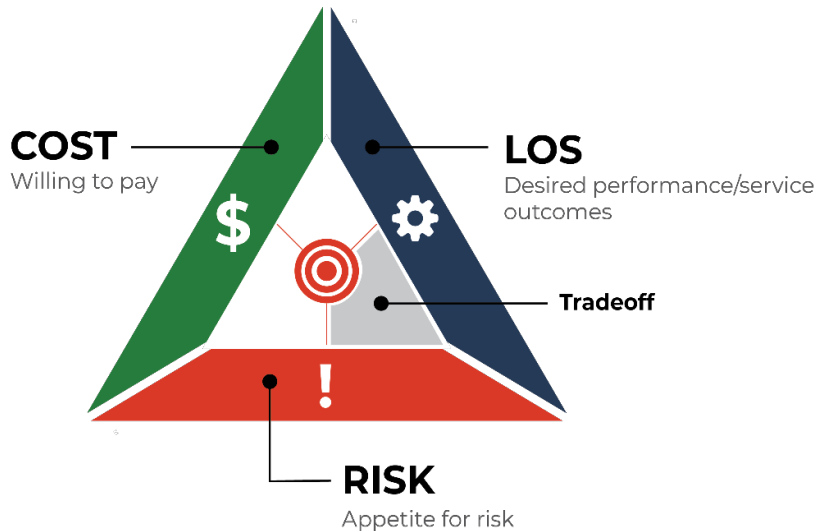

Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budgets, the required budgets to maintain current LOS, and the required budgets to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps, if any, are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned operating budgets of 2023 and 2024.

In other words, what BIAs plan to spend versus what the asset needs are. Should infrastructure gaps be identified, the objective is that they decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, to minimize the risks associated with failing assets, and to acquire new infrastructure.

Next, a typical AMP presents infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community and members.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with asset lifecycle management scenarios and the potential need to address future infrastructure cost pressures. This discussion includes opportunities and challenges that are both in and outside of the control of BIAs and Boards. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and
- Growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of BIA infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by BIAs as of December 31, 2023, and associated planned budgets approved for 2023 and 2024. Thus, timing differences may exist between when this AMP was developed versus current asset inventories and budget

approvals beyond 2024. Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.

- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in two ways:
  o Condition may be assumed based on age and estimated useful life; and
  o Condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- No capital budgets relating to lifecycle renewal, service improvement, and growth are identified, and the 2021 Development Charges Background Study does not apply to BIAs.
- There are no identified reserve funds.
- The forecasted planned budget will occur as planned over the period of analysis and be representative to finance infrastructure purchases as they arise.
- The AMP assumes current reinvestment rate in 2023 equals maintain current recommended reinvestment rate.

Section 3.   Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

The concept of a community and member base rallying to advocate, beautify, and enhance prosperity of a specific geographic area is a concept that has existed for an indefinite period. However, a more formal, municipally recognized Business Improvement Area (BIA) was a world-leading concept first legislated in 1970, in Ontario, with many refinements in the subsequent decades[8]. It is a notion that allows local business people and commercial property owners and tenants to join and, with the support of the municipality, to organize, finance, and carry out physical improvements and promote economic development in their district.

A BIA is run by a volunteer Board of Management elected from its members. The Board is nominated at an Annual General Meeting and once approved by City Council, serves a four-year term concurrent with the term of Council.

The Board, as well as BIA specific employees hired by the Board, work on behalf of its BIA and meets regularly to develop budgets, set priorities, implement improvements, plan festivals, and promote its business area.

Once BIA's members approve the budget and City Council ratifies it, funds are raised through a levy on all commercial and industrial properties within the BIA's boundary (maps are disclosed in Figures 3.1 through 3.6). Calculation of this levy is based on the proportionate value of each property's commercial and/or industrial assessment. Once the City collects the levy, it returns the funds to the BIA to manage.

Figure 3.1 provides a map of each BIA[9]. They are listed alphabetically in this AMP:

- Argyle Business Improvement Area (Argyle BIA);
- Hamilton Road Business Improvement Area (Hamilton Road BIA);
- Hyde Park Business Improvement Association (Hyde Park BIA);
- London Downtown Business Association (LDBA); and
- Old East Village Business Improvement Area (OEV BIA).

While each BIA has its distinct presence, there are unifying themes of creating a sense of community, organizing, and hosting themed events, growing local economies, and beautification. Additionally, in support of public health and wellbeing, BIAs presence encompass the concept of coordinated informed responses on how to best assist those in distress, experiencing homelessness, and safety practices surrounding discarded sharps or drug-using equipment.

Typical events include Santa Claus Parades, promoting local businesses with loyalty cards and discounts, and hosting live events such as music festivals.

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[8]https://www.ontario.ca/document/business-improvement-area-handbook/introduction-business-improvement-areas#:~:text=Functions%20of%20a%20BIA&text=oversee%20the%20impro

vement%2C%20beautification%20and,a%20business%20or%20shopping%20area.
[9]https://opendata.london.ca/datasets/c627bb303c664a04ae7225960be761b4_11/explore?location=42.998065%2C-81.191698%2C15.00

Table 3.1 summarizes the asset types and replacement values, for all BIAs. Table 3.2 lists each BIAs assets by asset type, inventory, and replacement values. The asset replacement values have been identified using different BIA databases including their respective accounting software systems and internal expert opinion. These replacement values aim to capture current market prices for the fully replacement of identified assets. For further information regarding costing refer to State of Local Infrastructure. Lastly, Figure 3.1 provides a map outlining where BIAs are geographically located within the City of London.

Table 3.1 Inventory and Valuation

Entity	Asset	Inventory	Unit	Replacement Value (Thousands)
Five BIA Entities (Argyle, Hamilton Road, Hyde Park, LDBA, Old East Village)	Leasehold Improvements	Mix	Each	$54.2
	Furniture and Fixtures	511	Each	$137.7
	Computer Hardware and Software	94	Each	$63.9
	Community Engaging Assets	894	Each	$326.7
Total				$582.5
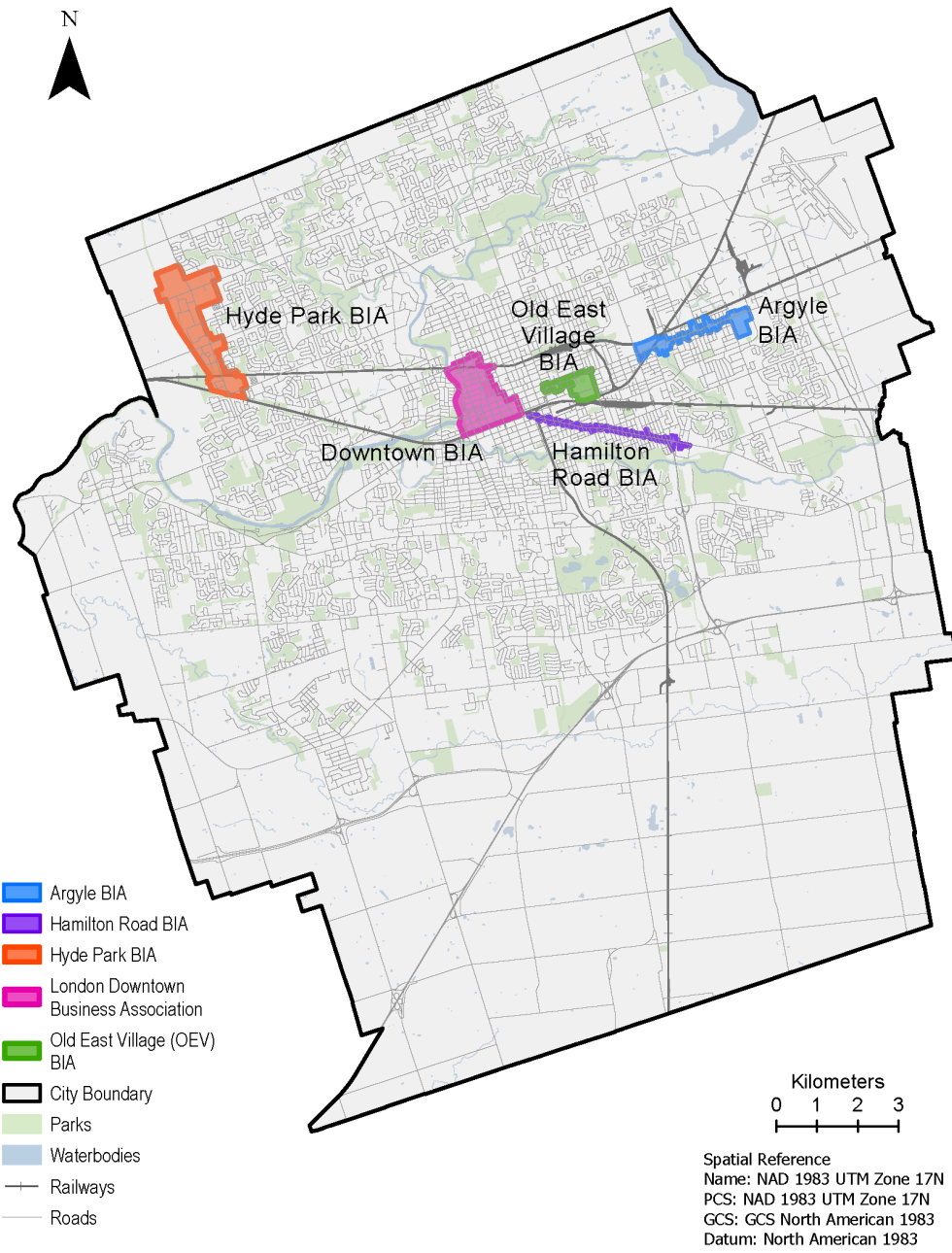
Figure 3.1 Map Outlining City of London Business Improvement Areas

Legend:
- Argyle BIA
- Hamilton Road BIA
- Hyde Park BIA
- London Downtown Business Association
- Old East Village (OEV) BIA
- City Boundary
- Parks
- Waterbodies
- Railways
- Roads

Kilometers
0 1 2 3

Spatial Reference
Name: NAD 1983 UTM Zone 17N
PCS: NAD 1983 UTM Zone 17N
GCS: GCS North American 1983
Datum: North American 1983

Table 3.2 Inventory and Valuation (Each BIA entity)

Entity	Asset Type	Inventory	Unit	Replacement Value (Thousands)
Argyle BIA	Leasehold Improvements	Mix	Each	$11.3
	Furniture and Fixtures	48	Each	$11.0
	Computer Hardware and Software	15	Each	$9.6
	Community Engaging Assets	214	Each	$10.2
Subtotal				$42.1
Hamilton Road BIA	Furniture and Fixtures	54	Each	$2.3
	Computer Hardware and Software	11	Each	$4.8
	Community Engaging Assets	102	Each	$135.2
Subtotal				$142.3
Hyde Park BIA	Leasehold Improvements	Mix	Each	$12.5
	Furniture and Fixtures	212	Each	$32.9
	Computer Hardware and Software	29	Each	$20.2
	Community Engaging Assets	255	Each	$65.9
Subtotal				$131.5
LDBA	Leasehold Improvements	Mix	Each	$30.4
	Furniture and Fixtures	145	Each	$85.3
	Computer Hardware and Software	23	Each	$21.3
	Community Engaging Assets	280	Each	$85.9
Subtotal				$222.9
OEV BIA	Furniture and Fixtures	52	Each	$6.2
	Computer Hardware and Software	16	Each	$8.0
	Community Engaging Assets	43	Each	$29.5
Subtotal				$43.7
Total				$582.5

Argyle BIA

With assets valued at over $42 thousand, Argyle BIA was founded in 2011. Figure 3.2 LISTS its boundaries approximating 85 hectares and cover the approximate geographic location from Wavell St to Clark St and Highbury Ave N and Dundas St with approximately 200 businesses having Argyle BIA membership.

Argyle BIA is the nucleus of community life in East London. It is building to the social memory of Argyle area and adding value to those who do business in the area. Argyle BIA invests in youth, which then invests in the future workforce and customers, which further builds and positively impacts the community.

Examples of Argyle BIA-hosted events:

- Argyle Santa Claus parade,
- Canada Day activities,
- Halloween in Argyle,
- Scavenger Hunt within 12 businesses in the Argyle area,
- Window Display Decorating Contest.

Other services examples include biannual graffiti cleanup, contracting a local on-call security officer, and launching a commercial collection and recycling green bin pilot program.

Argyle Community Initiatives include:

- Dundas Streetscape Master Plan,
- Argyle Currency Program,
- Friends of Argyle business networking opportunities,
- Streetscape/Beautification including plant hangers, banners, and slogan signs;
- Clean Streets, which supplements City cleaning with additional work 1 to 2 times a week;
- Student Discounts, and

- Community Wellness Program – BIA lists personnel to contact if someone is in distress or if sharps are found.
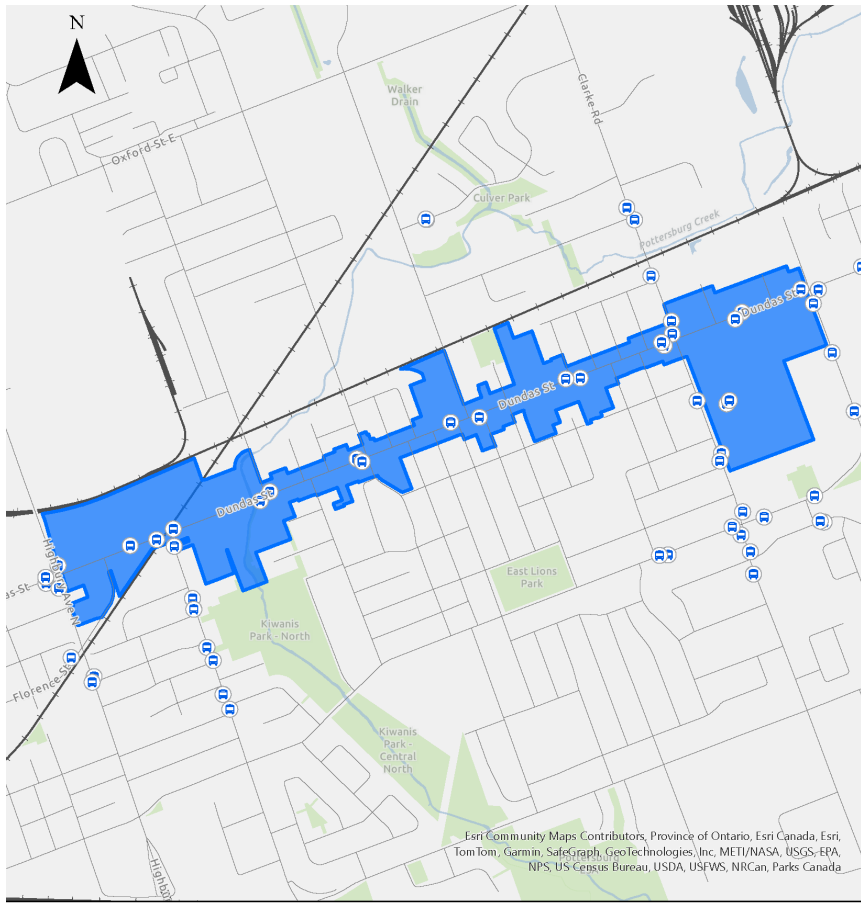
Hamilton Road BIA

With a replacement value of approximately $142 thousand, the Hamilton Road BIA geographic area approximates 42 hectares as shown in Figure 3.3. Hamilton Road district extends along Hamilton Rd. from Adelaide to Highbury.

Hamilton Road BIA has 62 members and has a variety of residential construction styles dating back to the 1800s.
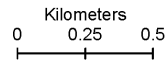
It boasts of Tree Trunk Sculptures and a variety of murals. Tree trunk tours are offered to view carvings from the East of Adelaide (EOA) Sasquatch, a Bucky Beaver, a sporting lion, the Stihl Band Tree-O, and many more. Murals range from a Visitor Spot Donut Mural, a Casa Cubana Mural, and the recent GrapeLady mural. The variety of displayed art brings depth and history to this area.

Hamilton Road BIA also supports the concept of 'HamBucks' which are promotional initiatives to support local businesses.

Other services examples include supporting individuals wishing to organize a business in the Hamilton Road BIA area, organizing graffiti cleanup, and providing beautification services such as banners.

Figure 3.2 Argyle BIA Location

Argyle BIA
Parks
Waterbodies
Railways
Roads
Bus Stops

Kilometers
0   0.25   0.5

Spatial Reference
Name: NAD 1983 UTM Zone 17N
PCS: NAD 1983 UTM Zone 17N
GCS: GCS North American 1983
Datum: North American 1983

Figure 3.3 Hamilton Road BIA Location

Hamilton Road BIA
Parks
Waterbodies
Railways
Roads
Bus Stops

Kilometers
0   0.5   1

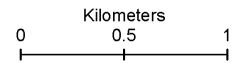Spatial Reference
Name: NAD 1983 UTM Zone 17N
PCS: NAD 1983 UTM Zone 17N
GCS: GCS North American 1983
Datum: North American 1983

Hyde Park BIA

With assets valued at approximately $122 thousand, Hyde Park BIA was founded in 1979 and designated as a BIA in 2017. Its legacy goes back to 1818 when the Hyde Park Corner was established.

Figure 3.4 shows its geographic area approximates 270 hectares. The boundaries include:

- Just north of Fanshawe Park Road
- East to Dalmagarry Road
- Sarnia Road to the South; and
- West taking in North Routledge Park Road.

Working with Hyde Park BIA members and with the support of the municipality, the Hyde Park BIA serves as an economic and social anchor within its boundaries in Uptown London, the northwest corner of the City, while helping stabilize and add vitality to the local community.

Hyde Park BIA supports and advocates for local businesses, does business recruitment, beautification initiatives, host and support special events, and provide marketing initiatives. These efforts benefit business operators, property owners, and the community at large.

With over three hundred and ninety member businesses, the Hyde Park BIA works to beautify and promote the Hyde Park corridor fostering a sense of community for residents, businesses and visitors while attracting people and customers from across London and neighbouring counties. Events and beautification work together to encourage tourism as Hyde Park BIA work to create a vibrant community that people love to visit.

These initiatives also support the mandate of business recruitment & retention, sustaining existing retail while bringing new and exciting business opportunities to Hyde Park, while ensuring that new development reflects the needs of the existing businesses and the community.

Major events include:

- Uptown Market,
- Pondfest,
- Picnic on the Pond,
- Hyde Park Santa Parade,
- Breakfast With Santa,
- Christmas Market.

Community concepts include loyalty cards, Hyde Park dollars, student, and senior discounts, and coordinated informed response.

The Hyde Park Garden of reflection is a rezoned environmental space that can host community events. It was revitalized in 2022 and 2023 to include a plaza space, enhanced pathways, site furniture and additional trees.

LDBA

It is noted that LDBA is one of two complementary organizations to make up the 'Downtown London' entity; the other entity being MainStreet London[10]. Assets relating to LDBA and reflected in the City's consolidated financial statements are analyzed and commented on. The replacement value of LDBA's assets approximate $223 thousand.

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[10]https://www.londontourism.ca/downtown-london#:~:text=LDBA%20exists%20to%20represent%20the,core%2C%20including%20recruitment%20and%20revitalization.

Figure 3.5 lists the downtown London geographic area, which approximates 193 hectares, from approximately Oxford St W and Richmond Street to approximately York St and Colborne St. There are approximately 1,000 to 1,100 private sector employer business locations in the Downtown London area.

Downtown London is the catalyst and connector for a shared community vision of London's downtown, on behalf of members, in partnership with the City of London and in support of major economic development, cultural, educational, and private sector stakeholders.

Downtown London and LDBA is committed to overseeing the improvements, beautification, and maintenance beyond what the municipality is responsible for in the BIA district. This includes implementing flower programs, investing in public art, attracting feet to the street through street activations and events, and addressing downtown cleanliness matters, such as litter pickup and graffiti removal. Downtown London also sets out to market and promote the BIA as a business, tourist, and shopping area.

There is continuous adaptation and expansion of programs and services to help businesses address the ongoing issues and concerns impacting downtown London. This includes removing needles and human waste from public areas and vestibules, navigating, and deploying City and community resources to address the health and homelessness impacts on our businesses, establishing and administering new property damage grants to help our members cover costs related to vandalism repairs, and information sharing or assisting members connect to opportunities and other sources of funding.
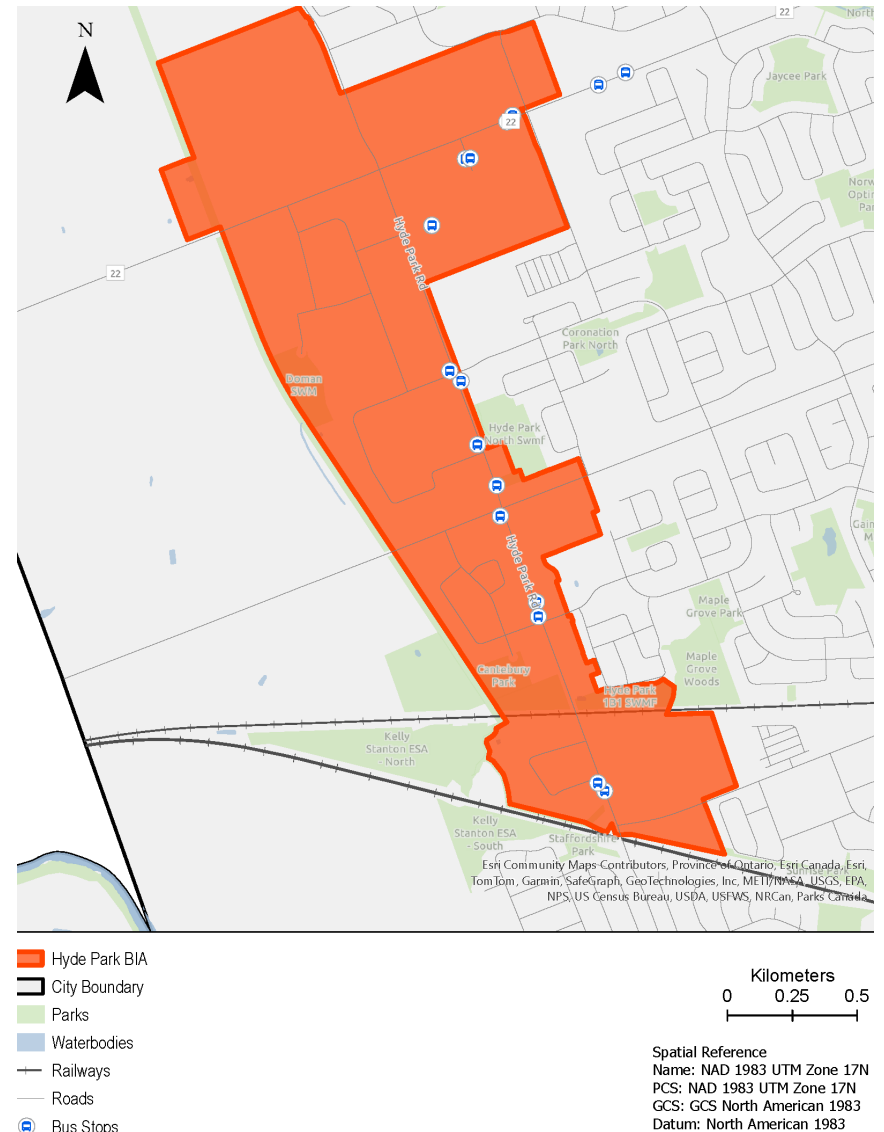
Figure 3.4 Hyde Park BIA Geographic Location

Legend:
- Hyde Park BIA
- City Boundary
- Parks
- Waterbodies
- Railways
- Roads
- Bus Stops

Kilometers
0   0.25   0.5

Spatial Reference
Name: NAD 1983 UTM Zone 17N
PCS: NAD 1983 UTM Zone 17N
GCS: GCS North American 1983
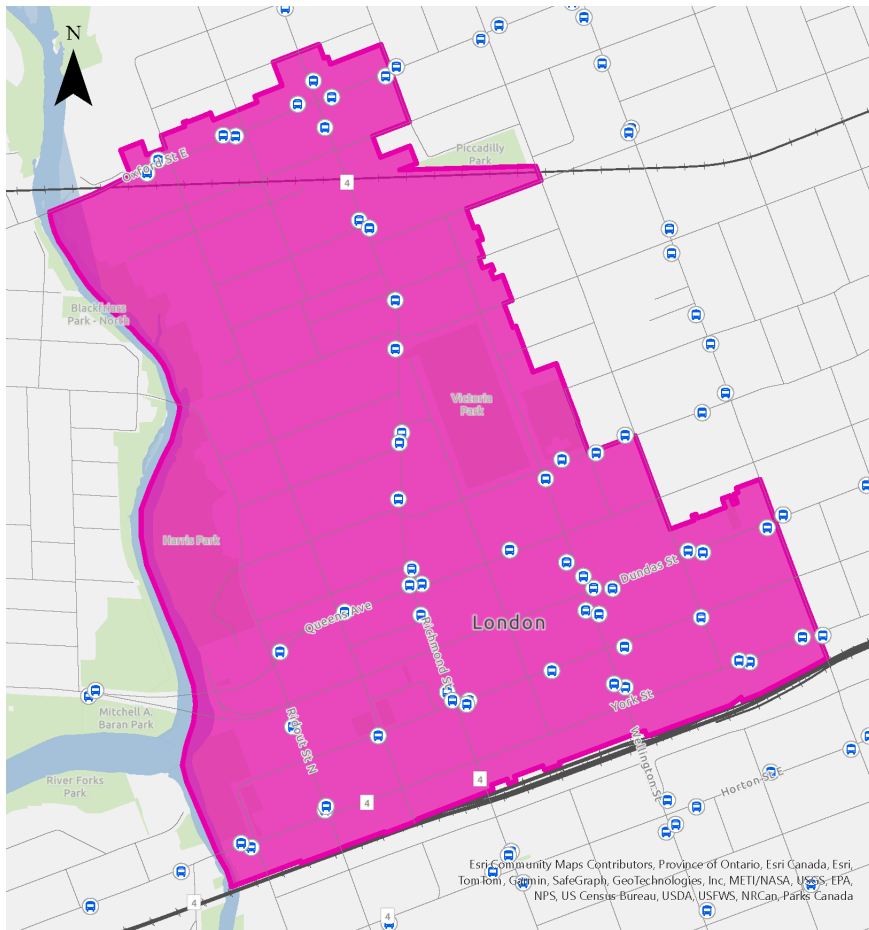Datum: North American 1983

Figure 3.5 London Downtown Business Association Geographic Location

OEV BIA

OEV BIA has roots as a community since the original London East incorporation in 1874. The replacement value of OEV BIA assets approximates $44 thousand.

Figure 3.6 displays OEV BIA's geographic range which is approximately 0.5 hectares from Elizabeth St to Dundas St to Florence St and Egerton St.

OEV BIA's extensive research regarding the area's economic drivers include:

- One-of-a-Kind Shopping,
- Food & Beverages, and
- Arts & Culture.

Features partner events to support the district, such as various artistic events from live music, abstract painting night, challah, and brioche classes.

OEV BIA is proud to represent the unique businesses and property owners on our commercial corridor. They work with small and large-scale developments and business models ranging from sole proprietorships to worker-owned co-operatives and corporations. They encourage all current and potential OEV businesses to contact us to discuss BIA assistance.

It also acts as a resource for businesses from graffiti cleanup to liaising with grant opportunities.

Other noted events include:

- OEV Dumpling Trail Libation District,
- Culture Cruise, and
- OEV Fridays.

There are also OEV murals, permanent and temporary and mosaics.

Figure 3.6 Old East Village BIA Geographic Location

3.1.2: Age Summary

Figure 3.7 shows each BIAs average asset age as a proportion of the average expected useful life This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates BIA's ability to replace such assets on-time. Overall, the data affirms that BIA assets are within their expected useful life, noting that lifecycle activities must continue over a 10-year period to ensure the age distribution would remain under expected useful life, or possibly be enhanced. Figure 3.8 expands this analysis by presenting the average age versus expected useful life comparison to include BIA performance by asset type.

Leasehold Improvements

These improvements generally occurred when the BIAs took over leased space and converted to their workspace needs.

It is noted that LDBA expects to move into new leased space in June 2024. Given the AMP relates to data as of December 31, 2023, this change in leased space is consistent with expected useful life, noting LDBA is maximizing assets that can be transferred to the new location. It is noted Hamilton Road BIA and OEV BIA do not have leasehold improvements. Leasehold Improvements generally have a 10 to 15-year expected useful life, which suggests fewer needs over the shorter term. However, each BIA should regularly monitor these assets to ensure it is meeting modern workspace needs, which may go beyond a typical condition assessment. Further details and financial impacts of these assessments and industry best practices are provided in Asset Lifecycle Management Strategy – Maintaining Current and Achieving Proposed Levels of Service.

Furniture and Fixtures and Computer Hardware and Software

Furniture and Fixtures are approximately halfway through their expected useful life and include typical office related items such as filing cabinets, chairs, tables, etc. Assets that support the delivery of a live event like speakers, microphones, etc. are included as fixtures.

Computer hardware and software are approximately halfway through their expected useful life. They include office items such as cameras, printers, computer laptops, and desktops. The exception is OEV BIA computers which are on average 8-years old, and well past their expected useful lives of 5-years. OEV BIA furniture is also nearing its end of useful life.

Community Engaging Assets

Community engaging assets are intended to cover a broad range of assets that are intended to appeal to the public or support the delivery of a live event. This could include Christmas trees, metal banners, planters. The banners are generally new to maintain appeal and keep to current designs while the banner bracket can last approximately 10 years. Assets relevant to each BIA are commented on.

Argyle BIA

There are new banners, while the banner bracket and plant hangers were purchased several years ago.

Hamilton Road BIA

The tree trunk sculptures and murals are unique BIA assets. There murals were created several years ago, while the sculptures age range from several years to approximately 11-years old. With proper maintenance the sculptures should last approximately 15 years, while murals and banners have a shorter expected useful life.

Hyde Park BIA

Relevant assets include items intended for entertainment like a sunsail, tents, campfire setup, assets needed to host a Christmas parade, metal banners, hanging baskets, and planters.

LDBA

Assets include entertainment related items such as chalkboards, A-frame signs, large games such as Connect Four and bean bag toss, a hedgewall display, banners, metal planter covers, and a storage wagon.

OEV BIA

Has some original art hangings at the office space and mosaic sidewalk panels, banners and pole banners, A-frame signs, and tents.
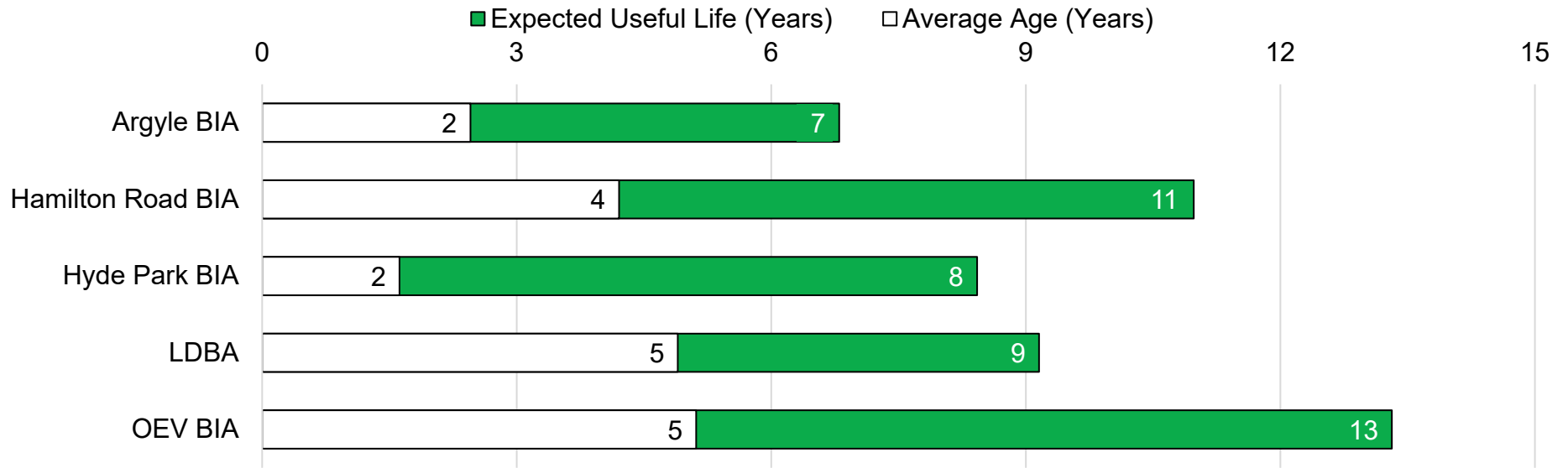
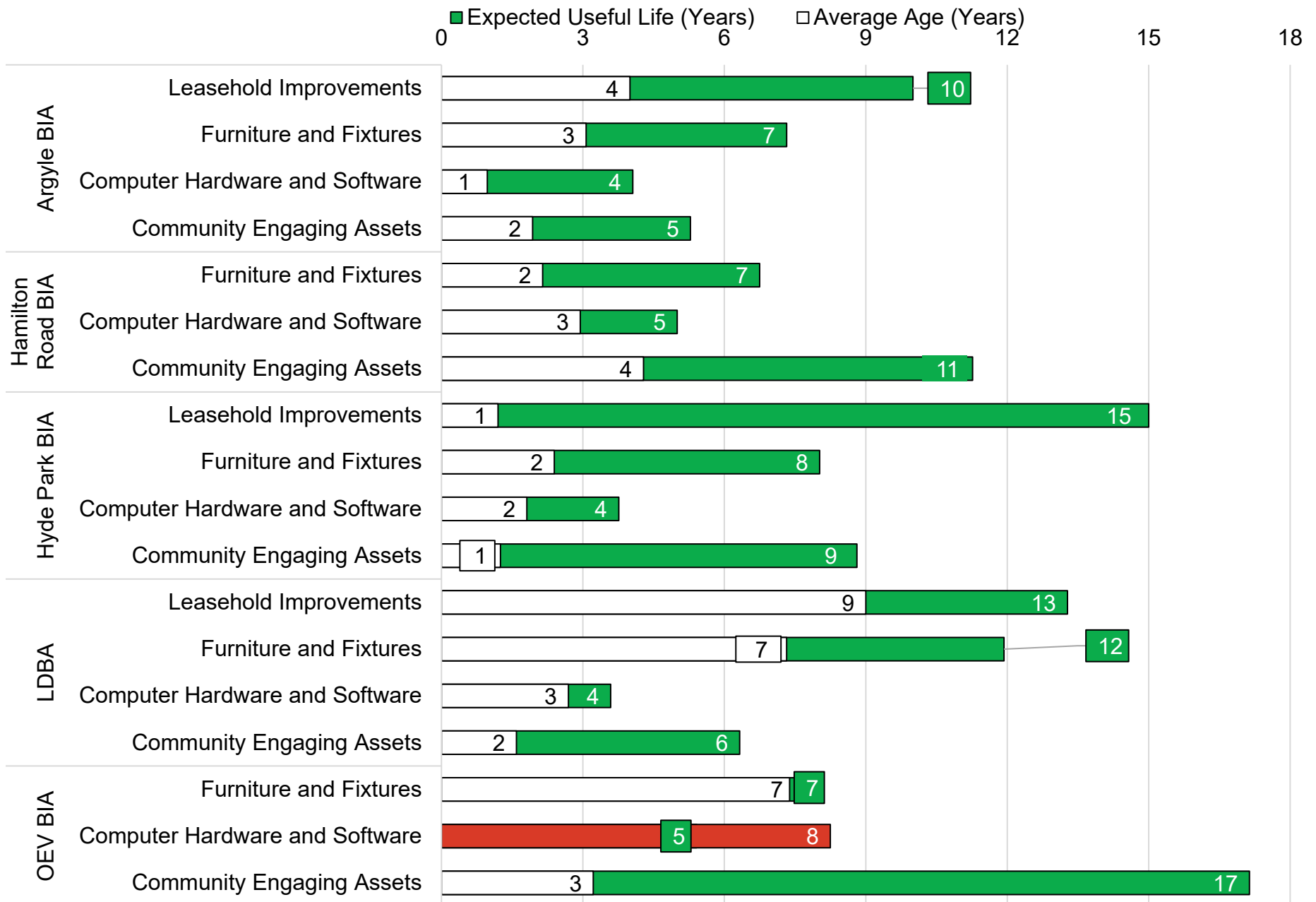Figure 3.7 Summary Average Age and Expected Useful Life By BIA

Figure 3.8 Age and Expected Useful Life By BIA and Asset Type

3.1.3: Asset Condition

The condition of the assets was determined using one of the two methods below based on data availability and accuracy:

1. Estimated based on age and the remaining expected useful life of the assets, and

2. Estimated based on expert opinion, where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.3 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data for BIA to identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.9 presents the condition distribution of all BIA assets. It shows that approximately 99% of the assets are in Very Good to Fair condition. However, it is important to note this condition profile is only a snapshot in time and not indicative of condition profiles over the next 10 years. It is also relevant to consider many of these assets have expected useful lives lesser than 10 years and thus could be replaced or rehabilitated at least once over the next 10 years, particularly Community Engaging Assets (such as Banners).

Pressures do exist and further described in Asset Lifecycle Management and Forecasted Infrastructure Gaps and Financing Strategy. In addition, there are industry best practices to consider in maintaining assets intended to create a welcoming public atmosphere with a tasteful aesthetic. For example, banners have been described as short lasting, particularly if a design is considered dated. This is indirectly accounted for by having a shorter expected useful life (as described in State of Local Infrastructure).

Figure 3.10 provides a condition distribution at a consolidated BIA level. Then, Figure 3.11 provides a detailed condition distribution for each BIA asset type.

Very Good ■ **Good** ■ **Fair** ■ **Poor** ■ **Very Poor**

Very Good 39%	Good 37%	Fair 20%	Poor 3%	

0%　　　　　　　　　　50%　　　　　　　　　　100%

Figure 3.9 Overall Condition

■ **Very Good** ■ **Good** ■ **Fair** ■ **Poor** ■ **Very Poor**

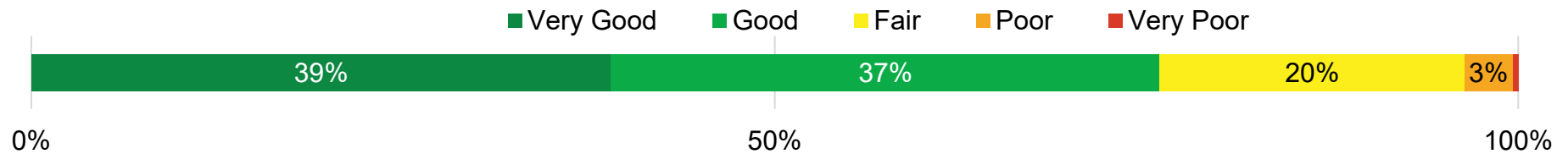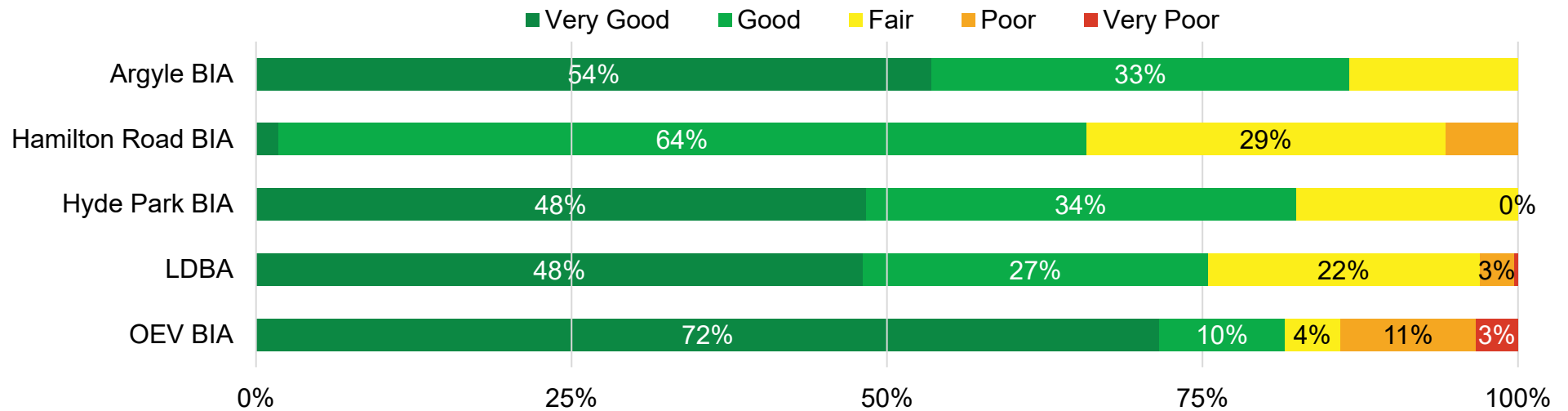| BIA	Very Good	Good	Fair	Poor	Very Poor
Argyle BIA	54%	33%			
Hamilton Road BIA		64%	29%		
Hyde Park BIA	48%	34%	0%		
LDBA	48%	27%	22%	3%	
OEV BIA	72%	10%	4%	11%	3%

0%　　25%　　50%　　75%　　100%

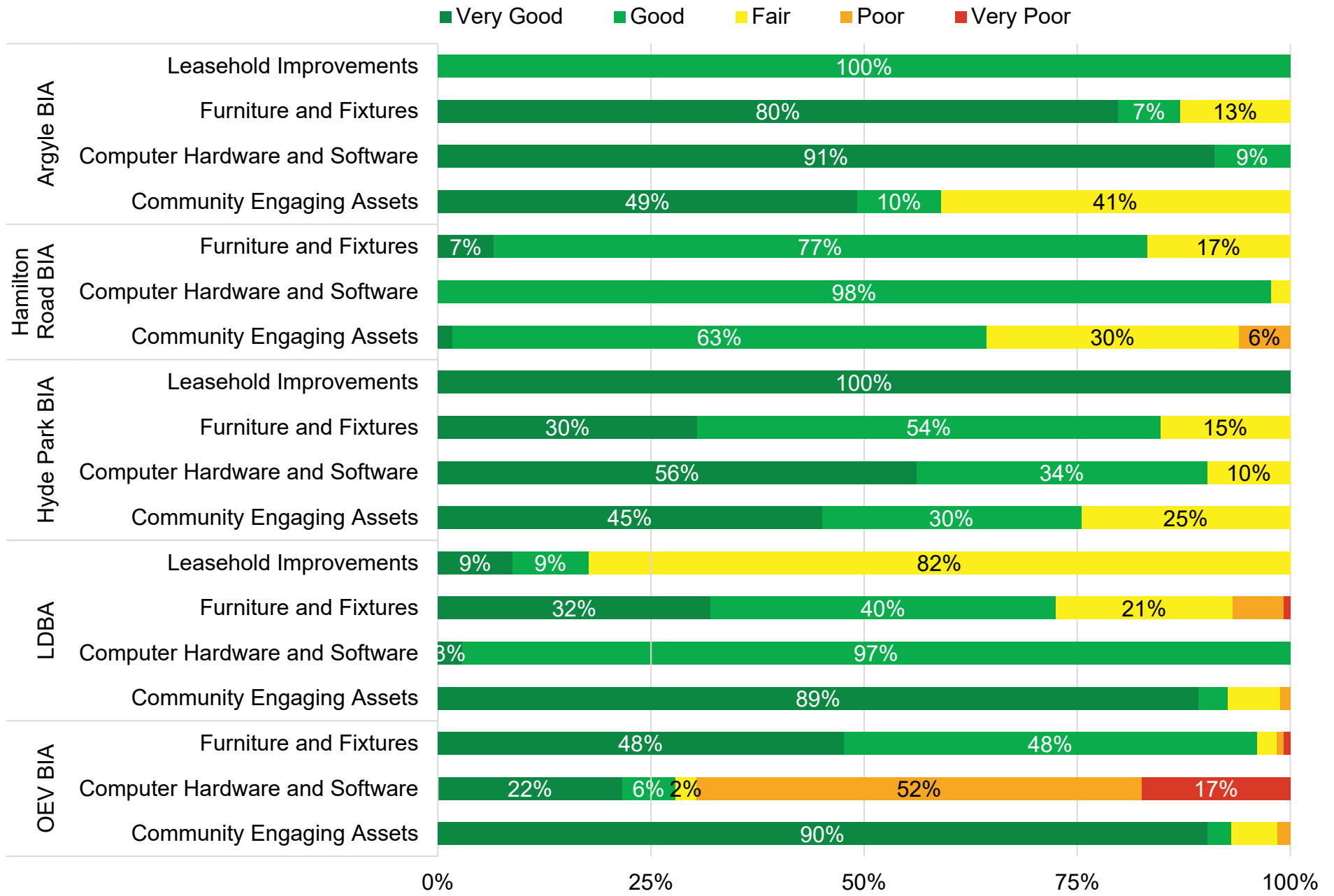Figure 3.10 BIA Asset Condition Summary

Figure 3.11 BIA Asset Condition Detail

Leasehold Improvements

All BIAs except OEV and Hamilton Road BIA have leasehold improvements. They are generally in at least Good condition and have a greater than 10-year expected useful life, which suggests fewer needs over the shorter term. The exception is LDBA which is primarily in Fair condition, noting there is an expected location change in June 2024. Each BIA should regularly monitor these assets to ensure it is meeting modern workspace needs, which may go beyond a typical condition assessment. For example, if a more accessible layout or a different location is required it could result in further investment, regardless of leasehold condition. It is noted that not all leasehold improvements would be slated for replacement at the end of expected useful life; assessments whether rehabilitations for only a select few of assets would be required.

Furniture and Fixtures

Assets are approximately 96% in Fair or better condition, however there is a greater condition distribution. One exception is with LDBA where several chairs are assessed in Poor condition. It is common to receive donations in this asset base where the condition is inherited by the BIA. Such donations offset asset replacement needs calculated. However, because future donations are unclear, they are not accounted within this AMP.

Computer Hardware and Software

Generally, for all BIAs these assets are in Fair or better condition. Certain OEV computers are older and thus are in Poor or Very Poor condition. These assets have shorter expected useful lives which suggests multiple replacements over a 10-year period. However, BIAs historically have had donations which offset replacement needs.

Community Engaging Assets

Argyle BIA

100% of assets are considered in Fair or better condition. While banners are in Very Good condition, it is noted that they could be replaced four or five times over a 10-year time frame given their limited expected useful life.

Hamilton Road BIA

Consultants were hired to assess the sculpture market values and staff internal assessments were used to assess condition and comment on lifecycle needs. It is noted that the sculptures were assessed not simply as an overall condition, but split assessment into as much readily detail as known to assess if parts of the sculpture were in better condition than other parts. For example, the T-Rex sculpture has an assessment range which should drive maintenance program needs and focus treatments typically involving varnish or lacquering.

Hyde Park BIA

100% of assets are considered in Fair or better condition. Tents and firepit assets are within the Good to Fair range.

LDBA

Approximately 97% of assets are in Fair or better condition. A few A-frames are considered in Poor condition.

OEV BIA

Approximately 96% of assets are in Fair or better condition. Street Pole banners are considered in Poor condition.

3.2: Levels of Service

Asset management LOS link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- Relevant BIA Strategic Plans or mandates;
- 2023-2027 City of London Strategic Plan, and
- 2023 Approved Budgets.

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, BIA and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.4 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 BIA AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future BIA AMP development processes and practices.

Table 3.4 Customer Values Definition

Customer Value	Corporate Definition and Descriptions
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. Direct LOS metrics are the primary benchmarks. These can readily determine the cost to maintain current LOS and achieve proposed LOS. Next are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed.

After review with BIA staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.5. No related LOS have been documented for this AMP; however, future BIA AMP continuous improvement projects will seek to identify and capture such LOS.

3.2.1: Direct Levels of Service

Table 3.5 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2023 Performance	Proposed Target (2023 to 2032)
Cost Efficiency	Technical	Argyle BIA overall reinvestment rate	14.7%	14.7%
		Hamilton Road BIA overall reinvestment rate	9.1%	9.1%
		Hyde Park BIA overall reinvestment rate	11.9%	11.9%
		LDBA overall reinvestment rate	10.9%	10.9%
		OEV BIA overall reinvestment rate	7.5%	7.5%
Reliability	Customer	Percentage of Argyle BIA assets in Fair or better condition	100%	Maintain current
		Percentage of Hamilton Road BIA assets in Fair or better condition	94.3%	Maintain current
		Percentage of Hyde Park BIA assets in Fair or better condition	100.0%	Maintain current
		Percentage of LDBA BIA assets in Fair or better condition	97.0%	Maintain current
		Percentage of OEV BIA assets in Fair or better condition	85.9%	Maintain current
		Percentage of Argyle BIA assets within expected useful life	96.4%	Maintain current
		Percentage of Hamilton Road BIA assets within expected useful life	100.0%	Maintain current
		Percentage of Hyde Park BIA assets within expected useful life	99.3%	Maintain current
		Percentage of LDBA assets within expected useful life	99.1%	Maintain current
		Percentage of OEV BIA assets within expected useful life	82.0%	Maintain current

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.7.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

The BIAs employ a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, and disposal, while continuing to prepare for growth and introduce service improvements.

When feasible, BIA also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets, which can result in cost and service efficiencies. Additionally, BIAs seek to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Certain selected lifecycle activities are reviewed and modified based on staff training, online reviews, consultant recommendations. Each BIA is also committed to climate change adaptation and mitigation planning through engagement with membership and City of London staff, which may trigger additional asset investment needs.

Table 3.8 lists specific asset management practices or planned actions BIAs conduct for each lifecycle activity associated with the leasehold improvements, furniture and fixtures, computer hardware and software, and community engaging assets.

Table 3.9 lists specific risks associated with asset management practices or planned actions by lifecycle activity for all asset types.

Table 3.7 Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	**Leasehold improvements** • Facilities are maintained and renewed through the relevant commercial entity which a BIA pays rent. Leasehold improvements generally occur when an entity converts an existing space to their needs. Periodic review and update of space may occur which could spur further investment. **Other BIA Assets** • Various controls and approval processes to safeguard assets. • Financial planning strategies to control costs. • Ongoing search for additional funding. • Operational continuous improvements. • Improvements to employee capabilities, communications, training, etc. • Public involvement practices including posters, and website. • Changes to current and proposed LOS. • Developing asset management program. • Networks with peers through conferences and committees to learn from other's experiences.
Maintenance	**Leasehold improvements** • Planned inspections and regular general maintenance schedules ensure the facility is fit for service. **Community Engaging Assets (Hamilton Road BIA)** Staff internal assessments used to assess range of lifecycle needs which typically involves re-varnishing or lacquering. **Other BIA Assets** • Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets, particularly Community Engaging Assets. • Maintenance also triggered by public/community partners feedback (when applicable).
Renewal/ Rehabilitation	**Leasehold improvements** Results of planned inspections used to determine cost and timing of renewal requirements for portion of leasehold improvements BIAs are responsible for maintaining and replacing. **Other BIA Assets** • Adopt the latest technology that maintains the current LOS.
Replacement/ Construction	**Leasehold improvements** • Assessments to ensure assets are meeting modern workspace needs, which may go beyond a typical condition assessment, used to identify, and trigger complete replacement or construction of new leasehold improvements. **Other BIA Assets** • Adopt the latest technology that maintains the current LOS.

Activity	Specific Asset Management Practices or Planned Actions
Disposal	**All BIA Assets** • Appropriate and proper disposal occur when assets are replaced or renewed. • Dispose of assets under the applicable regulation and environmental standards.
Service Improvement	**Leasehold Improvements** • Consultation with community partners and users of facilities determines service improvement needs. **Other BIA Assets** • Based on strategic service review results, implement service deliver changes that improve asset performance, cost, and risk. • Adopt the latest technology that enhances current or achieves proposed LOS.
Growth	• Continuously monitor the impacts of growth on service delivery and develop strategies to manger and service realized growth.

Table 3.8 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (i.e., the life is not extended or the cost of managing an asset increases rather than decreases). • Lowers the costs of existing operations and may provide additional capacity but does not extend the service life of assets. • Need for revised plans, reports, and recommendations. • Inadequate funding. • Poor quality asset information and planning assumptions incorrect. • Regulatory requirements/standards criteria change or do not exist. • Economic fluctuations, inflation, downturns, and use reduction/increases. • Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to other assets or purposes that were not originally planned. • Service provision changes. • Extending useful life past optimum can increase the risk of asset failure and maintenance cost, and reduced salvage.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no benefits.

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during significant leasehold improvement projects. • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. • Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Risk of insufficient funding to construct/acquire or maintain new assets. • Potential insufficient knowledge of and supporting policies for new asset types.

3.3.3: Lifecycle Management Scenario Forecasts – Planned Budget, Maintain Current LOS, and Achieve Proposed LOS

General Approach

The general approach to forecasting the cost of the lifecycle activities that are required to maintain the current performance of the LOS metrics is to ensure that the proportion of assets in Poor or Very Poor condition remains relatively stable. Staff then consider the optimal blend of each lifecycle activity to achieve the lowest lifecycle cost management strategy that balances costs with the forecasted change in the condition profile of each asset type. To present these infrastructure needs, three different lifecycle management scenarios and their associated funding requirements are presented. Typically, each scenario lists the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements. However, to align with BIAs budget structure, only operating budget funding requirements are presented in this AMP.

These scenarios are defined as:

1. Projected Funding Scenario – Presents the budget constrained to 2023 and 2024 annual budget approvals.
2. Maintain Current LOS Scenario – Forecasts the level of investment required to maintain current LOS performance.
3. Achieve Proposed LOS Scenario – Forecasts the level of investment required to achieve proposed LOS. The approach considers the desired infrastructure LOS documented in BIA's strategic plans, if any.

The Forecasted Infrastructure Gap and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies for identified gaps, if any. Each scenario is further explained in the following sections.

A. Scenario One: Planned Funding

The BIA average annual activity and projected funding is summarized in Table 3.10. This scenario presents the average annual activity based on 2021 and 2022 approved budgets. Projected operating budgets are constrained to the current level of planned expenditures approved in the 2023 and 2024

budgets. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

For this scenario no infrastructure gaps are assessed.

Table 3.9 Scenario One – Average Annual Activity and Project Asset Related Operating Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Projected Operating Budget	Average Annual Activity for 2021 and 2022 Asset Related Operating Budget	Projected Asset Related Operating Budget
Operating Argyle BIA	273	296	31	32
Operating Hamilton Road BIA	128	235	5	26
Operating Hyde Park BIA	498	760	30	39
Operating LDBA	1,909	2,465	60	90
Operating OEV BIA	237	453	11	7

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.11. This approach forecasts the lifecycle activities that are required to maintain the current performance of the LOS metrics. The analysis considers the current age and condition of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. The forecasted condition profile expected from the maintain current LOS is not readily available.

Based on this analysis, Table 3.11 identifies no 10-year infrastructure gap if the BIAs maintain current LOS through their respective projected asset related operating budgets.

No additional reserve fund exists, life cycle renewal, service improvement and growth fund capital budgets requirements are identified.

Table 3.10 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

BIA Entity	Activity Type	Projected Asset Related Operating Budget	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Argyle BIA	Operating Related to Renewal and Replacement	32	7.6	None Identified
Hamilton Road BIA	Operating Related to Renewal and Replacement	26	9.4	None Identified
Hyde Park BIA	Operating Related to Renewal and Replacement	39	15.7	None Identified
LDBA	Operating Related to Renewal and Replacement	90	33.8	None Identified
OEV BIA	Operating Related to Renewal and Replacement	7	3.6	None Identified

C. Scenario Three: Achieve Proposed LOS

This scenario typically forecasts the enhanced lifecycle and service improvement activities that are required to achieve the proposed LOS. For the first iteration of the BIAs AMP no achieve proposed LOS investments are identified.

However, as part of asset management continuous improvement projects, completed with the support of City staff, enhanced LOS will be considered, and if applicable reported on in future AMPs.

3.4: Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

Infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on BIA assets required to provide services, and
- the amount of funding presently identified in recent approved operating budgets 2023 and 2024.

In other words, what each BIA plans to spend versus what the assets need. Ideally, if infrastructure gaps exist, they would decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize risks associated with failing assets and insufficient asset complements.

Table 3.13 and Figure 3.12 illustrate no infrastructure gaps have been assessed over the 10-year analysis period.

Rehabilitation and replacement investments, primarily for Hamilton Road BIA sculptures, are based on consultant assessments. The remainder are based on expected useful life and considering industry best practices to maintain individual facilities current leasehold improvements.

Additional maintain current LOS pressures of note include maintaining investment for Furniture and Equipment, and Community Engaging Assets to ensure BIAs can continue providing infrastructure that engages the community.

Table 3.11 Average Annual Budget and Gap Analysis ($Thousands)

| Asset Type	Projected Operating Budget Related to Assets	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
Argyle BIA	32	7.6	None Identified	None Identified	None Identified
Hamilton Road BIA	26	9.4			
Hyde Park BIA	39	15.7			
LDBA	90	33.8			
OEV BIA	7	3.6			
All BIAs	193	70.1	None Identified	None Identified	None Identified
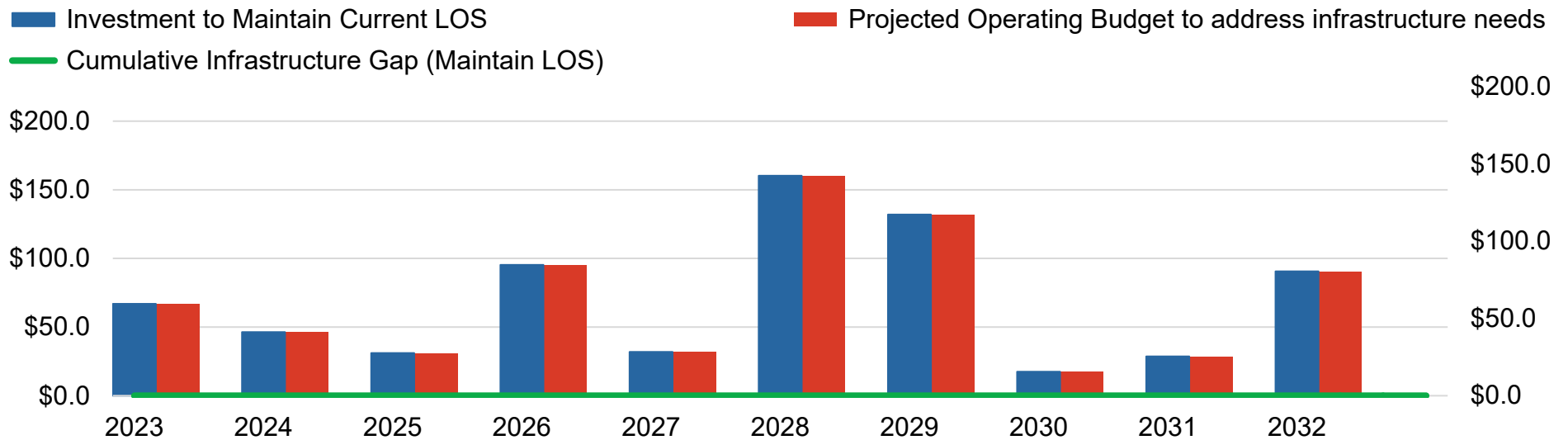
Figure 3.12 Maintain Current LOS Cumulative Infrastructure Gap (Thousands)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that BIA actions are collectively (both financial and non-financial) anticipated to tackle projected infrastructure gaps, if identified. Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing the AMP in advance of budgeting processes so that its results help inform the requested operating budgets.

3.5: Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – project budget, maintain current LOS, and achieve proposed LOS.

Scenario One project budget is identified to have sufficient investments to effectively maintain infrastructure.

Scenario Two maintain current LOS funding is identified to have sufficient investments to effectively maintain infrastructure. This scenario acknowledges the need for continual investment in assets to maintain their current state.

Scenario Three has no identified achieve proposed LOS investments.

In future AMPs these three scenarios may result in different LOS depending on the funding provided for asset lifecycle renewal and service improvement actions. Thus, the choices made may one day have an implication for asset condition and BIA operational effectiveness.

3.5.2: Current and Future Challenges

General

BIAs faces a dynamic collection of opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, post pandemic industry recovery)
- Organizational (e.g., continued community engagement and partnerships)
- Technology (e.g. digital strategy to support hybrid meetings and online presence)
- Political/Legal (e.g., governmental and business partnerships)
- Environmental (e.g., sustainability, climate change)

To help navigate these factors the BIA mandates provides a framework for the development of proactive, leading-edge strategies designed to ensure the changing needs of our community, and our members, are supported through meaningful engagement and collaboration, investment in our people and infrastructure, and effective and efficient service delivery.

The following commentary summarizes the main current and future challenges impacting infrastructure needs and costs.

Pandemic Disruption and Inflation

Pandemic disruption impacted BIAs and the community engagement aspect of BIAs. Examples include loss of sales revenue, reduced foot traffic due to cancelled, increased operating and asset costs, etc. As we emerge from the pandemic, inflationary pressures beyond those accounted for within approved operating budgets emerged due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 BIA AMP and are a material component of the infrastructure replacement values.

Technology

Engaging with the BIA communities are performed through various mediums. However, continuing with modern advancements, whether hybrid meetings or connecting online, are a mainstay in managing a BIA. Monitoring and enhancing technology to ensure best connectivity is a continuous pressure.

Climate Change

In 2019, London City Council declared a climate emergency. In alignment with this declaration, BIAs have implemented green pilots to reduce commercial-level food waste through composting. Future AMP analysis could include leasehold improvements energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs), assessing the sustainability of Community Engaging Assets, or impact of BIA on local businesses greening efforts.

Growth

London is experiencing steady to above average population and employment growth. From a City-wide perspective this growth triggers a surge of City-wide service and asset capacity needs, resulting in a proportional boom in new and/or enhanced infrastructure construction and acquisition. While BIAs are not listed within the City Development Charges Background Study, other City infrastructure located in these geographics could be, and coupled with the notion that a growing and vibrant City suggests a welcoming environment and potentially a greater geographic area for individual BIAs to represent, or perhaps new BIAs to add to City scope.

3.6: Conclusion

Valued at over $582.5 thousand, the BIA assets are overall in Good condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain current LOS. There are no identified cumulative 10-year maintain current LOS and achieve proposed LOS gaps (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of BIA assets may be impacted and could result in increased costs of the services ultimately delivered. Table 3.14 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for BIA assets.

Table 3.12 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Thousands)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [11]
Argyle BIA	$42.0	Good			14.7%	14.7%
Hamilton Road BIA	$142.3	Good			9.1%	9.1%
Hyde Park BIA	$131.6	Good	None Identified	None Identified	11.9%	11.9%
LDBA	$222.9	Good			10.9%	10.9%
OEV BIA	$43.7	Good			7.5%	7.5%
All BIA entities	$582.5	Good	None Identified	None Identified	10.4%	10.4%

Reliability and Accuracy Commentary

Figure 3.13 visually presents BIA and CAM staff assessment of AMP data reliability and accuracy. Data reliability and accuracy is rated moderate.
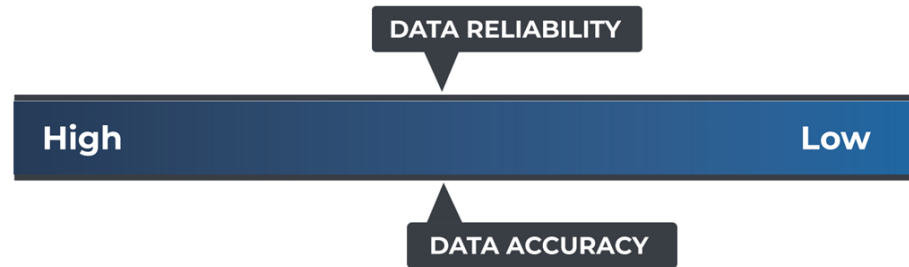

Figure 3.13 Accuracy Reliability Scale

Inventories are based on internal expert opinion and an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

A review of systems and processes that support BIA asset registries is recommended over the 2024-2027 timeframe, and beyond. Such investments will raise the reliability and accuracy of the data.

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[11] Source: Reinvestment rates based on expected useful life.

Section 4.   Conclusion and Recommendations

4.1: Conclusions

4.1.1: Key Findings

BIA infrastructure systems are an integral piece of social engagement and economic prosperity services and play a key role in achieving BIA objectives and goals.

This AMP is a strategic document that describes the state of BIAs infrastructure and the approach to managing assets over their lifecycle to maintain current LOS at the lowest lifecycle cost possible, noting no achieve approved LOS are identified. It was produced through extensive efforts of BIA and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 CAM Plans. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:
- There is $582.5 thousand worth of infrastructure under the direct ownership and control of BIAs. This infrastructure represents an array of assets including leasehold improvement, furniture and fixtures, computer hardware and software, and community engaging assets.
- The overall condition of BIA assets is rated as Good.
- Good condition indicates some elements show general signs of deterioration that require attention, and a few elements exhibit significant deficiencies.
- Based on the existing BIA projected funding, no cumulative 10-year infrastructure gaps are assessed.
- The BIAs have an annual operating budget process separate from the 2024-2027 MYB. CAM and BIA staff have to make a projected estimate of available operating budget funding based on recent approved operating budgets and internal expert opinion.

- For the purposes of timing consistency with other City services, future AMPs will be brought forward to align with the development of City's MYBs and will present financing strategies to mitigate any identified infrastructure gaps while balancing the impact of taxation affordability on members.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024, timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024, deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025, O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help BIAs manage their combined $582.5 thousand asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall BIA strategic objectives and goals. Short-term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long-term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff.

Table 4.1 2024 BIA AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across BIA assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, thereby aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision Making	Develop and implement investment strategies for BIA infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into BIA strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
Risk Management	Enhance BIA asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or BIA software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each BIA service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing BIA public engagement practices.	• Enhanced adaptability to changing operational environments and community needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.0.1 O.Reg.588/17 July 1, 2024, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[12]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital, and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1, every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[12] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.0.2 O.Reg.588/17 July 1, 2025, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g., measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. i.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital, and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
6.(1) 6. iii.	For population 25K or more, overview of the risks associated with implementation of the AMP	Sections - #3.5
6.(1) 7.	Explanation of other key assumptions	Sections - #2.4

Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance, or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the BIAs, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with BIAs, and
- The asset is utilized to achieve BIA plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: The BIAs Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost-effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of

wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality, or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost BIA would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

Argyle BIA: Argyle Business Improvement Area

BIA: Business Improvement Areas/Associations

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

DC: Development Charges

Hamilton Road BIA: Hamilton Road Business Improvement Area

Hyde Park BIA: Hyde Park Business Improvement Association

IT: Information Technology

LCR: Lifecycle Renewal

LDBA: London Downtown Business Association

Board: Board of Management or Board of Directors, as applicable to entity

LOS: Levels of Service

MESL: Maintain Existing Service Levels

MYB: Multi-Year Budget

OEV BIA: Old East Village Business Improvement Area

O. Reg.: Ontario Regulation

RV: Replacement Value

TCA: Tangible Capital Asset

2024

Covent Garden Market Asset Management Plan

City of London

london.ca/CAM

COVENT GARDEN MARKET EST 1845

London CANADA

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Acknowledgement

Land Acknowledgment

We acknowledge that Covent Garden Market resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis, and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the Covent Garden Market, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge the efforts of Covent Garden Market staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to the Covent Garden Market Board of Directors and City of London Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

Covent Garden Market Board of Directors

Members: John Fyfe-Millar (Chair), Donna Szpakowski (Vice-Chair), Claudio De Vincenzo (Member), Justin Dias (Member), Mike Marsman (Member), Tyrrel De Langley (Member), Zeba Hashmi (Member), David Ferreira (Councillor), and Steven Hillier (Councillor).

Section 1. Executive Summary

Summary	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$55	$55
Cumulative 10-Year Infrastructure Gap ($millions)	$3	None identified
Infrastructure Gap as a Percentage of Replacement Value	5.5%	None identified

1.1: 2024 Covent Garden Market Asset Management Plan Introduction

Covent Garden Market (CGM) stands as a vibrant cultural and culinary hub in the heart of London, Ontario, bridging the gap between rural producers and urban consumers. Since its establishment in 1845, it has evolved into a premier destination for those seeking farm-fresh quality and a diverse array of foods, including the region's finest selection of organic products, award-winning meats, ethnic foods, and the largest assortment of cheese in Southwestern Ontario. Beyond its culinary offerings, CGM is a hub of arts and culture, housing various cultural organizations and artists on its mezzanine and even featuring a theatre. With its indoor and outdoor public spaces, including the seasonal Rotary Rink, the Market serves as a central point for community engagement and special events. From the Market Hall and Market Lounge to the Rotary Square, it offers versatile spaces for both public and private functions, contributing significantly to the local economy and the vibrancy of the city. CGM is not just a place to shop; it's a place where the community comes together to learn, enjoy, and celebrate the richness of Southwestern Ontario's culture and history.

This Asset Management Plan (AMP) is designed to enhance the management of CGM's infrastructure assets in a way that connects CGM strategic plan, City of London, and community objectives to day-to-day and long-term infrastructure investment decisions in order to provide the best possible service to the community. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning CGM for capital grant funding applications.

- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, replaced, and disposed).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that maintain current LOS and those that achieve proposed LOS;
- If necessary, establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet Covent Garden Market Board of Directors (Board) approved LOS and associated lifecycle activities.

Based on this analysis, key findings of the 2024 CGM AMP are:
- There are $55 million dollars of infrastructure assets under CGM management;
- Overall, CGM assets are in Good condition;
- The capital budget funds the majority of CGM assets with minimal amount valued at $34 thousand funded by Operating budget.
- Capital budget cumulative 10-year maintain current LOS infrastructure gaps of approximately $3 million exist;
- No proposed Level of Service (LOS) has been identified, and as a result, no infrastructure gap related to achieving a proposed LOS has been determined.
- No infrastructure gaps have been assessed for operating budget funded assets; and
- The average planned capital budget for 2023-2032 (based on the 2023 annual budget update) represents a reinvestment rate of 0.90%, which is less than the recommended average maintain current LOS reinvestment rate of 1.81.

A summary of these results is presented in the following tables and figures:

- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of CGM's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS as applicable; and

- Figure 1.2 shows the optimal maintain current LOS and achieve proposed LOS expenditures, as applicable, compared to planned budget and additional reserve fund availability, and the resulting infrastructure gaps.

Table 1.1 2024 AMP Summary Information

Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($ Millions)	$55	$55
10-Year Infrastructure Gap ($ Millions)	3	None identified
Infrastructure Gap as a Percentage of Replacement Value	5.5%	None identified

Very Good ■ Good ■ Fair ■ Poor ■ Very Poor ■ Not Assessed
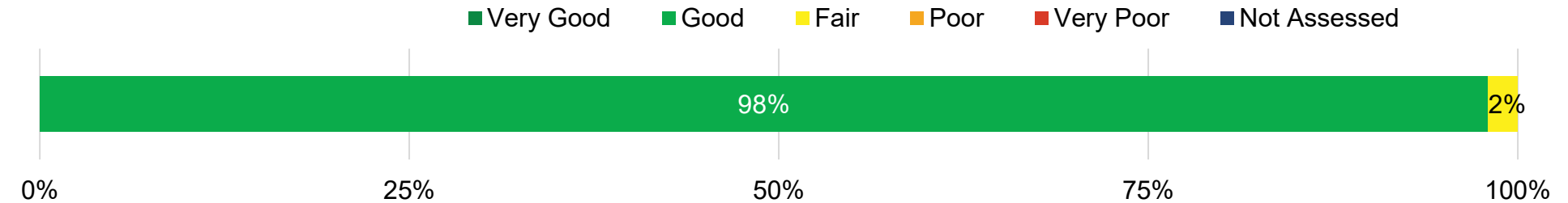

Figure 1.1 Overall Condition

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

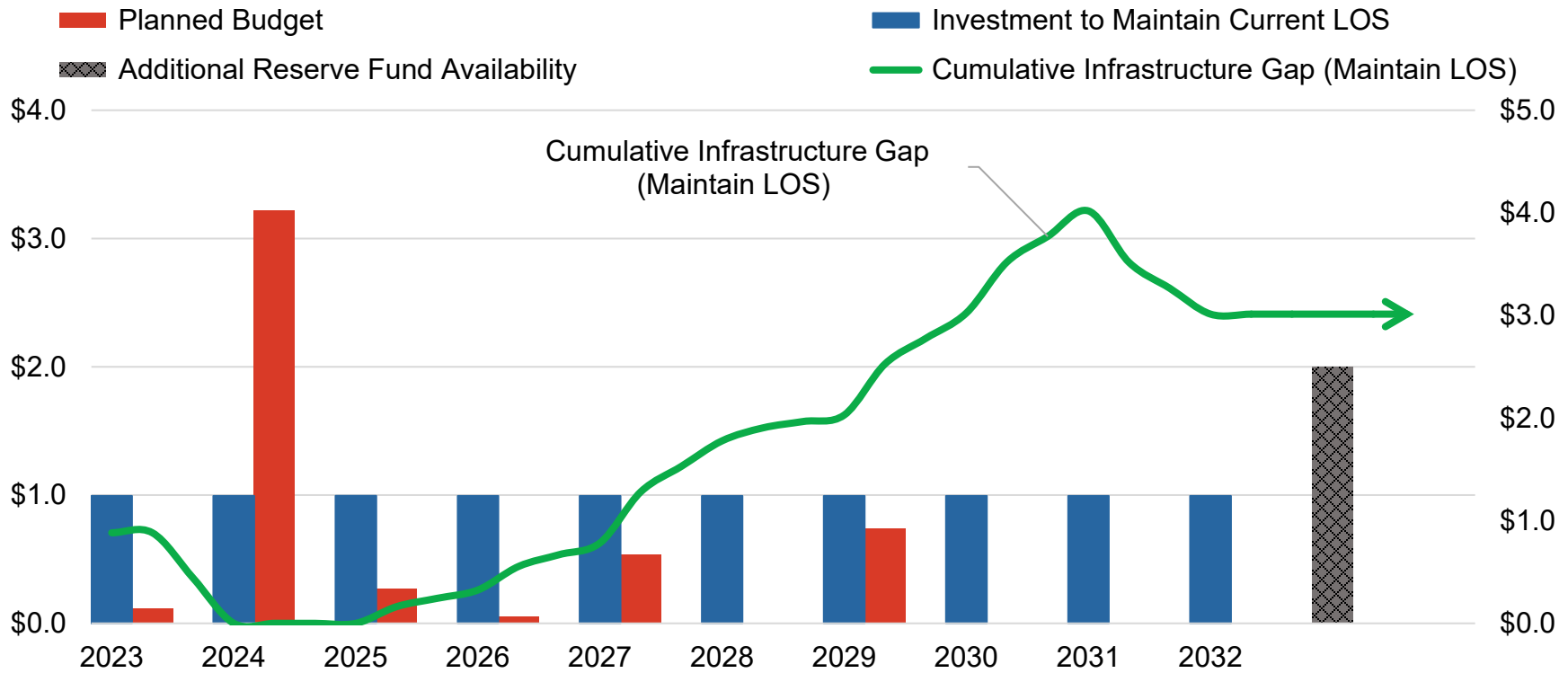| Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
0.90%	1.81%	Non identified

Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps ($ Millions)

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.

- **Detailed Asset Management Plan** section summarizes CGM existing asset inventory, its replacement value, condition, age distribution, and how CGM stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies, and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.

- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP

development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to CGM Board approval.

- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on input from CGM staff and asset data collected, the CGM AMP represents a tactical outcome of the City's CAM Program. It outlines the current strategy for CGM to manage its infrastructure valued at $55 million and details the required investments in the asset portfolio to maintain the current LOS and achieve the proposed LOS objectives.

The 2023 maintain current LOS infrastructure gaps of $882 thousand compared to the $55 million capital funded asset base is considered well managed gaps. However, the cumulative 10-year maintain current LOS of $3 million is concerning. This growth in the infrastructure gaps has the potential to escalate beyond CGM's ability to manage services effectively. There is no intent to allow this to occur. As such further action is needed to address both the understanding and forecasted growth of the gaps.

Choices are available as to how CGM manages the infrastructure gap:

- CGM can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. This funding can come from either tax supported or non-tax supported sources of financing.

However, funding sources are limited, thus, CGM must continue to manage its services in an affordable manner with due regard to market prices and staff impacts.

- Paying for the gaps is not the only opportunity. In rare cases, CGM can reduce LOS to match its ability to pay. However, there may be unwillingness to give up the range of services currently offered, along with a strong desire to enhance these services, particularly in light of public interest and the educational value they provide. Balancing these aspirations with financial and operational constraints is a significant challenge, requiring careful management and strategic decision-making.
- A third opportunity for CGM is to find more efficient and effective methods of delivering the services, including altering the asset mix that facilitates service provision to the community. Whenever feasible, CGM strongly endorses this approach and consistently invests in enhancements. A key component of this strategy is the ongoing effort to refine asset management practices.

Overall, CGM has a long-standing practice of pursuing all possible means to achieve service delivery goals and has been reasonably successful delivering quality services. In effect CGM adopts a blend of the three approaches outlined and is continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

Based on these objectives the Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against CGM's $55 million worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement. They will be pursued utilizing existing staff, other resources, and budgets to the fullest extent feasible.

Section 2.   Introduction

2.1: Supporting Covent Garden Market Goals through the Corporate Asset Management Program

Covent Garden Market (CGM) stands as a historic center for culture and business in London, Canada. Established in 1845, the market originated from a land donation by business owners in the City of London, located near the intersections of Richmond, King, and Dundas Streets. Farmers would gather to sell their products on Tuesdays, Thursdays, and Saturdays. The Market remained the business and cultural heart of the city well after World War 1. In 1955, nine businessmen formed the Covent Garden Building Inc. to construct a new Market building, which was completed in 1958. By 1998, the need for another new building became evident, and with significant public anticipation, the new Market opened in October 1999.

Today, CGM provides a diverse array of services, featuring a wide selection of food items and unique products, complemented by a weekly farmers' market and a variety of cultural festivals and events that highlight the London community's spirit. Throughout the year, the Market organizes a multitude of events on its public square and mezzanine, encompassing music, festivals, and community gatherings.

These service delivery outcomes are based on CGM's strategic community and organizational objectives established through the CGM Strategic Plan. This Plan outlines the mission, vision, and values that guide CGM in a manner that resonates with the core values of our community. The 2024-2027 CGM Strategic Plan summarizes these objectives as follows:

Our Mission

We are a vibrant and historic destination for Londoners and visitors to experience unique foods, local products, and cultural events. We support independent businesses, celebrate diversity, and bring the community together.

Our Vision

Become London's historic hub of culture, entertainment, and commerce, where the community comes together to embrace and promote diversity, make memories, and foster local business.

Our Values

- Enjoyment
- Innovation
- Welcoming
- Collaboration
- Communication
- Community Steward

The City's Corporate Asset Management (CAM) Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems that support service delivery. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[1].

This Asset Management Plan (AMP) was developed through the City's CAM Program based on an approved Service Level

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[1] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

Agreement between CGM and the City. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and CGM Board of Directors (Board) approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of 2023-2032 capital plan (hereon referred to as "planned budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2: Provincial Asset Management Planning Requirements

This AMP builds upon existing CGM asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, in January 2018, the Province created O. Reg. 588/17 under the Infrastructure for Jobs and Prosperity Act. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted CGM financial are consolidated within the City's financial statements. The following dates are provincially required:
  – By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  – By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS, and the costs to achieve them, and the financial strategies to fund the expenditures

necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.

- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across the CGM who are involved with managing infrastructure assets, including staff involved with finance, technical staff involved with planning and executing the construction, acquisition, and maintenance of infrastructure assets, and staff who operate and maintain infrastructure assets. Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure
- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?
- Age and Expected Useful Life (EUL) of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and helps inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects capital financing pressures that go beyond what can be accommodated in the CGM 2023-2032 planned budget.

A sample of the capital financing pressures captured in the AMP are:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,

- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,
- Achieve Proposed LOS – meeting the desired LOS may require additional investments to improve the condition of existing infrastructure, and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

By acknowledging capital financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and helps to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with CGM's strategic plans, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS when applicable, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other CGM approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, CGM strives to provide services to the community that are accessible, cost efficient, demonstrate environmental stewardship, and reliable. As shown in Figure 2.1, to obtain a desired LOS, CGM faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.
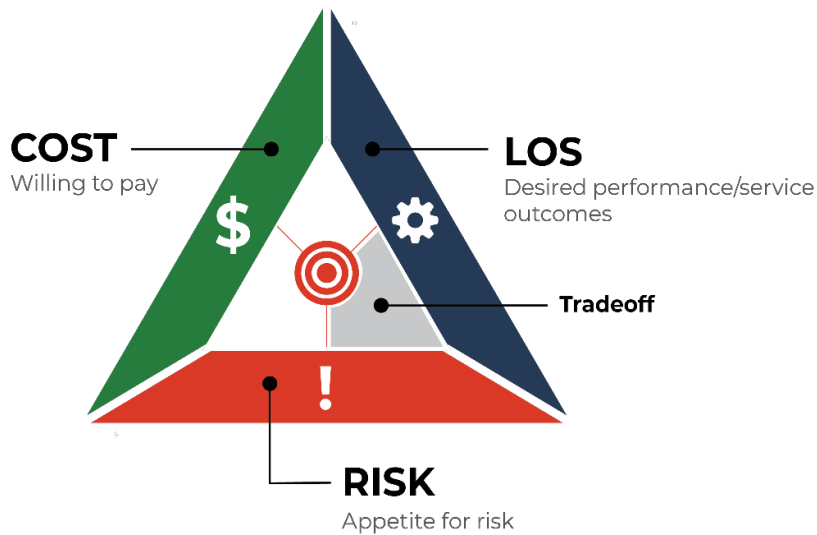
Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budget, the required budget to maintain current LOS, and the required budget to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned budget and capital reserve fund over a 10-year period (2023-2032).

In other words, what CGM plans to spend versus what the asset needs are. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, and to minimize the risks associated with failing assets.

Next are the infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community, which is consistent with the outcomes and expected results of the 2024-2027 CGM Strategic Plan and 2023-2027 City of London Strategic Plan.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with addressing infrastructure gaps. This discussion includes opportunities and challenges that are both in and outside of the control of CGM and CGM Board. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and
- Growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of CGM infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by CGM as of December 31, 2022, and associated planned budgets approved in the 2023 annual budget update. Thus, timing differences exist between when this AMP was developed versus current 2024-2027 MYB approvals. Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.
- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in three ways:

  o Condition may be technically assessed and reported on in a quantifiable technique. This method is the most accurate and most expensive (e.g., facility condition);
  o Condition may be assumed based on age and expected useful life; and
  o Finally, condition may be based on the expert opinion of staff using the asset.

- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- The planned budget and expected reserve fund availability will occur as planned over the period of analysis.
- CGM is not listed within the current City 2021 Development Charges Background Study and as such growth budgets and implications are excluded from this analysis.

Section 3.   Detailed Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

Covent Garden Market (CGM) owns and operates assets with a total replacement value of approximately $55 million. These assets include the market building, various types of equipment and fixtures. Each asset is managed and maintained to meet both legislated and non-legislated service requirements with the aim of providing the highest level of cultural engagement and educational value possible for the community.

Table 3.1 summarizes the assets by type, inventory/quantity, and replacement values. The asset replacement values have been identified using different CGM databases including financial systems, VFA Facilities Management software, and internal expert opinion. These replacement values aim to capture current market prices for the fully replacement of identified assets. For further information regarding costing refer to State of Local Infrastructure in the Introduction section.

To further contextualize the necessity of these assets the following summarizes CGM's organizational and service delivery structures.

CGM sustains its operations with a variety of assets, including a market facility, furniture and fixtures, operational equipment, parking management, and computer equipment. CGM assets are key for bringing the London community together, offering fresh food, and making a fun place for people to shop and eat. They help everyone experience the local culture and are part of why the market is known for being friendly and supportive of local businesses. It's a place that really shows the community spirit and local pride, with spaces for events that everyone can enjoy. The strategic deployment of these assets promotes accessibility and long-term sustainability, dovetailing with the CGM's Strategic Plan.

Facility and Sitework

CGM is a true Farmers' Market, as defined by Ontario's Food Premises Regulation (O. Reg. 493/17), located at 130 King Street in London, Ontario. The market's building, constructed in 1999, has a significant presence with its 49,200 square foot ground-level area.

The second level mezzanine is open to the market in the centre, spreads over 20,000 square feet and offers 9,000 square feet of space available for leasing, specifically for arts, culture, and community initiatives. Adjacent to the west side of Talbot Street, the Market Square spans roughly 30,000 square feet, serving as a public area for various activities.

The main entrance is positioned on the building's west side and accommodates spaces for 47 permanent vendors, with 41 positioned on the ground floor and an additional 6 on the mezzanine. More than sixty farmers and artisans take part in the weekly Outdoor Farmers' and Artisan Market, conducted seasonally on the Rotary Market Square.

Designated areas within the market are allocated for buskers to entertain, contributing to the lively atmosphere. CGM also hosts a diverse array of events, both indoor and outdoor, year-round, enhancing its role as a community hub.

The building's current replacement value is estimated at approximately $54.5 million.

The building is classified as an Ontario Building Code Group E - Mercantile occupancy and is designed as a main ground floor and a mezzanine, equipped with a sprinkler system, and barrier-free. CGM staff are responsible for the management and maintenance of the market building and its internal systems. This ensures that the facility meets its functional requirements, serves as a community gathering place, and functions as an

accessible, commercial, social, and cultural resource for the public, while operating in a safe and efficient manner.

Equipment and Fixtures

Valued at $525 thousands, the 'Equipment and Furniture' assets category includes a variety of office essentials such as workstation tables and fireproof cabinets, which are essential for administrative efficiency. Alongside these, various seating, benches, and table configurations cater to the comfort of visitors. Operational machinery like tow lifts and balers, and logistical items like parking equipment, play a key role in material handling and managing the market's underground parking. Additional items such as office desks, chairs, and kitchen appliances support daily activities, while audio and lighting systems facilitate event hosting.

Computers, Monitors, and Servers

Valued at $18 thousands, the 'Computer, Monitors, and Servers' asset type at CGM constitutes computer towers, monitors, and servers that are integral to market operations and the delivery of its services.

These assets improve operational efficiency through inventory management, transaction processing, and logistics coordination. It also supports in customer engagement via digital marketing and social media, helps in vendor management, and supports data analysis for decision-making. The strategic management and maintenance of these assets are critical to the market success and its service to the public.

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Facility and Sitework	Building and Site development	1	Ea.	$54,551
Equipment and Fixtures	Tables, benches, chairs, parking equipment, appliances, etc.	824	Ea.	$525
Computers, Monitors, and Servers	Computers, monitors, servers, etc.	17	Ea.	$18
Total				$55,094

3.1.2: Age Summary

Figure 3.1 shows CGM average asset age as a proportion of the average Expected Useful Life (EUL). This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates CGM's ability to replace such assets on-time. Overall, the data affirms that CGM facility and all other assets are well within their expected useful lives.

Facility and Sitework

The age of the facility is calculated based on the original date of construction in 1999, as per the building condition assessment report. The facility is well within its average industry standard EUL of 40-years. This contributes to the stability of its operation and maintenance costs. It is important to note that 40-years was selected as the EUL based on the non-structural components of buildings which have the longest EUL. In practice the many components that comprise a building are slated for renewal based upon a combination of factors including age, condition, consequence of failure, likelihood of failure, etc., and the practical EUL is largely indefinite while the building continues to serve its intended/required purpose in its given geographic location.

The building is maintained in a good condition through regular upkeep. Its condition reflects a conservative approach to management, ensuring basic functionality without significant exceedance of operational standards. Future considerations may include assessments for necessary improvements or updates to align with evolving standards and maintain its utility and relevance in a practical manner.

Equipment and Fixtures

The average age of the Equipment and Fixtures assets is determined through the acquisition year recorded in CGM's databases for each asset or group of assets. The estimation of each asset's average EUL is based on internal expert assessments and historical data. This category includes various assets, each possessing its own acquisition date and EUL. The calculated average age is 9 years, in comparison to the average EUL of 18 years. It is typical for assets within this category to exhibit varying ages due to staggered acquisition timelines. Hence, the average age falling within the EUL indicates robust and effective asset management practices at CGM.

Computers, Monitors, and Servers

The average age of assets is determined through the acquisition year documented in CGM's databases for each asset or collective assets. The average EUL of each asset is inferred from internal expert evaluations and past performance records. This category encompasses assets such as computer towers, servers, and monitors, each marked by its own purchase date and anticipated service duration. The determined average age stands at 5 years, relative to an average expected service life of 8 years. Typically, computers are assigned an EUL of 5 years, whereas servers are attributed a 15-year EUL. It is common for the ages of assets in this category to differ due to the phased acquisition schedules. Hence, the average age falling within the EUL indicates robust and effective asset management practices at CGM.
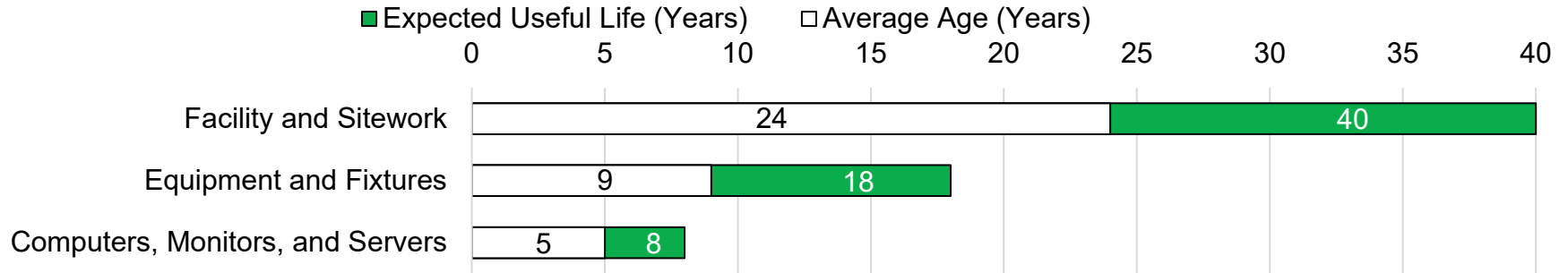
Figure 3.1 Average Age and Expected Useful Life

3.1.3: Asset Condition

The condition of the assets was determined using one of the three methods below based on data availability and accuracy:

1. Existing condition rating systems (e.g., Facility Condition Index, etc.),
2. Estimated based on age and the remaining expected useful life of the assets, and
3. Estimated based on expert opinion, in the absence of 1 or 2 above, or where there was low confidence that age and EUL appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data helps identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.2 presents the condition distribution of all CGM assets. It shows that approximately 98% of the assets are in Good condition dominated by the condition of the facility itself which is in a state of good condition.

Figure 3.3 provides a breakdown of CGM condition for the Facility, Equipment and Fixtures, and Computer, Monitors, and Servers.

Facility
The CGM facility condition is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facility and its sub-components (building envelope, mechanical and electrical systems, etc.). The assessment is used as a primary source in identifying the repair, rehabilitation, and/or replacement strategies for the building internal systems and components. Note, the facility condition rating presents the physical condition of the building and are not a representation of the functionality required to satisfy CGM service delivery (i.e. size, location, ability to accommodate certain types of functions or equipment, etc.).

The current condition assessment identifies that the facility is overall in Good condition. However, based on the recent building condition assessment for CGM and the parking garage, there were several deficiencies that were noted which require attention in the short term.

In the context of a community-centric retail and cultural service hub, such a material amount of facility assets in Good condition is indicative of satisfactory performance, noting lifecycle reinvestments in short, medium term to longer term are still required to maintain the facility's ability to support operations.

Such concerns could range from aging infrastructure and internal building systems nearing the end of their useful life, which may lead to potential interruptions in building functionality, to more superficial wear and tear that impacts both the facility's functionality and aesthetic appeal.

Equipment and Fixtures
Looking into the condition distribution of the Equipment and Fixtures asset type, 85% of the assets are in fair or better condition. The conditions of these assets are based on either asset age or internal expert opinion of CGM staff.

In the lifecycle management of an asset inventory, the presence of some assets categorized as 'Poor' condition is a typical phase, indicating these assets are scheduled for replacement. The 12% of assets in the Poor or Very Poor condition, specifically the picnic tables and benches, as well as some chairs, small interior tables, and radios devices, indicate a necessity for investment in the short-term. This investment is critical to replace these deteriorating assets promptly, which is integral to preserving the asset portfolio within an acceptable state of repair.

Computers, Monitors, and Servers
Looking into the condition distribution of this asset type, 99% of the assets are in fair or better condition. The conditions of these assets are based on either asset age or internal expert opinion of CGM staff. Computers unit are all in good condition; however, the server are approaching its expected useful life, indicating a necessity for investment for renewal in the short-term. This investment is critical to replace these deteriorating assets promptly, which is critical for maintaining the integrity, efficiency, and security of an organization's IT infrastructure.
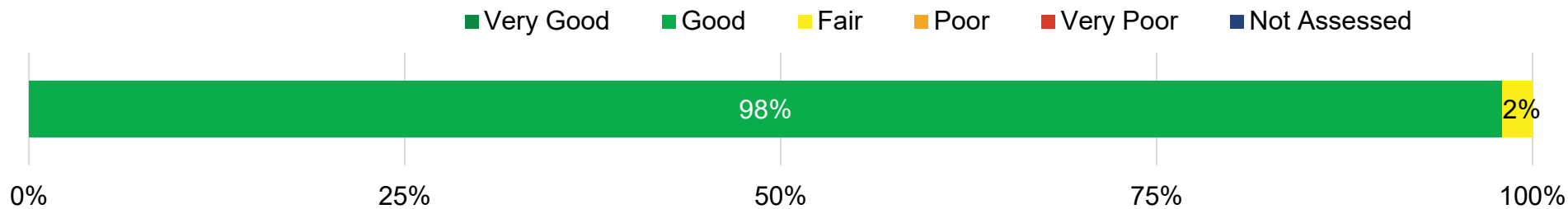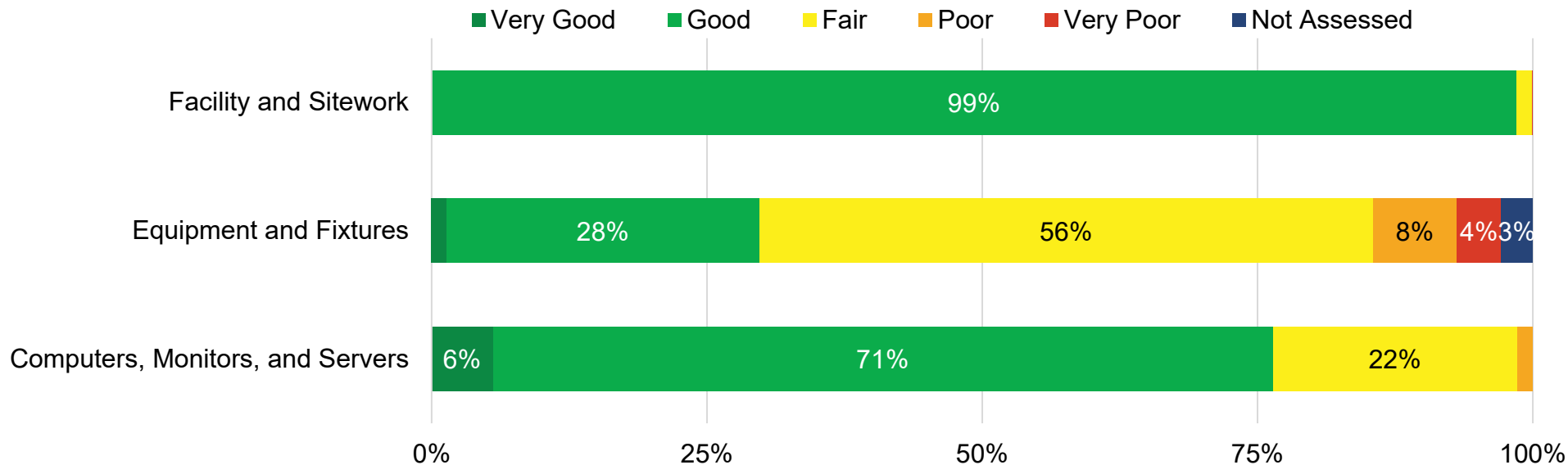
Figure 3.2 Overall Condition

Figure 3.3 Asset Condition Detail

3.2:   Levels of Service

Asset management Levels of Service (LOS) link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- 2023-2027 CGM Strategic Plan,
- 2023-2027 City of London Strategic Plan, and
- 2023 Annual Budget Update.
- Various Industry best practices

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, CGM and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.3 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 CGM AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future CGM AMP development processes and practices.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Description
Accessible	Service is accessible by the community, not exclusive, it is inclusive to those who wish to/may use the service to the greatest extent possible, regardless of age, ability, etc. Includes metrics related to asset accessibility and legislated requirements. For example, *Accessibility for Ontarians with Disabilities Act* (AODA).
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Environmental Stewardship	Service is provided in means that considers, controls, or reduces impacts to the environment. Includes metrics related to the assessment of service provision based on environmental stewardship and sustainability practices. Examples include annual monitoring of utility usage in relation to the square footage of the facility., or fuel consumption-based greenhouse gas emissions.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can readily determine the cost to maintain current LOS and, achieve proposed LOS. Next in line are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed.

After review with CGM staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.4, and the supporting related LOS are documented in Table 3.5. These LOS will be expanded upon as part of future AMPs development.

3.2.1: Direct Levels of Service
Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	Overall reinvestment rate of Capital funded assets	0.90%	1.81%
Environmental Stewardship	Technical	Annual electric energy consumption kilowatt-hour per square foot	4.821 kWH/sf	Positive Downwards
		Annual natural gas consumption cubic meters per square foot	0.361 m3/sf	Positive Downwards
		Annual water consumption cubic meters per square foot	0.041 m3/sf	Positive Downwards
Reliability	Customer	Overall assets in fair or better condition	100%	100%

3.2.2: Related Levels of Service
Table 3.5 Related Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance
Accessible	Technical	Percentage of entrances that are FADS or AODA compliant	100%
		Percentage of washrooms that are FADS or AODA compliant	100%
Reliability	Technical	Number of incidents in facilities per 10,000 square feet	8.90
Reliability	Technical	Percentage of planned maintenance activities as a proportion of total maintenance activities	28%

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.6.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

CGM employs a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, disposal, and regular investments in and business process improvements, while continuing to prepare for introducing service improvements.

When feasible, CGM also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets or asset categories, which can result in cost and service efficiencies. Additionally, with significant asset investments, CGM seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Selected lifecycle activities are reviewed and modified based on continual industry benchmarking, staff training, professional networking, online reviews, consultant recommendations, and trial and error through scenarios and pilot programs. CGM is also committed to climate change adaptation and mitigation planning, which may trigger asset investment needs.

The current CGM lifecycle management activities (practices and planned actions) are presented as follows:

- Table 3.7 lists specific asset management practices or planned actions by lifecycle activity for the Facility, Equipment and Fixtures, and Computers, Monitors, and Servers.
- Table 3.8 lists specific risks associated with asset management practices or planned actions by lifecycle activity.

Table 3.7 Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	**CGM Facility and Sitework** • The Facility is maintained and renewed through a specialized Facilities Team and their use of data provided by the Property Condition Assessment and Facility Condition Index Analysis provided by external consultants as well as other facilities management applications, which combined with comprehensive condition assessments and Facilities Team experience, determines the lifecycle management needs of the facility. • Needs include the direct care of the building envelope, mechanical and electrical systems, etc. **All Asset Types** • Various controls and approval processes to safeguard assets. • Financial planning strategies to control costs. • Ongoing use and development of computerized maintenance management system. • Updating and applying design standards. • Ongoing search for additional funding. • Operational continuous improvements. • Improvements to employee capabilities, communications, training, etc. • Changes to current and proposed LOS. • Developing asset management program. • Leadership networks with peers through conferences and committees to learn from other's experiences.
Maintenance	**CGM Facility and Sitework** • Planned inspections and regular general maintenance schedules ensure the facility is fit for service. • A work order system and online interface exists for City of London and CGM Facility Management Team employees to generate and document capital works requests and completions. **All Asset Types** • Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets. • Maintenance also triggered by public/community partners feedback (when applicable).
Renewal/ Rehabilitation	**CGM Facility and Sitework** • The Facility is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facility Management Team, and computer software programs used, determine the cost and timing of renewal requirements. **All Asset Types** • Adopt advanced technologies for CGM's diverse assets, such as specialized audio-visual systems, market furnishings, and digital devices, to maintain the current LOS.

Activity	Specific Asset Management Practices or Planned Actions
Replacement/ Construction	**CGM Facility and Sitework** • The Facility is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of replacement requirements. **All Asset Types** • Adopt advanced technologies for CGM's diverse assets, such as specialized audio-visual systems, market furnishings, and digital devices, to maintain the current LOS.
Disposal	**CGM Facility and other types of assets** • Appropriate and proper disposal occur when assets are replaced or renewed. • Dispose of assets under the applicable regulation and environmental standards.
Service Improvement	**CGM Facility and other types of assets** • Strategic plans, and consultation with community partners and users of the facility determines service improvement needs. • Based on strategic service review results, implement service deliver changes that improve asset performance, cost, and risk. • Adopt advanced display technologies in CGM to enhance or achieve the proposed LOS, leveraging contemporary solutions in markets and retail environments to enrich visitor experience and engagement.
Growth	• Continuously monitor the impacts of growth on service delivery and participate in Assessment Growth Policy process to secure appropriate levels of growth asset funding (when applicable).

Table 3.8 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	- Lack of a realization of the benefit from the activity (e.g., the life is not extended or the cost of managing an asset increases rather than decreases). - Need for revised plans, reports, and recommendations. - Asset management plans or proposed network solutions not followed. - Poor quality asset information/planning assumptions incorrect. - Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to assets that were not originally planned. - Growth projections not as planned or service provision changes. - Extending useful life past optimum can increase the risk of critical failure of major components. - Assets beyond expected useful life can have significantly higher maintenance costs and reduced salvage value. - Inability to mitigate malware/cyber-attacks resulting from deteriorated and non-supported asset. - Financial risks – economic fluctuations, inflation, expenditure type changes (e.g. change in IT industry – shift to operating licenses financed through operating budgets versus historical capital expenditure nature), etc.
Maintenance	- Completing planned maintenance activities while managing the need to execute reactive maintenance activities. - Incorrectly planned maintenance activities can lead to premature asset failure. - Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. - Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no actual benefits.
Renewal/ Rehabilitation	Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	- Cost over-runs during large, complex design and construction projects. - Lack of knowledge regarding best practices and market offerings (e.g., new offerings and standards). - Minimizing service and repairs at end of life increases the chance of failures.
Disposal	- Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. - Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	Service improvement is either not required or incorrectly assessed.
Growth	- Incorrect growth assessments may result in overabundance or underabundance of assets. - Risk of insufficient or excess funding to construct/acquire or maintain new assets. - Potential insufficient knowledge of and supporting policies for new asset types.

3.3.3: Lifecycle Management Scenario Forecasts – Planned Budget, Maintain Current LOS, and Achieve Proposed LOS

General Approach

The type and frequency of lifecycle management strategies and activities impact both an asset's condition and its ability to enable service delivery. Because of this relationship, the AMP typically presents three different lifecycle management scenarios and their associated funding requirements. To align with the categories of Asset Lifecycle Management Activities outline above, each scenario is broken down by the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements.

In summary these scenarios are defined as:

1. Planned Funding – This scenario presents the budget constrained to the level of expenditure approved in the 2023 annual budget update.
2. Maintain Current LOS – forecasts the level of investment required to maintain current LOS performance.
3. Achieve Proposed LOS – forecasts the level of investment required to achieve proposed LOS. The approach considers the desired level of service documented in CGM strategic plan and other documents.

Each scenario is further explained in the following sections. After each scenario is presented, the Forecasted Infrastructure Gap and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies that will be used to manage the gap and work towards long term service, financial, and infrastructure sustainability.

Aligned with the City's Climate Emergency Action Plan (CEAP), the like-for-like lifecycle rehabilitation and renewal activities tied to each scenario will be substituted with green-for-like whenever feasible. This means that instead of simply replacing existing infrastructure with a similar one (like-for-like), there will be an increased focus on incorporating more energy efficient and greenhouse gas (GHG) emissions friendly infrastructure solutions (green-for-like). Such investments will incrementally support long term net zero targets.

A. Scenario One: Planned Funding

The CGM average annual activity and planned funding is summarized in Table 3.12. This scenario presents the budget constrained to the current level of planned expenditures. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

For this analysis, average annual activity for operating and capital budgets are presented as the average expenditure budget from the 2021 and 2022 fiscal years. Planned funding operating budget is equal to the 2023 fiscal year budget. Planned funding capital budgets (e.g., renewal, service improvement, and growth) are the annual average of the approved 10-year capital plan for 2023-2032. Growth activities are analyzed using the 2021 Development Charges Background Study Update. Thus, no growth projects are identified.

Table 3.9 Scenario One – Average Annual Planned Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Planned Funding
Operating	3,467	3,712
Renewal, Replacement, Rehabilitation, Disposal	0[2]	493
Service Improvement	None identified	None Identified
Growth	None identified	None identified

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.10. This approach forecasts the lifecycle activities that are required to maintain the current performance of the LOS metrics. The analysis considers the current age and condition of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. The analysis of the facility component incorporates the calculation of the reinvestment rate, which is derived from an evaluation of the facility's current condition using the FCI. This approach ensures that the determined reinvestment rate aligns with best practices for maintaining market-type facilities.

Furthermore, the calculation of required investments is specifically aimed at maintaining the existing condition of the market facility, ensuring its continued state of good repair. These calculated expenditure requirements are then compared to planned funding identified in scenario one in addition to available reserve fund to determine if infrastructure gaps exist.

Based on this analysis, Table 3.10 identifies a cumulative 10-year infrastructure gap of $3 million if CGM is to maintain current LOS.

Table 3.10 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Operating Budget	3,712	None identified	3,712	None identified
Renewal, Replacement, Rehabilitation, Disposal	493	200	994	301
Service Improvement	None identified	None identified	None identified	None identified
Growth Activities	None identified	None identified	None identified	None identified

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[2] Due to interruptions in business operations caused by the pandemic, capital budget allocations have been deferred to subsequent years.

C. Scenario Three: Achieve Proposed LOS

There have been no identified needs to achieve proposed CGM levels of service, Table 3.11 reiterates this.

Table 3.11 Scenario Three - Average Annual Cost to Achieve Proposed LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Incremental Cost to Achieve Proposed LOS[3]	Achieve Proposed LOS Infrastructure Gap[4]
Operating Budget	3,712	None identified	3,712	None identified	None identified
Renewal, Replacement, Rehabilitation, Disposal	493	200	994	None identified	None identified
Service Improvement	None identified	None identified	None identified	None identified	None identified
Growth Activities	None identified	None identified	None identified	None identified	None identified

3.4: Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

The infrastructure gap is a dollar amount based on the difference between:

- the amount of money that needs to be spent on CGM assets required to provide services, and
- the amount of funding presently identified in budgets and reserve funds over a 10-year period (2023-2032).

In other words, what CGM plans to spend versus what the assets need. Ideally, the infrastructure gap declines over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize the risks associated with failing assets and insufficient asset compliments.

CGM identified infrastructure gap is summarized below in Table 3.12 and illustrated in Figure 3.4. Over the 10-year analysis period, the cumulative maintain current LOS infrastructure gap is expected to be $3 million.

The gap to maintain current LOS is 5.5% of CGM's $55 million infrastructure replacement value of the capital funded assets. CGM facility pressures are the primary contributor to the gap. These needs include lifecycle renewals of existing infrastructure systems.

Rehabilitation and replacement investments are based on the Property Condition Assessment report, review, and critiquing consultant assessments, and considering industry best practices to maintain the facility's current condition.

Currently, there is no specifically identified Proposed LOS, as CGM has effectively managed their assets to maintain a state of good repair. This proactive approach has ensured that there is

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[3]Incremental investment to achieve proposed LOS considers requirements to enhance the current condition and 2024-2027 MYB business cases 70.
[4]Infrastructure gap to achieve proposed LOS is inclusive of maintain current LOS infrastructure gap and incremental investment to achieve proposed LOS.

no existing infrastructure gap to address in order to achieve a
proposed LOS.

Table 3.12 Average Annual Budget and Gap Analysis ($Thousands)

Asset Type	Planned Funding	Reserve Fund Availability	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
Covent Garden Market	493	200	994	None identified	301	None identified
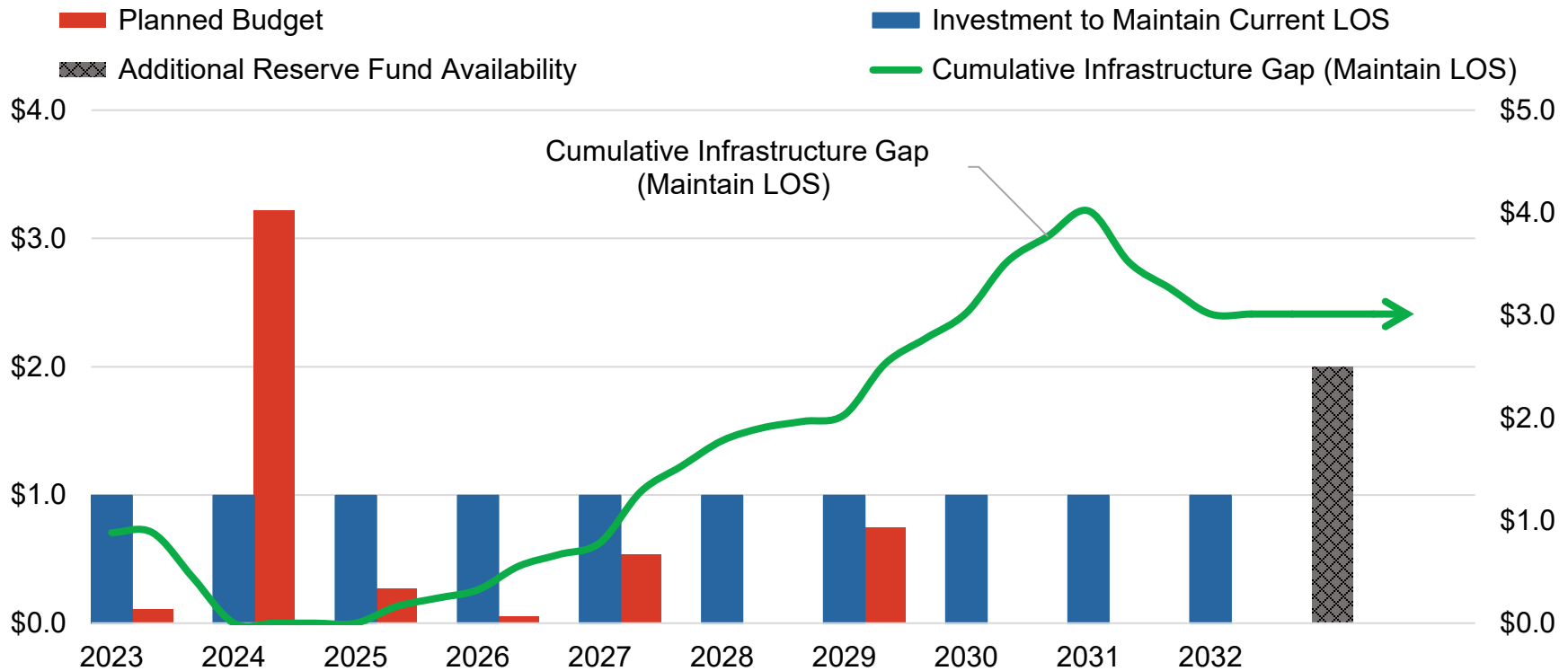
Figure 3.4 Maintain Current and Achieve Proposed LOS Cumulative Infrastructure Gap (Millions)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that CGM actions are collectively (both financial and non-financial) anticipated to tackle the growth in projected infrastructure gaps.

Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing the AMP well in advance of the multi-year budgeting process so that its results help inform the requested operating and capital budgets. However, due to lagging impacts of the pandemic, the AMPs for all the City's agencies, boards, and commissions were delayed post 2024-2027 MYB development. As such this infrastructure gap financing strategy does not present alternative financing options. In replacement of alternative financing strategies, in 2025, this AMP will be updated and reported to CGM Board of Directors and City Council based on the approved 2024-2027 MYB and 2025 annual budget update.

3.5: Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – planned budget, maintain current LOS, and achieve proposed LOS.

Scenario One planned budget is identified to have constraints on CGM's capacity to effectively maintain infrastructure. This leads to a deterioration in asset condition. This decline might not be immediate but, over time, it becomes more visible to the public, causes operating problems, increases the operating and maintenance costs, and leads to higher repair or replacement costs in the future.

Scenario Two maintain current LOS funding is greater than what is currently allocated, illustrating the financial strain of maintaining a healthy asset portfolio and CGM services. This scenario acknowledges the need for continual investment in assets to maintain their current state, eliminating the degradation in LOS that would result from the first scenario.

Scenario three demonstrates the absence of a proposed LOS since CGM has consistently maintained its assets in a state of good repair. Hence, there is no identified infrastructure gap to achieve a proposed LOS.

Scenarios one and two result in different LOS depending on the funding provided for asset lifecycle renewal and service improvement actions. Thus, the choices made will have an implication for asset condition and CGM operational effectiveness.

3.5.2: Current and Future Challenges

General
CGM faces dynamic opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, post pandemic industry recovery)
- Organizational (e.g., recruitment and retention of staff, continued quest/community engagement and partnerships)
- Technology (e.g. operational continuity, interactive technology, security)
- Cultural and Social (e.g., Cultural representation, diversity, community engagement, ethics, education)
- Operational (e.g., Funding, staffing, visitor engagement, conservation, space management)
- Political/Legal (e.g., multi-tier governmental, regulatory compliance, intellectual property)
- Environmental (e.g., sustainability, climate change)

To help navigate these factors, the CGM 2023-2027 Strategic Plan outlines a detailed roadmap aiming to significantly elevate the Market's standing. It specifies actionable strategies for growth and success over five years, addressing challenges and capitalizing on opportunities to reach unprecedented levels. The Strategic plan provides an in-depth analysis of the Market and direct CGM efforts to be recognized as a top and unique destination within London.

The following commentary summarizes the main current and future challenges impact infrastructure needs and costs.

Pandemic Disruption and Inflation
Pandemic disruption greatly impacted CGM operations. CGM was closed March 18, 2020, to April 1, 2020, and operated in limited capacity for much of 2020 and 2021. As we emerged from the pandemic, inflationary pressures beyond those

accounted for within the 2020-2023 MYB and associated 10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 CGM AMP and are a material component of the infrastructure replacement values and a 10-year infrastructure gap reported. These capital financing pressures represent a significant risk to the condition and LOS associated with CGM infrastructure assets.

Climate Change

In 2019, London City Council declared a climate emergency at the urgence of the community. As it relates to CGM's impact on climate, there are current and future challenges that must be contended with. It is important to address these challenges thoroughly and promptly if we are to leave a positive legacy for future generations.

Future AMP analysis could include facilities energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs) and analyzing energy reduction measures identified in the 2023-2027 Strategic Plan.

Aging Infrastructure

CGM facility, constructed in 1999, stands as a relatively modern addition to the City of London's vibrant urban landscape. Unlike the older infrastructure that characterizes other facilities owned and maintained by City of London, CGM benefits from its newer construction, which initially requires less intensive maintenance. However, as with any physical asset, CGM is not immune to the natural deterioration associated with aging. Without timely and proactive lifecycle renewals and maintenance, CGM will face

the expected deterioration that can compromise its operational functionality and the welcoming environment it aims to provide.

This is illustrated in the 2024-2027 MYB business case #P-66 for facility repairs including the parking garage repairs as recommended by the property condition assessment. Not advancing the project may result in significant parking loss for CGM and Budweiser Gardens visitors and daily downtown commuters; potential closure if needed.

Sustainable Operation

CGM addresses financial sustainability and infrastructure maintenance as key priorities. By innovating monetization strategies and implementing continuous facility upgrades, CGM aims to enhance its operational efficiency and inclusivity for all stakeholders. These efforts are critical for maintaining the market's historical landmark status and ensuring it remains a vibrant, self-sufficient hub within the community, embodying operational excellence amid evolving challenges.

Cultural

CGM's Strategic Plan for 2023-2027 positions it as London's definitive town square, a vibrant meeting place for diverse cultures and ideas. To actualize this vision, some enhancements to the market's infrastructure and assets may be required. This includes upgrading buildings to accommodate a wider variety of events and commerce, aimed at fostering local entrepreneurship. Additionally, investing in equipment and adopting modular, adaptable designs for the physical spaces will support the diverse needs of vendors and the community. Implementing advanced technological tools is also essential for creating interactive experiences, driving innovation through retail, and building community through events. These strategic upgrades will ensure CGM remains a central hub for culture, entertainment, and commerce in downtown London, maintaining

its status as a historically rich, culturally inclusive destination amidst the city's evolving cultural landscape.

Growth

London is experiencing steady to above-average growth in both population and employment. This growth requires enhanced city-wide services and expands the capacity requirements for retail and cultural assets, prompting required investments in the development or improvement of its infrastructure. Although CGM is not listed in the 2021 Development Charges Background Study, the city's ongoing expansion presents an opportune moment for CGM to further cement its status as a key cultural destination. Accordingly, assessing CGM's future infrastructure and programming needs, in light of the city's growth, could illuminate and justify the consideration of additional funding sources.

3.6:   Conclusion

Valued at over $55 million, CGM assets are overall in Good condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain the current LOS. However, to maintain current LOS additional investments are required, with preliminary calculations at approximately $9.9 million, over 10-years (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of CGM assets will be in jeopardy and could result in degradation of the services ultimately delivered. Table 3.13 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for CGM assets.

Table 3.13 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Millions)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [5]
Covent Garden Market	$55	Good	$3	None Identified	0.90%	1.81%

Reliability and Accuracy Commentary

Figure 3.5 visually presents CGM and CAM staff assessment of this AMP's data reliability and accuracy with supporting commentary following. In summary this assessment rates data reliability and data accuracy as moderate.

Figure 3.5 Accuracy Reliability Scale

Based on the materiality of assets, key rating considerations and conclusions are:

- Facilities valuation and needs is based on Property Condition Assessment report and corroborated with Altus Group standard costing. However, full implementation of VFA Facilities Management software within operations is undergoing a phased approach, which was not complete at the point of AMP completion.

- Equipment and Fixture, and Computers, Monitors, and Servers inventories are an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

These ratings are consistent with many City of London service areas. To improve these ratings, a review of systems and processes that support CGM asset registries is recommended over the 2024-2027 MYB and beyond. Such investments will raise the reliability and accuracy of the data, noting the long-term goal is to have all asset registries within advanced asset management focused software applications.

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[5] Source: Reinvestment rates based on investment to maintain current LOS (net of select assets funded from operating budget).

Section 4.   Conclusion and Recommendations

4.1:   Conclusions

4.1.1: Key Findings

CGM infrastructure systems are an integral piece of cultural, entertainment and retail services and play a key role in achieving CGM 2023-2027 Strategic Plan objectives and goals.

This AMP is a strategic document that describes the state of CGM's infrastructure and the approach to managing assets over their lifecycle to maintain current LOS at the lowest lifecycle cost possible. It was produced through extensive efforts of CGM and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 AMPs. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:

- There is $55 million worth of infrastructure under the direct ownership and control of CGM. This infrastructure represents a diverse array of assets including the market facility, equipment, fixtures, and computer equipment.
- The overall condition of CGM assets is rated as Good, primarily due to the Good condition of the market facility. However, CGM equipment, fixtures, and computer equipment includes a combination of assets in different condition with the majority of them in Fair or better condition.
- Good condition indicates that the infrastructure initially requires less intensive maintenance. However, as with any physical asset, CGM is not immune to the natural deterioration associated with aging. Without timely and proactive lifecycle renewals and maintenance, CGM will face the expected deterioration that can compromise its operational functionality and the welcoming environment it aims to provide.

- Asset lifecycle renewal is financed through Capital budgets, with limited number of assets ($34 thousands) financed through operating budget.
- Based on the existing CGM planned funding, the 10-year maintain current LOS infrastructure gap is approximately $3 million and there is no identified infrastructure gap to achieve proposed LOS.
- Through the 2024-2027 MYB a portion of this gap has been approved for funding by the CGM Board, but this budget is currently being deliberated by City of London Council.
- Future AMPs will be brought forward to align with the development of MYBs and will present financing strategies to mitigate remaining infrastructure gaps annual growth while balancing the impact of tax and non-tax affordability on the community.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024, timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024, deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025 O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help CGM manage its $55 million asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are

structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall CGM strategic objectives and goals.

Short term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement. They will be pursued utilizing existing staff, other resources, and budgets to the fullest extent feasible.

Table 4.1 2024 CGM AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/ Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across CGM assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, and aligning operational performance with customer expectations. • Lifecycle cost saving, and more informed investment planning and decision-making.	Long Term
Lifecycle Management and Decision Making	Develop and implement investment strategies for CGM infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into CGM strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
		base and required capital investments to achieve desired LOS.	
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term
Risk Management	Enhance CGM asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or CGM software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each CGM service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications; improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually review the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing CGM public engagement practices.	• Enhanced adaptability to changing community needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.1 O.Reg.588/17 July 1, 2024, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[6]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital, and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1, every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[6] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.2 O.Reg.588/17 July 1, 2025, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g., measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. i.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital, and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
6.(1) 6. iii.	For population 25K or more, overview of the risks associated with implementation of the AMP	Sections - #3.5
6.(1) 7.	Explanation of other key assumptions	Sections - #2.4

Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance, or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the CGM, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with CGM, and
- The asset is utilized to achieve CGM plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: CGM Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of

wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality, or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost CGM would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

Board: Covent Garden Market Board of Directors

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

CGM: Covent Garden Market

DC: Development Charges

EUL: Expected Useful Life

FCI: Facilities Condition Index

GHG: Green House Gases

IT: Information Technology

kWH/sf: Kilowatt hours per square foot

LCR: Lifecycle Renewal

LOS: Levels of Service

MESL: Maintain Existing Service Levels

m3/sf: Cubic Meters per Square Foot

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RF: Reserve Fund

RV: Replacement Value

TCA: Tangible Capital Asset

VFA: Facilities Management Software

For more information vist **london.ca/CAM** or contact
Corporate Asset Management Phone: **519-661-CITY (2489)** Email: **CAM@london.ca**

London
CANADA

2024

Eldon House
Asset Management Plan

City of London

london.ca/CAM

Eldon House
Heritage Site and Gardens
1834

London
CANADA

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Acknowledgement

Land Acknowledgment

We acknowledge that Eldon House resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of Eldon House, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge respective Eldon House staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to Eldon House Board and City Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

Eldon House Board of Directors

Members: Joe O'Neil, Megan Halliday, Doug Fleming, Louanne Henderson, Devinder Luthra, Bryan McClure, Mike Donachie.

Section 1.   Executive Summary

Summary	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($Thousands)	$235.2	$235.2
Cumulative 10-Year Infrastructure Gap ($Thousands)	None identified	None Identified
Infrastructure Gap as a Percentage of Replacement Value	None identified	None identified

1.1: 2024 Eldon House Asset Management Plan Introduction

Eldon House stands as a significant cultural landmark in London, Ontario, committed to preserving and showcasing the history of the region through the lives of the Harris Family from 1834 to 1959. As a museum, it maintains a unique collection that illustrates the area's development and the lives of four generations who resided in the house, providing an authentic link to Canada's past and representing an irreplaceable legacy. Eldon House serves as a crucial educational resource, offering a deep connection to 19th-century life and enriching the community's understanding of its historical landscape.

This Asset Management Plan (AMP) is designed to enhance the management of Eldon House infrastructure assets in a way that connects Eldon House strategic plan, City of London, and community objectives to day-to-day and long-term infrastructure investment decisions in order to provide the best possible service to the community. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning Eldon House for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, and replaced).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that

maintain current LOS and those that achieve proposed LOS;
- If necessary, establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet Eldon House Board of Directors (Board) approved LOS and associated lifecycle activities.

Based on the analysis, key findings of the 2024 Eldon House AMP are:

- There are $235.2 thousand dollars of infrastructure assets under management, this excludes facilities and site work (gardens) as well as artifact collections;
- The main building and greenhouse of Eldon House (facilities), along with their historic gardens (site work), are not included in this AMP but are covered in the City's Corporate Asset Management Plan within the Culture Services portfolio;
- The collections, rich in artifacts and archival materials, will be considered for inclusion in the next AMP, noting this infrastructure is classified as non-tangible assets and thus fall outside of O. Reg. 588/17 reporting requirements;
- Overall, assets contained within the AMP are in Good condition;
- No cumulative 10-year maintain current LOS and achieve proposed LOS infrastructure gaps have been identified; and
- The recommended average maintain current LOS reinvestment rate is 8.50% and based on an analysis of approved 2023 and 2024 Eldon House operating budgets, this level of infrastructure investment can be managed within existing budgets.

A summary of these results is presented in the following tables and figures:

- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of Eldon House infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets between those that are in Very Good to Very Poor condition;
- Figure 1.2 shows the optimal maintain current LOS expenditures compared to planned operating budget, and the resulting infrastructure gap, if any;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS.

Table 1.1 2024 AMP Summary Information

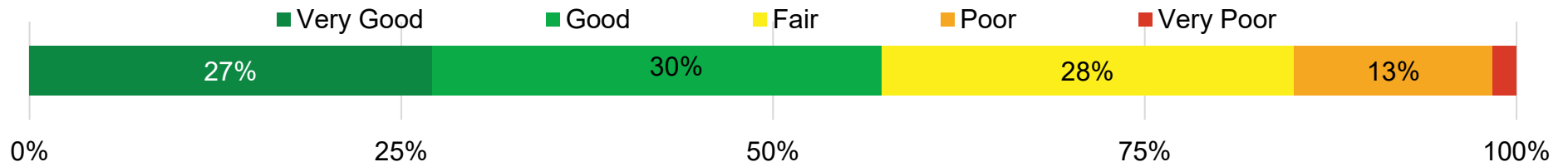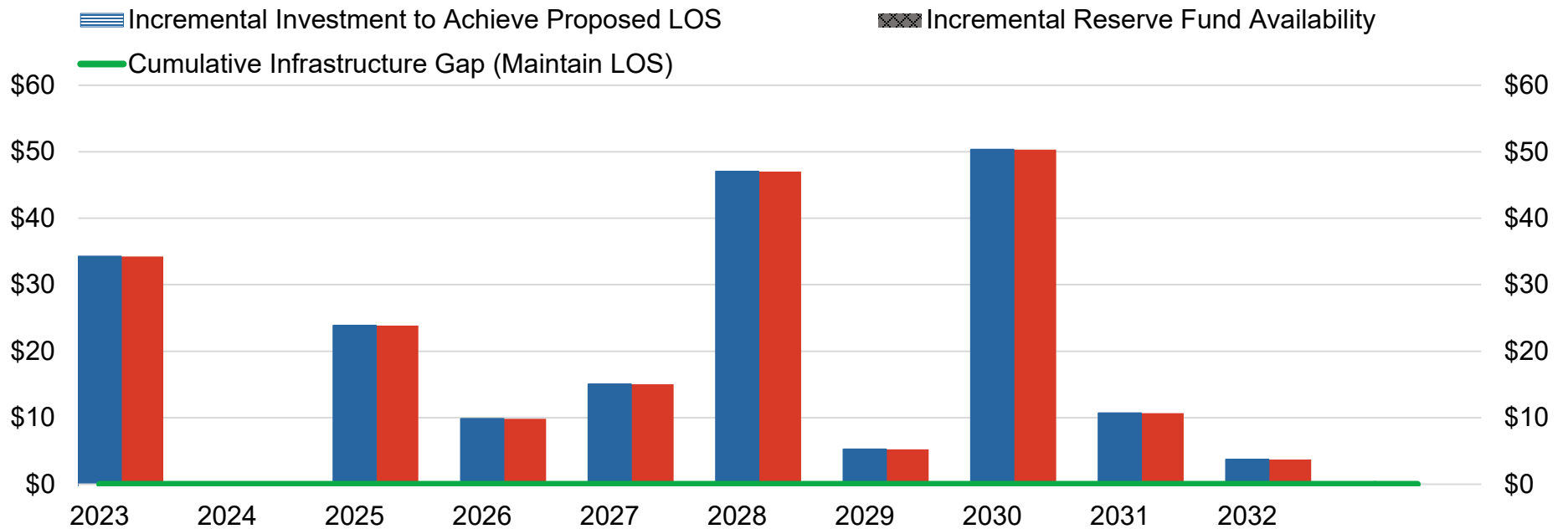| Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($Thousands)	$235.2	$235.2
10-Year Infrastructure Gap ($Thousands)	None Identified	None Identified
Infrastructure Gap as a Percentage of Replacement Value	None Identified	None Identified

■ Very Good   ■ Good   ■ Fair   ■ Poor   ■ Very Poor

| 27% | 30% | 28% | 13% | |

0%   25%   50%   75%   100%

Figure 1.1 Overall Condition

▦ Incremental Investment to Achieve Proposed LOS   ▨ Incremental Reserve Fund Availability
━ Cumulative Infrastructure Gap (Maintain LOS)

Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps (Thousands)

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
8.5%	8.5%	8.5%

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.
- **Detailed Asset Management Plan** section summarizes the existing asset inventory, its replacement value, condition, age distribution, and how Eldon House stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies, and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.
- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to Board approval.
- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping

of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on Eldon House staff input and asset data, Eldon House AMP is a tactical outcome of the City's CAM Program, outlining Eldon House plan to manage its $235.2 thousand worth of infrastructure, and the required investments to expand the asset portfolio to meet maintain current LOS and achieve proposed LOS objectives. There are no easy solutions to how the entire infrastructure system works together to achieve an optimal delivery of educational programs, cultural events, and research opportunities. But this AMP, among other Eldon House strategic documents, help identify the efforts required to ensure appropriate infrastructure funding.

There are no identified cumulative 10-year maintain current LOS and achieve proposed LOS gaps. If they were to arise in the future, choices are available as to how Eldon House manages the infrastructure gaps. These choices include:

- Eldon House can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. However, funding sources are limited, thus, Eldon House must continue to manage its services in an affordable manner with due regard to member, community, and staff impacts.
- Paying for the gaps is not the only opportunity. In some cases, Eldon House may be able to reduce LOS to match its ability to pay. However, there may be an unwillingness to give up services currently employed and a strong desire to improve services especially when considered in the context of public cultural education and heritage preservation.

- A third opportunity is to find more efficient and effective methods of delivering cultural and educational services, including altering the asset mix that facilitates service provision to the community. A key component of this strategy is the ongoing effort to refine asset management practices.

Overall, Eldon House has a long-standing practice of pursuing all possible means to achieve service delivery goals and have been reasonably successful delivering quality services. In effect Eldon House adopts a blend of the three approaches outlined and are continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

The Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against Eldon House $235.2 thousand worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff. At this time, there are no additional funding needs associated with the completion of these administrative projects (i.e., initial projects will be completed leveraging existing staff and other resources).

Section 2.   Introduction

2.1: Supporting Eldon House Goals Through the Corporate Asset Management Program

Eldon House is a longstanding and esteemed heritage site in London, Ontario, reflecting the life and times of the Harris Family's during the during the period of 1834 to 1959. Situated on the northern edge of downtown London, the property overlooks the Thames River and encompasses the original Eldon House where the family resided. This historical residence displays a substantial collection of artifacts across its two floors. Adjacent to it is the Interpretative Centre, established for hosting various programs and activities, including educational programs.

The site also features gardens, a greenhouse, and sprawling lands that descend to Harris Park along the riverbank. Another significant element tied to Eldon House is the Harris Diaries, housed at the University of Western's Archives. These diaries are vital for research and offer significant insights into London's historical narrative.

Previously associated with Museum London, Eldon House has transitioned to an independent entity governed by its own Board of Directors. This shift aims to enhance focus and stewardship. The City of London retains ownership of the property and artifacts, operating Eldon House since 1960 under an agreement that emphasizes the site's historical period.

These service delivery outcomes are based on Eldon House's strategic community and organizational directions established through Eldon House Strategic Plan. This Plan outlines the vision, mission, and principals that guide Eldon House in a manner that resonates with the core values of our community. The current Board approved Eldon House Strategic Plan summarizes these objectives as follows:

Our Vision
Knowing ourselves by experiencing our heritage.

Our Mission
We are a distinctive community heritage destination, committed to empowering our visitors and participants to:
a) Explore and preserve our local and Canadian history through the life and times of the Harris Family.
b) Escape to a unique oasis in downtown London.
c) Engage in learning, fun, and lived experiences.

Our Principals
We believe in:

a) Authentic visitor experiences
b) Valuing our past
c) Celebrating our diversity
d) Honouring the Harris women
e) Collaboration
f) Innovation
g) Accountability

The City's Corporate Asset Management (CAM) Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems that support service delivery. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[1].

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[1] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

This Asset Management Plan (AMP) was developed through the City's CAM Program based on an approved Service Level Agreement between Eldon House and the City. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and Eldon House Board of Directors (Board) approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of the 2023 and 2024 operating budgets (hereon referred to as "planned budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2:   Provincial Asset Management Planning Requirements

This AMP builds upon existing Eldon House asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management

Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, the Province created O. Reg. 588/17 under the *Infrastructure for Jobs and Prosperity Act*. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted Eldon House financials are consolidated within the City's financial statements. The following dates are provincially required:
  - o By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  - o By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS and the costs to achieve them, and the financial strategies to fund the

expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.

- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across Eldon House who are involved with managing infrastructure assets. Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure

- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?
- Age and expected useful life of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects financing needs that go beyond historical costs, and where possible include replacement values that are inclusive of:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,

- Achieve Proposed LOS – meeting the desired LOS may require additional investments in existing or new infrastructure, and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to financing pressures.

By acknowledging financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and helps Eldon House to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with Eldon House mandates, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g.,

regulatory requirements, master plans, other Board approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, Eldon House strives to provide services to the community and members that are accessible, cost efficient, provide customer satisfaction, demonstrate cost efficiency and reliability. As shown in Figure 2.1, to obtain a desired LOS, Eldon House faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.
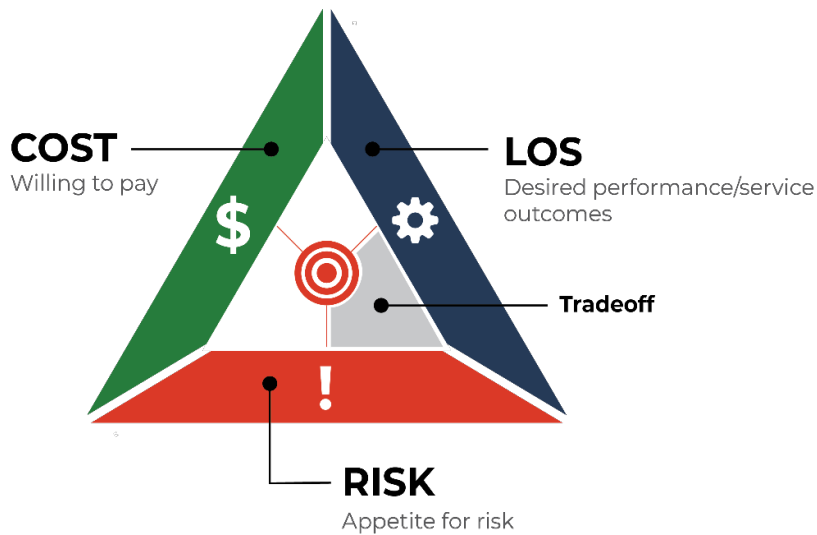
Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budgets, the required budgets to maintain current LOS, and the required budgets to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps, if any, are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned operating budgets of 2023 and 2024.

In other words, what Eldon House plans to spend versus what the asset needs are. Should infrastructure gaps be identified, the objective is that they decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, to minimize the risks associated with failing assets, and to acquire new infrastructure.

Next, a typical AMP presents infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community and members.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with asset lifecycle management scenarios and the potential need to address future infrastructure cost pressures. This discussion includes opportunities and challenges that are both in and outside of the control of Eldon House and Boards. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and

- Service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of Eldon House infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by Eldon House as of December 31, 2022, and associated planned budgets approved for 2023 and 2024. Thus, timing differences may exist between when this AMP was developed versus current asset inventories and budget approvals beyond 2024. Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.
- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.

- The AMP addresses condition information in two ways:
  - o Condition may be assumed based on age and estimated useful life; and
  - o Condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- No capital budgets relating to lifecycle renewal, service improvement, and growth are identified, and the 2021 Development Charges Background Study does not apply to Eldon House.
- There are no identified reserve funds.
- The forecasted planned budget will occur as planned over the period of analysis and be representative to finance infrastructure purchases as they arise.

Section 3.   Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

Eldon House owns and operates assets with a total replacement value of approximately $235 thousand. These assets include the Furniture, Fixtures, Equipment, Computer Equipment, Software, and CCTV Security System. Each asset is managed and maintained to meet both legislated and non-legislated service requirements with the aim of providing the highest level of cultural engagement and educational value possible for the community.

It is noted that this AMP excludes the following infrastructure:

- The main building of Eldon House and its associated greenhouse are not included in this Asset Management Plan (AMP) as they are covered under the Corporate Asset Management Plan within the Culture Services portfolio. This decision ensures focused management of these key structures and their historic gardens. Originally covering 13 acres, the property now features beautifully restored gardens and a classic greenhouse, creating a scenic environment around the historic house overlooking Harris Park.

- The artifacts collections at Eldon House, encompassing a wide array of artifacts, archival materials, and preventative conservation efforts, are not included in the current AMP. These collections will be considered for future AMP inclusion; however, it is noted they fall outside of O. Reg. 588/17 AMP reporting requirements.

Table 3.1 summarizes the assets by type, inventory/quantity, and replacement values of Eldon House. The asset replacement values have been identified using different Eldon House databases including financial systems and internal expert opinion. These replacement values aim to capture current market prices for the fully replacement of identified assets. For further information regarding costing refer to State of Local Infrastructure in the Introduction section.

To further contextualize the necessity of these assets the following summarizes Eldon House organizational and service delivery structures.

Eldon House sustains its operations with a variety of assets, including furniture, fixtures, equipment, computer equipment, software, and CCTV security systems. Eldon House assets are key for bringing the London community together, offering guided historical tours, educational programs, cultural events, and research opportunities, enriching the understanding of 19th and early 20th centuries life in London, Ontario. It's a place that shows the rich local history through its well-preserved architecture, extensive collection of original artifacts, and beautifully maintained gardens, which together offer a clear view of the social and cultural heritage of the early residents of the area. The strategic deployment of these assets promotes accessibility and long-term sustainability, dovetailing with the Eldon House's Strategic Plan.

Furniture, Fixtures, and Equipment

Valued at $189,448.98, the 'Furniture, Fixtures, and Equipment' asset type is an asset group critical for the operational efficiency and service provision within the Eldon House. This category includes office essentials such as ergonomic chairs and durable desks essential for the day-to-day administrative functions. Additionally, high-quality audio-visual equipment supports effective communication and presentations, essential for modern corporate environments. The inclusion of grounds and garden assets ensures that outdoor spaces are well-maintained and welcoming for visitors. In addition to Machinery and

equipment, Programming supplies, and Curatorial assets required in the preservation and display of valuable items or collections. Together, these assets support smooth operation of Eldon House, while also ensuring public engagement and a comfortable and engaging atmosphere for all visitors and staff.

Computer Equipment and Software

This asset type, valued at $4,700, includes computer equipment such as laptops, tablets, and copy stand serve as integral tools

for administrative efficiency, managing archives, and the provision of interactive educational resources for visitors.

CCTV Security System

The Security system includes assets such as audible alarms, interior and exterior cameras, and monitors has a total replacement value of approximately $41 thousand are used for advanced security surveillance to accurately detect and alert to human and vehicle presence.

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Furniture, Fixtures, and Equipment	Furniture, AV equipment, grounds, garden assets, etc.	1,736	Ea.	$189.4
Computer Equipment and Software	Computers, tablets, copy stands, etc.	10	Ea.	$4.7
CCTV Security System	Audible alarms, cameras, monitors, etc.	51	Ea.	$41.1
Total				**$235.2**

3.1.2: Age Summary

Figure 3.1 shows Eldon House average asset age as a proportion of the average Expected Useful Life per asset type. This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates Eldon House's ability to replace such assets on-time. Overall, the data affirms that Eldon House furniture, equipment, and security system assets are well within their expected useful lives, with the exception of the computer hardware assets which approached the end of their expected useful lives.

Furniture, Fixtures, and Equipment

The average age of assets is determined through the acquisition year documented in Eldon House's databases for each asset or collective assets. The average expected useful life of each asset is inferred from internal expert evaluations and past

performance records. This category encompasses assets such as Furniture, Fixtures, Office Equipment and Programming supplies, each marked by its own purchase date and anticipated service duration. Figure 3.2 illustrates the condition of each asset sub-type within this category, indicating that all assets, with the exception of furniture, fixtures, and office equipment, are within their expected useful life. These two asset sub-types have surpassed their expected useful life, necessitating short-term investments to replace a portion of these assets and maintain them in a state of good repair.

The determined average age stands at 20 years shown in Figure 3.1, relative to an average expected service life of 23 years. It is common for the ages of assets in this category to differ due to the phased acquisition schedules. Hence, the average age falling within the expected useful life indicates

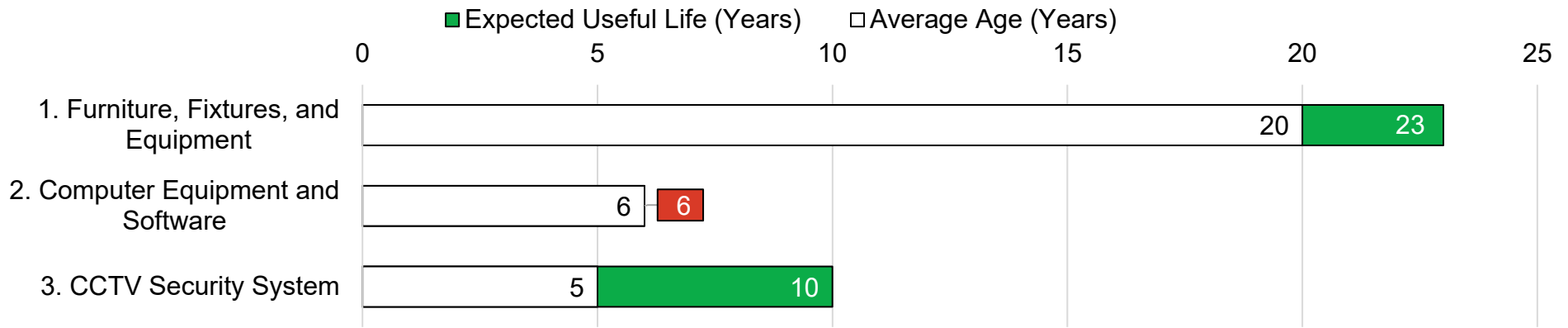robust and effective asset management practices at Eldon House.

Figure 3.1 Summary Average Age and Expected Useful Life By Eldon House

Computer Equipment and Software

The average age of the Computer Equipment and Software assets is determined through the acquisition year recorded in Eldon House's databases for each asset or group of assets. The estimation of each asset's average expected useful life is based on internal expert assessments and historical data. This category includes various assets, each possessing its own acquisition date and expected useful life. The calculated average age is 6 years, in comparison to the average expected useful life of 6 years. It is typical for assets within this category to exhibit varying ages due to staggered acquisition timelines. However, the correspondence between the average age and

the expected useful life indicates the necessity for a short term investment to replace some of the assets in this category.

CCTV Security System

The security system assets at Eldon House are currently at about the midpoint of their expected useful life . The assets in this category are vital to ensuring the safety and protection of Eldon House's collections and property. Maintaining these assets within their expected useful life is essential for effective safeguarding. Consequently, the average age of the assets aligning with the expected useful life indicates robust and effective asset management practices at Eldon House.

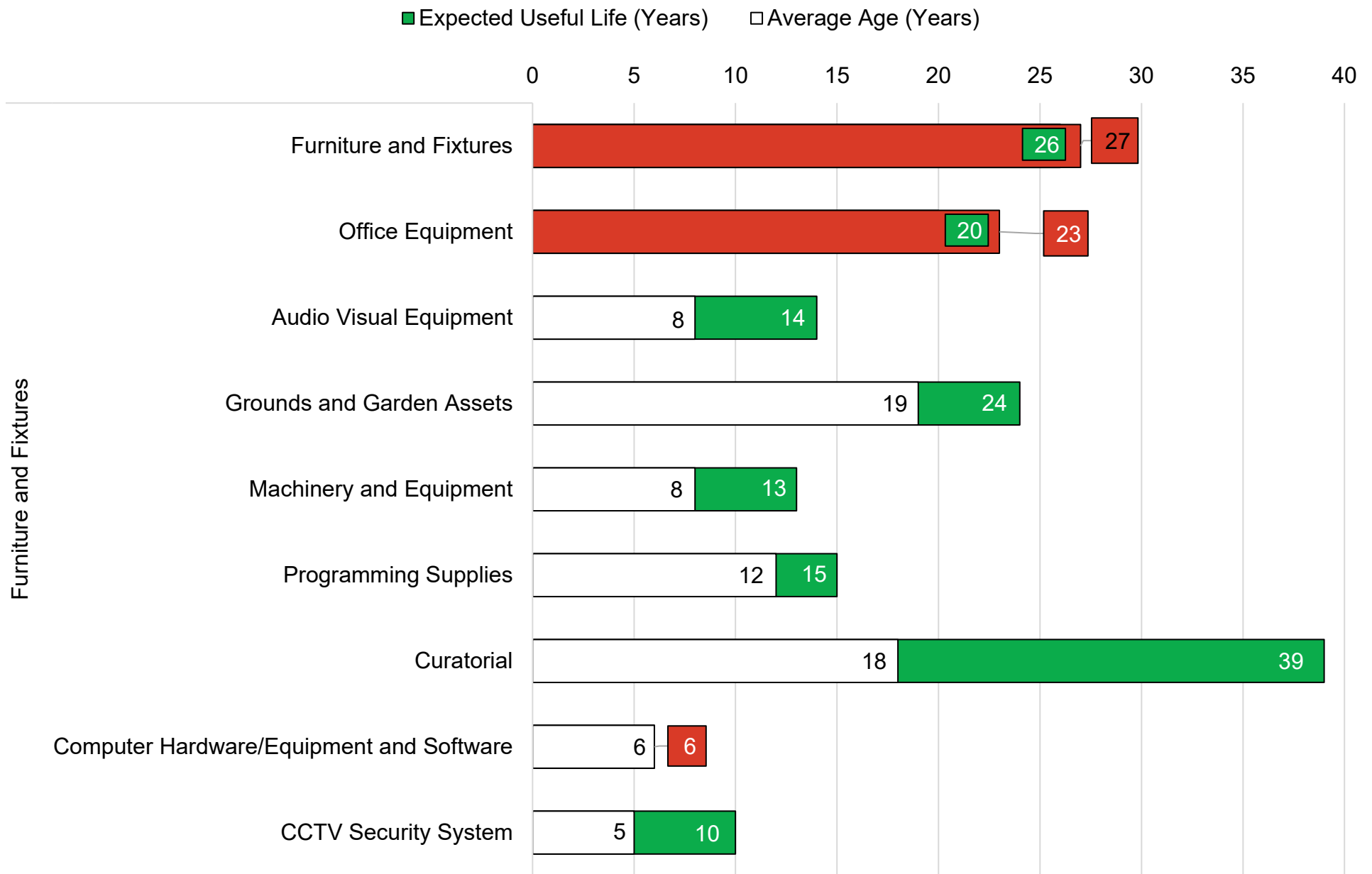The Security system assets are approximately halfway through their expected useful life.

Figure 3.2 Summary Average Age and Expected Useful Life By Eldon House broken by asset sub-type.

3.1.3: Asset Condition

The condition of the assets was determined using one of the two methods below based on data availability and accuracy:

1. Estimated based on age and the remaining expected useful life of the assets, and

2. Estimated based on expert opinion, where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data for Eldon House to identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.3 presents the overall condition distribution of Eldon House assets. It shows that approximately 85% of the assets are in Fair to Very Good condition. However, it is important to note this condition profile is only a snapshot in time and not indicative of condition profiles over the next 10 years.

Figure 3.4 provides a breakdown of Eldon House condition for each asset type and Figure 3.5 provides the breakdown by asset.
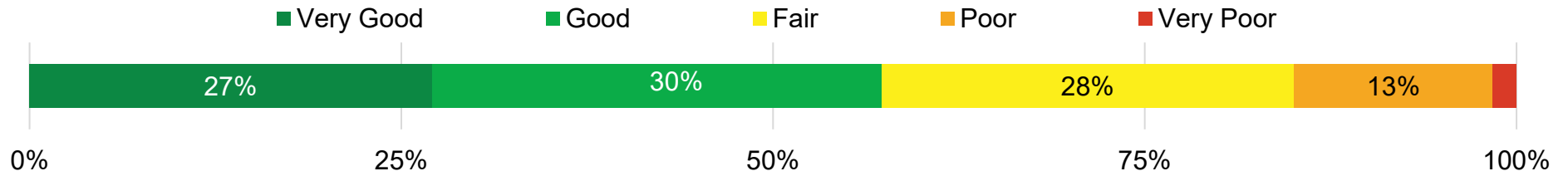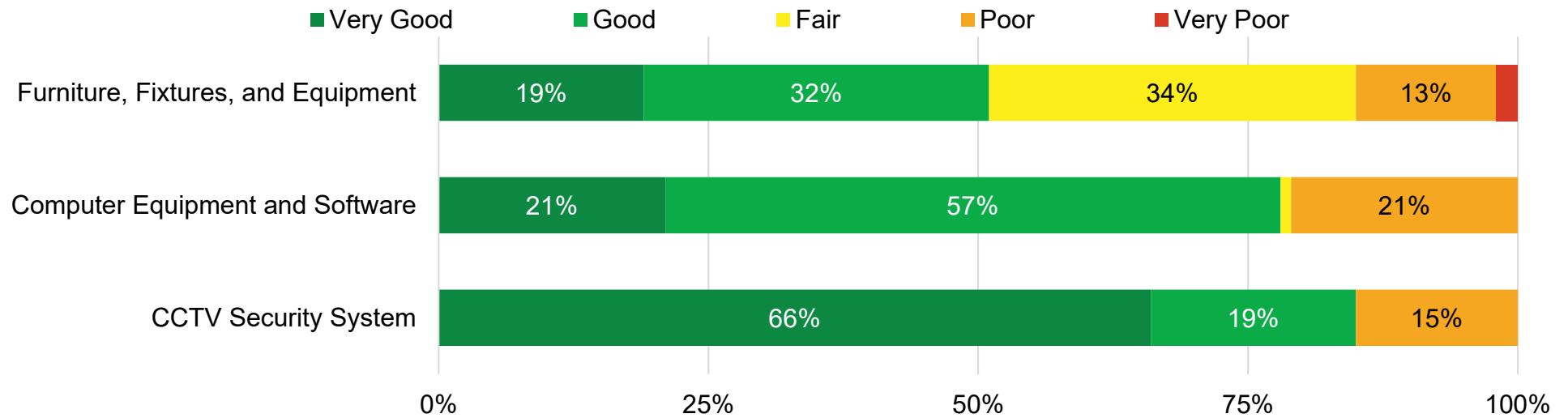

Figure 3.3 Overall Condition

Figure 3.4 Asset Type Condition Summary

Overall, the condition distribution shown in Figure 3.4 across all assets demonstrates a well-managed and typical lifecycle profile commonly seen in asset portfolios. This reflects a normal spectrum of asset conditions, acknowledging that acquisitions occurred at varying times, with assets having different ages and levels of usage. As a result, the condition of assets vary, requiring different approaches to lifecycle renewals.

Furniture, Fixture and Equipment.

The assets under Furniture and Fixtures have approximately 44% in Very Good or Good condition and 47% in Fair condition. Office Equipment is relatively well-maintained with a majority in good condition, but with 32% at Fair, future investments for upgrades are anticipated. Audio Visual Equipment mirrors this trend with over half in good condition and the rest approaching a threshold that may necessitate updating. Grounds and Garden Assets indicate a split with just over half in good standing, while the rest may require replacements in the short term. A notable concern is with Machinery and Equipment, where nearly half are in Fair or worse condition, signaling an urgent need for resource allocation. Programming Supplies fare better, yet still have a third in Fair condition. The Curatorial assets are predominantly Fair, requiring imminent investment. Across all sub-types, there's an indication of the need for a short and medium -term investments to sustain and enhance Eldon Houses asset base.

Computer Equipment and Software

The Computer Equipment and software assets are predominantly in Good condition with 78% in Good or Very Good condition as seen in Figure 3.4. However, the 21% in poor condition indicates the necessity for a short term investment to uphold the general condition standard of the assets in this category.

CCTV Security System

The CCTV Security System assets are largely in Very Good Condition, with 66% in Very Good condition and an additional 19% rated as Good. Nevertheless, the 15% in Poor condition necessitate short-term investments to maintain the overall condition standard of the assets within this category.
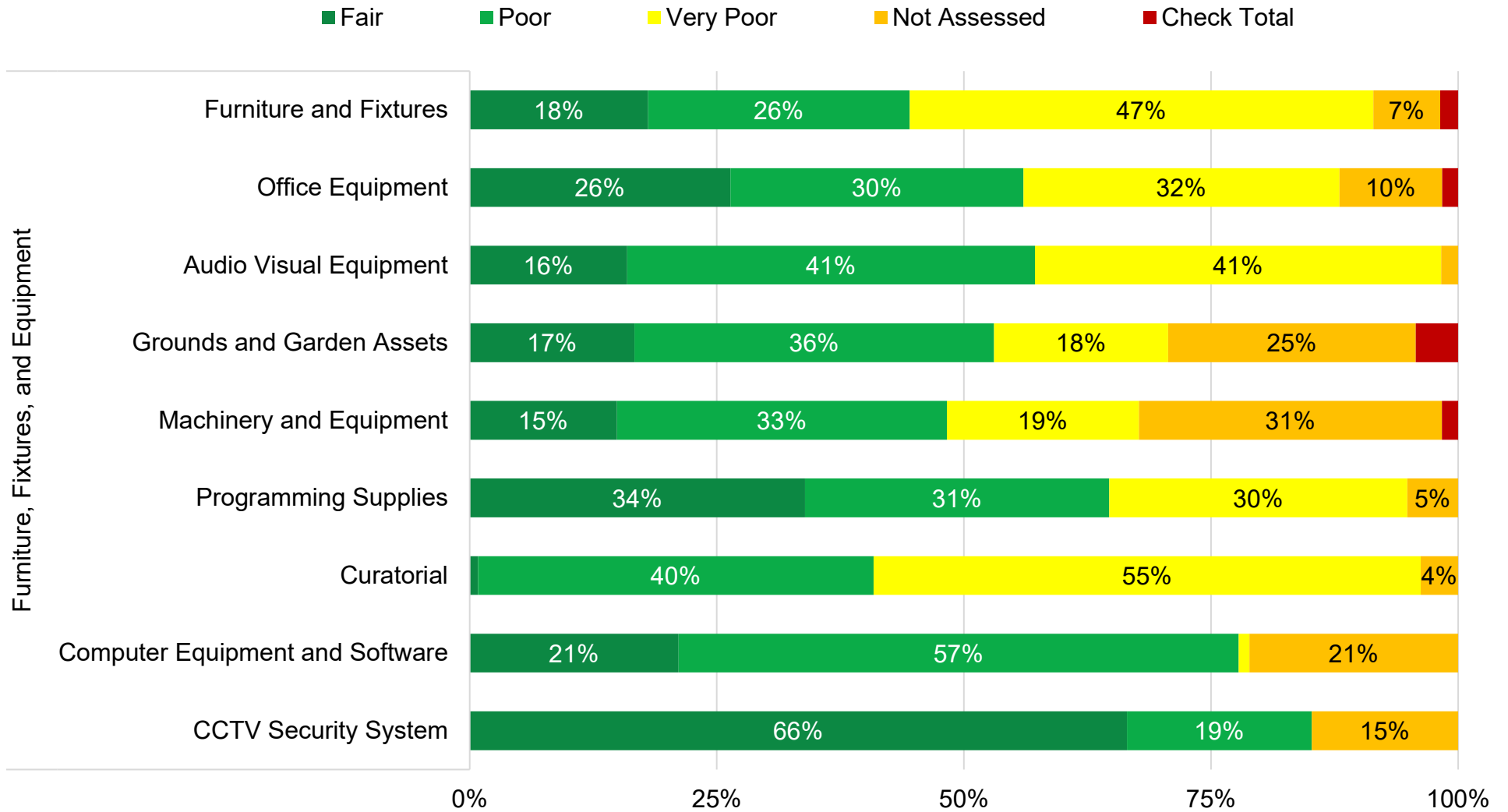
Figure 3.5 Asset Condition Summary

3.2: Levels of Service

Asset management LOS link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- 2017-2020 Eldon House Strategic Plan,
- Interim Strategic Plan 2022
- Eldon House Annual reports
- Risk Management Report
- City of London Strategic Plan, and
- 2023 Approved Budgets.

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, Eldon House and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.3 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 Eldon House AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future Eldon House AMP development processes and practices.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Description
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. Direct LOS metrics are the primary benchmarks. These can readily determine the cost to maintain current LOS and achieve proposed LOS. Next are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed.

After review with Eldon House staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.4. No related LOS have been documented for this AMP; however, future Eldon House AMP continuous improvement projects will seek to identify and capture such LOS.

3.2.1: Direct Levels of Service

Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	overall reinvestment rate	8.50%	Maintain current
Reliability	Customer	Percentage of assets in Fair or better condition	85%	Maintain current

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.5.

Table 3.5 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

Eldon House employs a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, and disposal, while continuing to prepare for growth and introduce service improvements.

When feasible, Eldon House also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets, which can result in cost and service efficiencies. Additionally, Eldon House seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Selected lifecycle activities are reviewed and modified based on continual industry benchmarking, staff training, professional networking, online reviews, consultant recommendations, and trial and error through scenarios and pilot programs. Eldon House is also committed to climate change adaptation and mitigation planning, which may trigger asset investment needs.

The current Eldon House lifecycle management activities (practices and planned actions) are presented as follows:

- Table 3.6 lists specific asset management practices or planned actions Eldon House conducts for each lifecycle activity associated with all asset types.
- Table 3.7 lists specific risks associated with asset management practices or planned actions by lifecycle activity for all asset types.

Table 3.6 Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	- Various controls and approval processes to safeguard assets. - Financial planning strategies to control costs. - Ongoing use and development of computerized maintenance management system. - Updating and applying design standards. - Ongoing search for additional funding. - Operational continuous improvements. - Improvements to employee capabilities, communications, training, etc. - Changes to current and proposed LOS. - Developing asset management program. - Leadership networks with peers through conferences and committees to learn from other's experiences
Maintenance	- Scheduled preventative maintenance programs for most assets. - Scheduled inspection programs for key assets, particularly Community Engaging Assets. - Maintenance also triggered by public/community partners feedback (when applicable).
Renewal/Rehabilitation	Adopt advanced technologies for Eldon House's diverse assets, such as specialized audio-visual systems, market furnishings, and digital devices, to maintain the current LOS.

Activity	Specific Asset Management Practices or Planned Actions
Replacement/ Construction	• Adopt advanced technologies for Eldon House's diverse assets, such as specialized audio-visual systems, market furnishings, and digital devices, to maintain the current LOS.
Disposal	• Appropriate and proper disposal occur when assets are replaced or renewed. • Dispose of assets under the applicable regulation and environmental standards.
Service Improvement	• Strategic plans, and consultation with community partners and users of Eldon House determines service improvement needs. • Based on strategic service review results, implement service deliver changes that improve asset performance, cost, and risk. • Adopt advanced display technologies in Eldon House to enhance or achieve the proposed LOS, leveraging contemporary solutions in markets and retail environments to enrich visitor experience and engagement.
Growth	• Continuously monitor the impacts of growth on service delivery and develop strategies to manger and service realized growth.

Table 3.7 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (e.g., the life is not extended or the cost of managing an asset increases rather than decreases). • Need for revised plans, reports, and recommendations. • Asset management plans or proposed network solutions not followed. • Poor quality asset information/planning assumptions incorrect. • Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to assets that were not originally planned. • Growth projections not as planned or service provision changes. • Extending useful life past optimum can increase the risk of critical failure of major components. • Assets beyond expected useful life can have significantly higher maintenance costs and reduced salvage value. • Inability to mitigate malware/cyber-attacks resulting from deteriorated and non-supported asset. • Financial risks – economic fluctuations, inflation, expenditure type changes (e.g. change in IT industry – shift to operating licenses financed through operating budgets versus historical capital expenditure nature), etc.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure. • Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no actual benefits.

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during large, complex design and construction projects. • Lack of knowledge regarding best practices and market offerings (e.g., new offerings and standards). • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. • Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Risk of insufficient funding to construct/acquire or maintain new assets. • Potential insufficient knowledge of and supporting policies for new asset types.

3.3.3: Lifecycle Management Scenario Forecasts – Planned Budget, Maintain Current LOS, and Achieve Proposed LOS

General Approach

The general approach to forecasting the cost of the lifecycle activities that are required to maintain the current performance of the LOS metrics is to ensure that the proportion of assets in Poor or Very Poor condition remains relatively stable. Staff then consider the optimal blend of each lifecycle activity to achieve the lowest lifecycle cost management strategy that balances costs with the forecasted change in the condition profile of each asset type. To present these infrastructure needs, three different lifecycle management scenarios and their associated funding requirements are presented. Typically, each scenario lists the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements. However, to align with Eldon House budget structure, only operating budget funding requirements are presented in this AMP.

These scenarios are defined as:

1. Projected Funding Scenario – Presents the operating budget constrained to 2023 and 2024 annual budget approvals.

2. Maintain Current LOS Scenario – Forecasts the level of investment required to maintain current LOS performance.

3. Achieve Proposed LOS Scenario – Forecasts the level of investment required to achieve proposed LOS. The approach considers the desired infrastructure LOS documented in Eldon House strategic plans, if any.

The Forecasted Infrastructure Gap and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies for identified gaps, if any. Each scenario is further explained in the following sections.

A. Scenario One: Projected Funding

Eldon House average annual activity and projected funding is summarized in Table 3.8. This scenario presents the average annual activity based on 2021 and 2022 approved budgets. Projected operating budgets are constrained to the current level of planned expenditures approved in the 2023 and 2024 budgets. If there is insufficient budget in any particular year to complete a repair or replacement activity on an asset that has reached its expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

For this scenario no infrastructure gaps are assessed.

Table 3.8 Scenario One – Average Annual Activity and Project Asset Related Operating Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Projected Operating Budget	Average Annual Activity for 2021 and 2022 Asset Related Operating Budget	Projected Asset Related Operating Budget
Operating Budget	428.7	438.4	27.5	20

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.9. This approach forecasts the lifecycle activities that are required to maintain the current performance of the LOS metrics. The analysis considers the current age and condition of assets along with the expected useful life age triggers for rehabilitation and

replacement activities to forecast the funding requirements into the future. The forecasted condition profile expected from the maintain current LOS is not readily available.

Based on this analysis, Table 3.9 identifies no 10-year infrastructure gap if Eldon House maintains current LOS through their respective projected asset related operating budgets.

Table 3.9 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

Activity Type	Asset Related Planned Funding	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Operating Budget Related to Renewal and Replacement	20	20	None Identified

C. Scenario Three: Achieve Proposed LOS

This scenario typically forecasts the enhanced lifecycle activities that are required to achieve proposed LOS. For the first iteration of the Eldon House AMP no achieve proposed LOS investments are identified.

However, as part of asset management continuous improvement projects, completed with the support of City staff, enhanced LOS will be considered, and if applicable reported on in future AMPs.

3.4:   Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

Infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on Eldon House assets required to provide services, and
- the amount of funding presently identified in recent approved operating budgets for 2023 and 2024.

In other words, what Eldon House plans to spend versus what the assets need. Ideally, if infrastructure gaps exist, they would decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize risks associated with failing assets and insufficient asset complements.

Table 3.10 and Figure 3.6 illustrate no infrastructure gaps have been assessed over the 10-year analysis period.

Table 3.10 Average Annual Budget and Gap Analysis ($Thousands)

Asset Type	Projected Operating Budget Related to Assets	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
Eldon House	20	20	None Identified	None Identified	None Identified
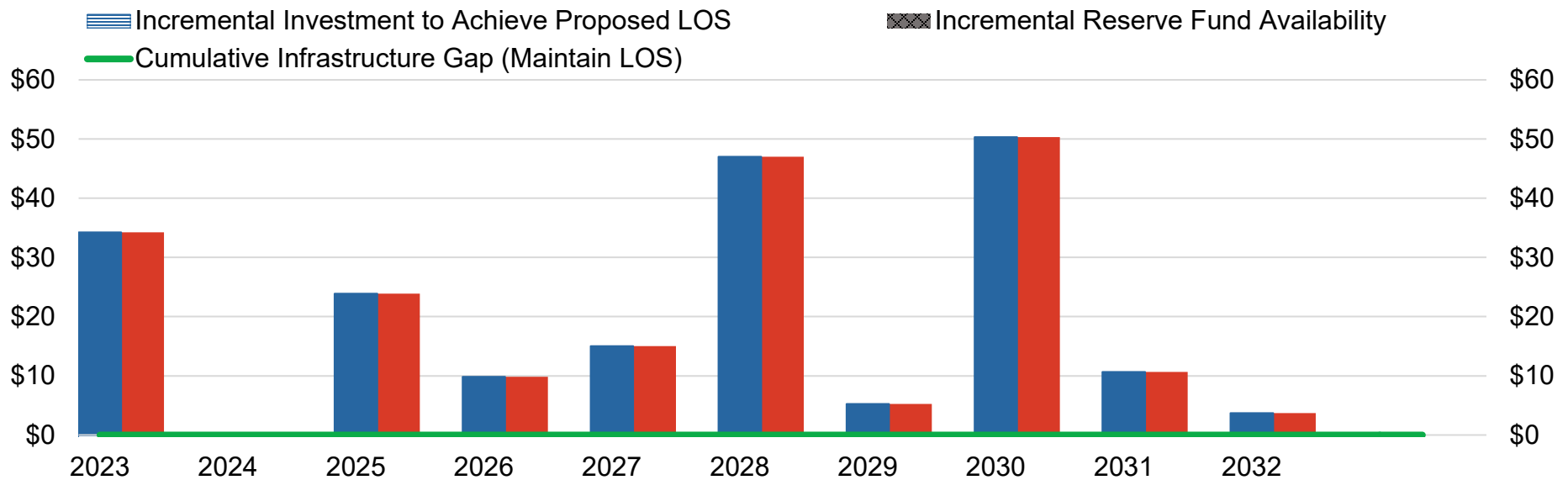
Figure 3.6 Maintain Current LOS Cumulative Infrastructure Gap (Thousands)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that Eldon House actions are collectively (both financial and non-financial) anticipated to tackle projected infrastructure gaps, if identified. Should infrastructure gaps be identified, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing the AMP in advance of budgeting processes so that its results help inform the requested operating budgets.

3.5:   Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – project budget, maintain current LOS, and achieve proposed LOS.

Scenario One projected funding summarizes past, present, and future operating budgets that form the basis of comparison to infrastructure needs identified in scenarios two and three.

Scenario Two maintain current LOS funding is identified to have sufficient investments to effectively maintain infrastructure. This scenario acknowledges the need for continual investment in assets to maintain their current state.

Scenario Three has no identified achieve proposed LOS investments.

In future AMPs these three scenarios may result in different LOS depending on the funding provided for asset lifecycle actions. Thus, the choices made may one day have an

implication for asset condition and Eldon House operational effectiveness.

3.5.2: Current and Future Challenges

General

Eldon House faces a dynamic collection of opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, post pandemic industry recovery)
- Organizational (e.g., continued community engagement and partnerships)
- Technology (e.g. operational continuity, interactive technology, spatial constraints, art, and artifact security)
- Cultural and Social (e.g., Cultural representation, diversity, community engagement, heritage preservation, education)
- Political/Legal (e.g., multi-tier governmental, regulatory compliance, intellectual property)
- Environmental (e.g., sustainability, climate change)

To help navigate these factors, the current Eldon House Strategic Plan outlines a detailed roadmap aiming to significantly elevate Eldon House standing. The Strategic Plan guides the organization, enhancing its role in illustrating the history of the house, the local community, and the nation from 1834 to 1960. The following commentary summarizes the main current and future challenges impacting infrastructure needs and costs.

Pandemic Disruption and Inflation

Pandemic disruption greatly impacted Eldon House operations. Eldon House was closed March 18, 2020, to April 1, 2020, and operated in limited capacity for much of 2020 and 2021. As we emerged from the pandemic, inflationary pressures beyond those accounted for within the 2020-2023 MYB and associated

10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 Eldon House AMP and are a material component of the infrastructure replacement values and a 10-year infrastructure gap reported. These capital financing pressures represent a significant risk to the condition and LOS associated with Eldon House infrastructure assets.

Technology

Eldon House is embracing the digital era by integrating enhanced digital interfaces into our services, which include exhibitions, public access to collections, educational programs, and streamlined processes for online registration and sales. The introduction of virtual tours is a strategic move to extend our reach and provide broader access to our collections and programs, not just within London but globally.

This transformation requires upgrades to our technological infrastructure to support new digital interfaces and ensure the secure storage of digital assets. Implementing sophisticated tools for data collection and analysis is crucial to making informed decisions that enhance visitor experiences and responsiveness. Prioritizing on-site visitor experience enhancements ensures that every visit is impactful and encourages return visits. Through these technological advancements, Eldon House is committed to fostering an innovative, inclusive environment that leverages digital platforms to enrich the visitor experience and engagement.

Climate Change

In 2019, London City Council declared a climate emergency at the urgence of the community.

Eldon House is addressing climate change by working towards using less energy and keeping the air clean in its daily operations. It's part of the city's wider plan to deal with climate issues, making sure it doesn't add to pollution. Future AMP analysis could include facilities energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs) and analyzing energy reduction measures identified in the 2023-2027 Strategic Plan.

Growth

London is experiencing steady to above average population and employment growth. From a City-wide perspective this growth triggers a surge of City-wide service and asset capacity needs, resulting in a proportional boom in new and/or enhanced infrastructure construction and acquisition, and service delivery capacity. While Eldon House is not listed within the City Development Charges Background Study, the City's ongoing expansion signals a ripe opportunity for Eldon House to further establish itself as a key cultural destination. As such evaluating Eldon House future infrastructure and programming needs inclusive of the City's growth could identify and warrant other funding considerations.

3.6:   Conclusion

Valued at over $235 thousand, Eldon House assets are overall in Good condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain current LOS. There are no identified cumulative 10-year maintain current LOS and achieve proposed LOS gaps (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of Eldon House assets may be impacted and could result in increased costs of the services ultimately delivered. Table 3.11 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for Eldon House assets.

Table 3.11 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Thousands)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [2]
Eldon House	$235.2	Good	None Identified	None Identified	8.5%	8.5%

Reliability and Accuracy Commentary

Figure 3.7 visually presents Eldon House and CAM staff assessment of AMP data reliability and accuracy. Data reliability and accuracy is rated moderate.

Figure 3.7 Accuracy Reliability Scale

Inventories are based on internal expert opinion and an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

A review of systems and processes that support Eldon House asset registries is recommended over the 2024-2027 timeframe, and beyond. Such investments will raise the reliability and accuracy of the data.

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[2] Source: Reinvestment rates based on expected useful life.

Section 4.   Conclusion and Recommendations

4.1: Conclusions

4.1.1: Key Findings

Eldon House infrastructure systems are an integral piece to serve the community through cultural and educational programs and play a key role in achieving Eldon House objectives and goals.

This AMP is a strategic document that describes the state of Eldon House infrastructure and the approach to managing assets over their lifecycle to maintain current LOS at the lowest lifecycle cost possible, noting no achieve approved LOS are identified. It was produced through extensive efforts of Eldon House and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 CAM Plans. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:
- There is $235.2 thousand worth of infrastructure under the direct ownership and control of Eldon House. This infrastructure represents an array of assets including Furniture, Fixtures, Equipment, Computer Equipment, Software, and CCTV Security System assets.
- The overall condition of Eldon House assets is rated as Good.
- Good condition indicates some elements show general signs of deterioration that require attention, and a few elements exhibit significant deficiencies.
- Based on the existing Eldon House projected funding, no cumulative 10-year infrastructure gaps are assessed.
-
- For the purposes of timing consistency with other City services, future AMPs will be brought forward to align with

the development of City's MYBs and will present financing strategies to mitigate any identified infrastructure gaps while balancing the impact of taxation affordability on members.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024 timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024 deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025 O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help Eldon

House manage its combined $235.2 thousand asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall Eldon House strategic objectives and goals. Short-term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long-term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff.

Table 4.1 2024 Eldon House AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across Eldon House assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, thereby aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision Making	Develop and implement investment strategies for Eldon House infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into Eldon House strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term
Risk Management	Enhance Eldon House asset risk framework in	• Better targeted asset interventions.	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
	line with the City's CAM Risk Management Strategy.	• Increased ability to sustain service levels.	
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or Eldon House software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each Eldon House service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually review the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing Eldon House public engagement practices.	• Enhanced adaptability to changing operational environments and community needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.0.1 O.Reg.588/17 July 1, 2024 Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[3]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1 every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[3] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.0.2 O.Reg.588/17 July 1, 2025 Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g. measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. if.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
6.(1) 6. iii.	For population 25K or more, overview of the risks associated with implementation of the AMP	Sections - #3.5
6.(1) 7.	Explanation of other key assumptions	Sections - #2.4

Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For Eldon House, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with Eldon House, and
- The asset is utilized to achieve Eldon house plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: Eldon House Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage,

supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost Eldon House would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector

Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

DC: Development Charges

IT: Information Technology

LCR: Lifecycle Renewal

Board: Board of Management or Board of Directors, as applicable to entity

LOS: Levels of Service

MESL: Maintain Existing Service Levels

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RV: Replacement Value

TCA: Tangible Capital Asset

For more information vist **london.ca/CAM** or contact
Corporate Asset Management Phone: **519-661-CITY (2489)** Email: **CAM@london.ca**

London
CANADA

Asset Management Plan

2020-2029

LONDON & MIDDLESEX
COMMUNITY HOUSING

Contents

Tables & Figures

Executive Summary

1.1 Introduction

Within the City of London and County of Middlesex, the housing crisis is having a considerable effect on all sectors of society and especially the most vulnerable. The challenge is so important that Mayor Ed Holder (term 2018-2022), identified **the needs of the most vulnerable as the second-highest priority for the City's four-year Strategic** Plan (Holder, 2019). London Middlesex Community Housing (LMCH) is London's single largest provider of Rent Geared to Income (RGI) housing and is encouraged by the City's commitment to using affordable housing as a key tool for addressing the needs of the most vulnerable.

The LMCH Asset Management Plan (AMP) provides a **roadmap for the operation, maintenance, refurbishment, and replacement of LMCH's assets** while advancing the strategic goals of both LMCH and its Shareholder, the City of London. The actions, strategies, and requests derived from the AMP are founded on LMCH's mission to provide and maintain homes in a safe and supportive environment, and the associated goal of meeting the needs of the community served.

Under Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure, the production of an AMP will become a legislative requirement for LMCH by 2023. In alignment with LMCH's values of commitment and excellence, this AMP is prepared in advanced of the legislative deadline.

1.2 Asset Inventory & Overview

32 real properties representing
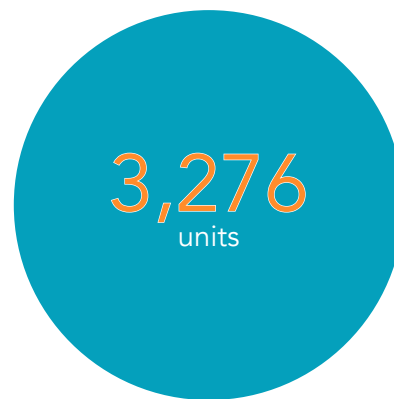
3,276 units

Thirty-two (32) real properties representing 3,276 units throughout London and Middlesex County are what constitutes LMCH's core assets. The portfolio is a mix of single-family detached houses, row housing, and low and high-rise apartment buildings and provides **homes for approximately 5,400 people.**

In 2015 Building Condition Assessments (BCA) were completed for the majority of LMCH's core assets, producing a Facility Condition Index (FCI) for each location. As of January 2020, the average condition of the assessed portfolio was fair and the 2020 replacement value was over $733 million.

Looking ahead to 2029, the total estimated cost to repair or replace *all* expired building components is $452 million. However, most building component requirements ($338 million) are limited priority and have utility beyond their useful life. The expected volume and cost of requirements is highest in 2020.

Like most Local Housing Corporations (LHCs) in Ontario, LMCH's core assets require significant capital investment over the next ten years. A 2013 survey indicated that LMCH's per unit capital funding was the lowest ($583) of all 11 LHCs surveyed, at less than half the average ($1207), providing insight into the current asset management challenges.

Recently, LMCH's capital needs have been more appropriately recognized and funded through the approval of the 2020-2023 Multi-Year Budget Cases #12: LMCH Infrastructure Gap and #18: LMCH Co-Investment with CMHC. This funding increase will help alleviate some but not all of the funding challenges.

In addition to core assets, LMCH also holds other Tangible Capital Assets (TCA's) like technology/communications, appliances, furniture and fixtures, and machinery and equipment. The January 2020 total replacement value of these assets is just over $ 8 million and about 40% of TCA is currently beyond its useful life.

1.3 Level(s) of Service

Level(s) of Service (LOS) are statements and metrics used to describe the outputs and objectives LMCH intends to deliver to its Stakeholders. They are service expectation and functionality requirements and are based on LMCH's corporate mission, vision and goals. LOS connect descriptive outcomes with quantifiable metrics and enable the organization to measure and track performance. There are three different, but interconnected types of LOS:

1 **Corporate LOS** outlines the performance expectations of the organization.

2 **Community LOS** outlines the attributes of service that the public expects from the corporation.

3 **Asset LOS** dictates and measures asset performance and the need to maintain operations and control risks.

Specific to Core Assets, LMCH has established five **Asset LOS:**

1 **By 2029, the assessed portfolio's average FCI score is fair**

2 **100% of high priority requirements are remediated by 2029**

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3   **A portfolio average monthly Key Performance Indicators (KPI) score of 80%**

4   **75% of Work orders complete within prescribed time periods**

5   **Current total vacancy rate of 3% or less**

There are several potential risks and limitations in achieving Asset LOS. These primarily relate to the provision of appropriate levels of funding, high volumes of work and limited human resource capacity.

1.4 Lifecycle Management

Lifecycle management is the process of **optimizing value in assets throughout their lifecycle while reducing risk and cost**. Lifecycle management reviews the needs of each asset in conjunction with the mission of the organization, the available resources, and current and future risks and opportunities.

There are seven **lifecycle management categories:**

1   **Non-infrastructure**   5   **Disposal**

2   **Maintenance**   6   **Growth**

3   **Rehabilitation**   7   **Service Improvement**

4   **Replacement**

Each category requires a different approach. For example, the non-infrastructure method includes actions, policies or support services that may reduce tenant behavioral issues resulting in property damage. In contrast, rehabilitation involves altering the physical asset to extend useful life. Significant funding will be required to realize the full benefits afforded by lifecycle management activities, meaning LMCH will be unable to fully benefit from lifecycle management activities under the current funding model.

1.5 Requirement Priority & Risk Management

LMCH developed four levels of priority for requirements:

1. High
3. Low
2. Medium
4. Limited

Priority levels dictate the level of criticality for investment and allow requirements to be filtered accordingly. Within the high and medium priority groups, a risk score is calculated for each requirement.

Risk is a function of the **probability of failure** multiplied by the **consequence of failure**. Within the same priority grouping, the higher the risk score the greater the risk and consequence of failure. Risk scores may change over time as the condition of the requirement improves or declines, legislation is revised, and/or legal implications modify. For this reason, risk scores are iterative in nature and therefore require regular updating.

Risks are managed in four ways:

1   **Significantly avoid (replace)**

2   **Transfer to a third party (i.e. insurance against failure or loss)**

3   **Mitigate (refurbishment, repair)**

4   **Accept (no action)**

LMCH has developed a strategy for assessing risk to determine which response is most feasible (i.e. financially), appropriate and necessary. The strategy recognizes that even with the most aggressive response (i.e. significantly avoid) there may always be some level of residual risk that requirements hold.

LMCH is committed to continuously improving risk identification and quantification by automating the process where suitable, and performing financial analysis to determine the most appropriate risk response.

1.6 Forecasted Infrastructure Gap

An infrastructure gap is the **difference between required capital funding and planned capital funding**. LMCH's AMP identifies three types of infrastructure gaps:

> **Lifecycle Renewal:** replacement of existing building components that have expired and/or are no longer functional

Service Improvement: enhancement to an assets capacity, system reliability, and/or quality

Growth: expands existing service to meet demands

1. The lifecycle renewal infrastructure cost is $235.04 million. The calculation is based on:
   - Achieving a core asset portfolio condition of fair by 2029
   - Replacing other assets once they have served 110% of their useful life

The current planned investment is $87.23 million, and if $15.65 million in reserve funds are also applied increases to $102.88 million. Therefore, by 2029, the lifecycle infrastructure gap will be $147.80 million without reserve funds applied and $132.15 million with reserve funds invested.

2. The cost of service improvement is $29.49 million. The calculation is based on:
   - Enhanced asset capacities
   - Improved asset reliability
   - Improved asset quality and longevity

The current planned investment is $26.58 million (largely via third party funding specific to improved efficiency and accessibility). Therefore, the service improvement infrastructure gap is $2.91 million.

3. The cost of growth is $32.10 million. The calculation is based on:
   - Converting existing unfinished basements into legal and secondary units
   - Infill and intensification on existing family sites
   - Acquisition of an existing property.

The current planned investments is $24 million. Therefore, the growth infrastructure gap is $8.1 million.

1.7 Financial Strategy

LMCH has two primary budgets: operational and capital.

1   The operational budget provides for costs associated with daily operations required to provide services to tenants and is funded primarily through rental revenue and some shareholder funding.

2   The capital budget funds services capital works and is funded by the shareholder or third parties.

Both budgets are managed using financial best practices, including:

Annual zero-based budgeting

Variance Reporting

The pursuit and attainment of other non-shareholder provided capital-funding sources

The financial strategy focuses investment of committed capital to high and medium priority categories while recognizing the need for investment to low and limited priority categories. Table 1 below demonstrates the allocation of committed capital funding.

LONDON & MIDDLESEX
COMMUNITY HOUSING

Table 1: Forecasted Allocation of Capital Funding

Priority Grouping	Original Total Requirement Cost ($ millions)	2020-2029 Forecasted Investment ($ millions)	Priority Group Addressed (%)	Remaining Total Requirement Cost ($ millions)	Allocation of Committed Capital (%)
High	59.9	36.4	61	23.5	44
Medium	26.5	11.5	43	14.9	14
Low	27.6	6.7	24	20.9	8
Limited	338.3	24.7	7	313.5	30
Other	N/A	3.56	N/A	N/A	4
TOTAL	452.34	82.95	18	372.95	100

Regardless of the allocation of committed capital funding, there remains a significant lifecycle renewal infrastructure gap. There are three approaches to mitigate the infrastructure gap:

1. Modest Mitigation

2. Significant Mitigation

3. Complete Mitigation

The risks associated with doing nothing are severe including non-compliance with legislation resulting in forced unit closure. Modest and significant mitigation presents similar risks, but to a lesser degree. Complete mitigation reduces these risks to the greatest extent. As the level of investment under an approach increases, the rate of remediation across each priority group increases too (refer to Figure 1). Remembering that LMCH's infrastructure gap is based on achieving a condition of fair by 2029, not all priority groups will be fully remediated even when the infrastructure gap is fully funded.

Various funding sources could provide funding to address the infrastructure gap. These include the use of reserve funds allocated to LMCH, additional third party contributions

(i.e. CMHC and others), efficiency-based incentives that redirect funds saved to capital investment, and levy supported contributions.

Figure 1: Remediation of Priority Groups by Mitigation Approach

Percentage of Priority Group Addressed by Approach

Legend: High | Medium | Low | Limited

Complete Mitigation
- High: 100%
- Medium: 100%
- Low: 90%
- Limited: 33%

Significant Mitigation
- High: 100%
- Medium: 100%
- Low: 65%
- Limited: 27%

Modest Mitigation
- High: 100%
- Medium: 80%
- Low: 30%
- Limited: 14%

(x-axis: 0, 0.25, 0.5, 0.75, 1)
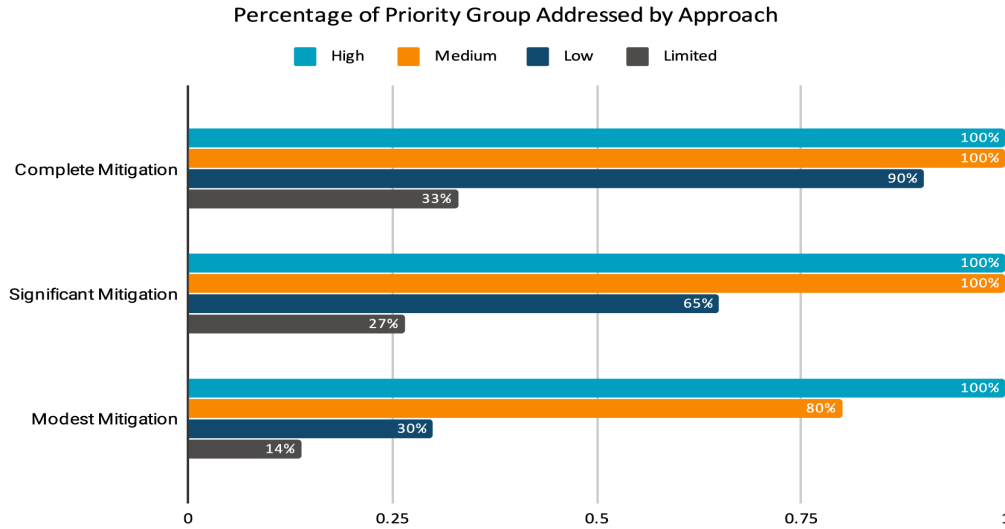
LMCH strongly recommends significant mitigation of the infrastructure gap; this represents $115 million in additional capital investment over 15 years. Significant mitigation provides capital funding to mitigate risks carried. It is also a more affordable option than complete mitigation.

1.8 Conclusions & Recommendations

LMCH's mission is to provide and maintain homes in a safe and supportive environment. As such, the stewardship of LMCH's assets is central to this mission. The 2020-2029 AMP provides a robust overview of LMCHs assets. This includes what assets LMCH holds, how LMCH intends to utilize these assets to deliver LOS, asset lifecycle management, and asset capital requirements and risks. Using this information, the infrastructure gap is determined.

To deliver on LMCH's mission, significant mitigation of the infrastructure gap is necessary. Without this investment, LMCH and its shareholder will carry unacceptable risk, including the potential for forced unit closure. Recognizing that the implementation of the AMP

is equally important as its development, LMCH advances six (6) next steps and three (3) recommendations:

Next Steps:

1. Standardized Asset Management practices that promote prudent decisions and outcomes.
2. Transition from the existing non-automated priority group determination and risk score process to an automated process.
3. Selected capital projects based on their risk score and established priority grouping investment allocation.
4. Continue to advance capital projects with appropriate specifications, design and sufficient project management.
5. Provide tenants with support to encourage independent, healthy living (i.e. housekeeping, mental health support) and reduce property damage.
6. Review the AMP each year and fully update the AMP every five (5) years to ensure it remains relevant and compliant with Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure.

Recommendations:

1. Ensure tenant placement policies provide a framework for successful tenancies and healthy LMCH communities. Improved tenant placement policies are expected to reduce the prevalence and severity of willful property damage.
2. Continued shareholder support for third-party capital funding programs that are suitable and valuable to LMCH.
3. By 2034, invest an additional $115.4 million to the lifecycle renewal infrastructure gap.

LMCH believes in the value of housing, especially for vulnerable populations. However, to continue to provide housing, LMCH's assets require significant capital investment and improved tenant supports. This investment will ensure that tenants have supports to be successful and that assets remain safe and appropriately maintained.

Section 1.0 Introduction

London Middlesex Community Housing (LMCH) is pleased to present its first Asset Management Plan (AMP). The plan examines, discusses, plans for, and makes recommendations related to a 10-year plan for LMCH's assets, including a financial strategy. As much as possible, LMCH's AMP conforms to the upcoming provincial requirements under Ontario Regulation 588/17.

The AMP providers a corporate overview of LMCH, presents information on the 2020 replacement value and condition of LMCH assets, outlines the desired Levels of Service (LOS), identifies infrastructure gaps (growth, service improvement, and lifecycle renewal) and presents a financing strategy to mitigate the lifecycle renewal infrastructure gap. The AMP will assist LMCH in reaching many of its strategic goals including improving, renewing, and maintaining the homes it offers, and staking out its critical role in supporting housing stability and preventing homelessness. Additionally, the AMP will effectively guide capital investment decisions, enable tracking and reporting on LOS, and provide a framework to prioritize capital investments.

1.1: Background LMCH Information

LMCH is a municipally owned Local Housing Corporation (LHC), serving the City of London and Middlesex County. The City of London is LMCH's sole shareholder, and the County of Middlesex is an important funding contributor. LMCH devolved from the Province of Ontario in 2001 and is bound by the Housing Services Act (HSA). LMCH's portfolio currently comprises 32 properties, which contain 3,276 units and provide rent-geared-to-income (RGI)2   housing for approximately 4,700 tenants. Most properties within the portfolio are located within the City of London, while some properties are located in Middlesex County (see Appendix 1 for a map of the portfolio).

In May 2017, London Middlesex Community Housing (then London Middlesex Housing Corporation) launched its council endorsed 2017-2020 Strategic Plan. Through the 2017-2020 Strategic Plan, LMCH repositioned itself as a housing provider that cares, rather than simply a landlord and property manager.

The Strategic Plan established several goals. The most relevant goals for the AMP are:

- Improve, renew and maintain the homes that we offer

- Engage, support, and empower tenants

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[1] An additional six units are defined as "out of stock" as they were lost to fire. Under local accountability rules, the Housing Services Manager is responsible for maintaining 8,055 units of RGI housing in London and Middlesex County. Currently, LMCH holds 3,282 units of the total 8,055 units.
[2] RGI is a housing subsidy or benefit offered by the municipality to make rent affordable to households. In most cases, a households rent is 30% of the household's total monthly gross income.

- Stake out our critical role in supporting housing stability and preventing homelessness

- Establish long-term financial growth and stability

At the same time, the Corporation articulated its new mission and vision, and introduced LMCH's mission, vision, and the "We C.A.R.E." system of values, which are:

Our Mission:

"We provide and maintain homes in a safe and supportive environment to meet the needs of the people we serve in our communities."

Our Vision:

"We envision healthy homes and communities in London and Middlesex. Leading by example, LMCH will help make a difference and positively impact lives using housing as the foundation."

The "We CARE" system of values:

WE CARE

COLLABORATION | COMMITMENT

ACCOUNTABLE | ACCESSIBLE

RESPECT | RESPONSIVE

EQUITY | EXCELLENCE

The 2017-2020 Strategic Plan identified LMCH's most significant challenges, including insufficient support for rapidly growing tenant and community needs. Other potent challenges include the unsustainability of LMCH's sole reliance on historic levels of public funding to meet escalating needs, and LMCH's resulting need to respond to new and shifting challenges by seeking alternative financing tools and revenue streams (London

Middlesex Housing Corporation, 2017). The 2017- 2020 strategic plan provides a platform for LMCH to reinvent and refocus the management of its assets, support of its tenants, and growth of the portfolio.

1.2 Social Challenges and Their Impact on Asset Management

In 2005, the Housing Division issued a directive from the City of London for LMCH to provide housing for nine out of ten applicants (known as the 9/10 rule) who have special priority, urgent or high need situations (Stevens, 2005). This directive was provided without any revisions to funding for and/or provision of tenant support services (i.e. life skills training, counselling).

As a result of the 9/10 directive, most LMCH properties have a high proportion of tenants with multiple and complex challenges such as significant personal traumas, and mental health challenges. Certainly, the 2005 changes to the waiting list priorities intended to align with the principles of Housing First[3] by providing housing more expediently to those in greatest needs (Stevens, 2005). The result of the 9/10 rule is however that in most cases those housed do not have appropriate levels of support (Marshall, 2019). Under the absence of supports for the tenants housed, the intake process does not in fact align with a Housing First strategy.

Financially vulnerable or precariously housed people (without complex issues or a, special priority designation) have access to LMCH's housing on a chronological basis (a sequential, time-based queue) and are offered only 10% of the total units available.

The high concentration of tenants who require significant support, combined with minimal funding and programming available to those tenants, results in a high prevalence of significant behavioral issues. These behavioral challenges in combination with insufficient capital and operational resources compromise the safety and sense of security of all tenants, LMCH staff, and external contractors.

In addition to compromising the safety and sense of security on-site, behavioral issues often result in destruction of property. Regarding financial and asset management considerations, these behavioral issues contribute to additional costs for building security, a high rate of unit turnover, and a high cost of renovating units for turnover purposes.

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[3] Housing First is a recovery-oriented approach to ending homelessness, which focuses on moving people experiencing homelessness into independent and permanent housing where there are appropriate supports and services (Housing First, 2019).

Supportive services can provide tenants with critical life skills training for healthy independent living (e.g. basic cleaning skills, communication skills, and personal care) while reducing behavior issues that contribute to the prevalence and cost of building issues and repairs. For these reasons, LMCH recognizes that an important aspect of asset management is the provision of more appropriate supportive resources.

1.3 Current Operating Framework

LMCH's operates under the terms established by its Articles of Incorporation, Shareholder Declaration, and Accountability Rules as approved by the sole shareholder on June 20, 2011. Articles of Incorporation, which are a product of the Business Corporations Act, are legal documents that establish a business and define its structure as being a separate entity from the business owner. Articles of Incorporation also outline any restricted business activities. Currently, LMCH's Articles of Incorporation set the following directions:

> The provision, operation, and maintenance of housing accommodation, with or without any public space, recreational facilities, commercial space or buildings appropriate thereto, in accordance with the Act

> The administration of programs providing rent-geared-to-income assistance to households of low to moderate income in accordance with the Actpublic space, recreational facilities, commercial space or buildings appropriate thereto, in accordance with the Act

> The provision, of accommodation for persons with special needs

> Any matter with respect to which the corporation and the Minister, the Service Manager or any other person may enter into an agreement under the Act

The Shareholder Declaration dictates the range of accountability and operation practices, the reporting structure, and the powers of the Directors to manage or supervise the management of the organization. The Shareholder Declaration was produced with a

directive to restrict the powers of LMCH and to manage a transitional period. Currently, the purpose, objectives, and principles as outlined in the Shareholder Declaration include:

Authority of the Board to manage or supervise the management of the business and affairs of LMCH

To provide for an accountability framework of responsibility between LMCH and the Shareholder

To demonstrate LMCH's integral role to the infrastructure and overall well-being of the community, and LMCHs responsibility to carry out its business in a prudent and responsible manner, which includes fulfilling housing needs, and delivering programs and services sustainably

To meet a series of objectives which include utilization of assets for the purposes of providing community housing, and maintaining the assets in a state of good repair in order to provide quality affordable community housing

The Shareholder Declaration also outlines the activities, subject to financial resources, that LMCH may engage in, these activities include:

- Develop new affordable housing (subject to prior approval of the Shareholder and the Service Manager)

- Redevelop Existing Housing Projects (subject to prior approval of the Shareholder and the Service Manager)

The Articles of Incorporation, which outline the activities that LMCH can and cannot engage in, does not provide for the act of developing housing. LMCH's permitted activities as outlined in the Articles of Incorporation overrule the permissions, like the development of new housing, outlined in the Shareholder Declaration.

Accountability rules are local policy, that are set by the Service Manager who is resonsible for carrying out (following its housing and homelessness plan) objectives and targets

relating to housing needs within their service area (in this case, the City of London and Middlesex County. The accountability rules that LMCH must abide by include:

A mandate to provide 9 out of 10 new units to tenants with complex and high needs (local rule passed in 2005)

A mandate to house households with dependents (family), senior households and households without dependents who are in need of rent-geared-to-income housing. LMCH shall not deviate from this mandate without the prior written consent of the Service Manager which consent will not be unreasonably withheld

LMCH responsibility for the maintenance of Housing Projects and ensuring that its housing projects are well managed, are maintained in a satisfactory state of repair and are fit for occupancy

Nearly ten years after approving the current operating framework, LMCH's sole shareholder, clearly identified its goal of strengthening the community through the revitalization of community housing, the use of innovative regulations, and investments to facilitate affordable housing (City of London, 2019, p. 8). In alignment with the City's goals, LMCH's 2017-2020 Strategic Plan seeks to expand its services beyond being a traditional landlord. To accomplish both LMCH and the Shareholder's respective goals, revisions to LMCH's Operating Framework (which includes the Articles of Incorporation, Shareholder Declaration, and Accountability rules) are necessary.

As noted by Pricewaterhouse Cooper in 2017, the current framework lacks the flexibility required for LMCH's strategic and operational decision (Cooper, 2018). Steve Pomeroy, an expert on housing policy and a senior research fellow at Carleton University's Center for Urban Research and Education, stated that public housing organizations, like LMCH, operate in an environment that does not allow for the creativity or innovation required to respond to the housing challenges in today's environment (Stacey, 2019). The City expressed concerns that the introduction of a new Operating Framework would change their control over LMCH. However, several independent legal reviews, completed in 2018, demonstrated that the requested changes would maintain the control that the City holds over LMCH while providing the flexibility necessary for LMCH to be more responsive to their plans (London Middlesex Community Housing, 2019, p. 3 & 5).

LMCH Introduction

1.4 Linkages to Other Strategic Documents:

The City of London's 2015-2019 Strategic Plan significantly informed LMCH's 2017-2020 Strategic Plan.

Today, the City of London is governed by its 2019 — 2023 Strategic Plan, which maintains the same areas of focus as the earlier iteration: strengthening our community, growing our economy, leading in public service, and building a sustainable city; with the addition of a fifth area: creating a safe London for women and girls (City of London, 2019, p. 8).

LMCH can play a particularly important role in achieving the City's focus of strengthening our community, building a sustainable city, and creating a safe London for women and girls.

The primary goal of strengthening our community is ensuring that Londoners have access to the supports they need to be successful. The City's plan references several community housing-related expected results and strategies, including:

Expected Result	Strategy
Increase affordable and quality housing options.	• Establish and revitalize community housing through a Regeneration Plan. • Increase supportive and specialized housing options for households experiencing chronic homelessness. • Strengthen the support for individuals and families in need of affordable housing. • Utilize innovative shelter diversion and rapid re-housing practices.
Reduce the number of individuals and families experiencing chronic homelessness or at risk of becoming homeless.	• Create more purpose-built, sustainable, affordable housing stock in London • Implement coordinated access to mental health and addictions services and supports. • Improve emergency shelter diversion and rapid re-housing practices.

Table 2: City of London Strategic Plan- Strengthening Our Community

LMCH contributes to the expected results and is a key player in executing the strategies outlined above, which demonstrate LMCH's critical role in the achievement of the City's strategic goals.

The second strategic goal is to build a sustainable city and the first outcome is that "London's infrastructure is built, maintained, and operated to meet the long-term needs of our community" (City of London, 2019, p. 12). Investing in LMCH assets, which comprise 40% of the City's total social housing stock, is integral to meeting the long-term needs of the community (City of London, 2019).

LMCH also contributes to the City of London's goal of creating a safe London for women and girls. In fact, a key strategy to achieving this goal is working with LMCH to build more accessible and safer housing options for women and girls (City of London, 2019, p. 22).

The strong alignment between the City of London's strategic goals and the ability of LMCH to contribute to the achievement of these goals clearly indicates the importance of investing in LMCH. Asset management is an important vehicle to ensure that capital investment is prudent, timely, and appropriate for the needs of the population served.

1.5 Corporate Asset Management
What is Corporate Asset Management in General?

Corporate asset management is the systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effective lifecycle management of assets. Long term strategic planning informs asset management decisions.

Asset management contributes to sustainable service delivery that integrates corporate and community values, priorities, and an informed understanding of the relationship between cost, risk, and levels of service. Effective asset management brings together skills (e.g. property management), expertise (e.g. building science), and information about community profiles (e.g. tenant profile) and finances to make informed decisions. Asset management is an ongoing, iterative process; the implementation and ongoing practices are as important as the actual asset management plan itself.

Asset management maximizes the effects of capital expenditure and prolongs the service life of the asset or building component (Vanier, 2000, p. 2). Proactive asset management also reduces the frequency and duration of service disruptions, improves the predictability of results, and lowers total lifecycle costs when compared with a reactive approach (Asset Management for Sustainable Service Delivery, 2015).

What is Corporate Asset Management in the Context of Community Housing?

The principles of asset management are consistent across sectors, but there are some considerations in the context of community housing that are unique and important elements of an appropriate community housing AMP. For example, community housing AMPs tend to require a higher level of flexibility and adaptability to changes in circumstances (i.e. unexpected cuts to funding, like cap and trade). Holistic solutions not traditionally associated with asset management (e.g. tenant support) may also be integral aspects of a community housing AMP. In 2014, the Ministry of Housing (MOH) published a Strategic Asset Management Framework that identified five activities central to the development of a community housing asset management plan. These activities are:

1. Reviewing Asset Condition Information

2. Reviewing Asset-specific Financial Information

3. Defining the Best Use of Each Property

4. Defining Operating Maintenance Standards

5. Prioritizing Capital Initiatives (Ministry of Municipal Affairs and Housing , 2014)

These areas of focus are similar to non-housing specific AMP, but also work to recognize and account for the unique realities of housing. These include a focus on outcomes that provide holistic solutions to portfolio management challenges, including capital planning, risk management and social outcomes. Social issues are an important area of focus because they contribute disproportionately to the maintenance and repair costs in community housing portfolios.

What is Ontario Regulation 588/17?

In 2000, the Province of Ontario initiated planning for asset management. Several key events like the Walkerton Inquiry (2002), PSAB requirements (2009), and the Infrastructure for Jobs and Prosperity Act (2016) culminated and led to the establishment of Ontario Regulation 588/17. Ontario Regulation 588/17 is a new municipal asset management planning regulation that was approved on December 13, 2017 and took full effect on

January 1, 2018. Under Ontario Regulation 588/17, municipalities are required to prepare a strategic asset management policy by July 1, 2019 and an asset management plan by July 1, 2021. The plan must encompass all municipal infrastructure assets, like LHCs, by July 2023 and include proposed levels of service and lifecycle management and financial strategy by July 2024 (Association of Municipalities of Ontario, 2018).

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Why is LMCH's Asset Management Plan Being Prepared Now?

LMCH's 2020 AMP is prepared significantly in advance of the Ontario Regulation 588/17 deadline for the following reasons:

LMCH is dedicated to being a leader in the community housing industry and pursuant to this goal, is committed to producing an industry-leading AMP

The AMP provides important contributions to inform and support LMCH capital investment decisions

The size of the infrastructure-funding gap is so significant that a comprehensive AMP is vital to the effective management of the infrastructure gap

A comprehensive AMP provides vital credibility and information to assist and support in third party funding applications

A detailed and well-thought-out AMP is a cornerstone of evidence-based capital planning, which is vital to effectively managing a significant increase in funds and the resulting volume of capital projects

1.6 AMP General Assumptions & Limiting Conditions

While reading the AMP, readers should be aware of the following general assumptions and limiting conditions:

1. LMCH is a board of the City of London, managed by a board of directors and owned by a sole shareholder, the City of London. Ultimately, the decisions and actions LMCH makes require approval by its Board of Directors and Shareholder and are subject to various legislative requirements including, but not limited to, the Residential Tenancies Act (RTA) and the Housing Services Act.

2. LMCH owns and manages 3,276 units across 32 properties located in the City of London and the County of Middlesex. Currently, six (6) of LMCH's units are "out of stock" due to catastrophic fire damage.

3. LMCH has categorized requirements (building components due for replacement) based on their level of priority, which considers the criticality, severity, tenant impact, and risk of failure of a requirement. These are estimates, and as such, they may not follow predicted patterns of failure. Please refer to section 3.3 for further detail on requirement categorization.

4. Low priority requirements may only be in that category because they affect a limited number of people, and/or because they have a low risk of failure. However, should they fail the consequences of their failure may still be extremely severe in nature.

5. Potential risk of asset failure include, but are not limited to life and health safety, significant financial loss, prosecution and reputational loss.

6. Even with sufficient funding, no AMP is able to eliminate risk of asset component failure. At best, an AMP's implementation will reduce the level of risk carried. Funding levels, appropriate building use, and robust building science information severely affect the ability to manage risk.

7. Failure to address infrastructure needs will result in increased probability of failures, which degrade quality of living, and in many cases result in larger expenditures than would not otherwise be required if proactively addressed.

8. Unless stated otherwise, asset replacement values is the total estimated amount of expenditure required to construct a replacement facility to the current building codes, design criteria, and materials. Estimates use data from RSMeans, which is North America's leading supplier of construction cost information.

9. The estimated cost of replacing requirements, the renewal cost, is based on replacing the equipment or system with items of slightly higher or equal quality. Replacement with slightly higher quality materials and/or equipment is done where current market alternatives are of better quality than existing; generally this improvement in quality and reduction in price is due to technological advancement and external cost drivers (e.g. demand drives down price).

10. Action year is the estimated date of which a building component requires replacement. This date is determined by the age of the component, and its typical useful life; the actual useful life may deviate upwards or downwards.

11. In 2015, third party inspectors were hired to complete Building Condition Assessments (BCA) on 25 LMCH properties. The comprehensive information obtained from these inspections is stored within a capital planning software program called VFA. These 25 properties constitute the "Assessed portfolio". Unless stated otherwise, all requirement costing figures presented are based on the "Assessed portfolio" only and do not account for requirement costs for LMCH's remaining seven (7) properties that have not received BCA.

12. Most LMCH properties that did not receive BCAs in 2015, are very similar in construction type, size, quality, and age to other LMCH's properties that received BCAs in 2015 and are within the "Assessed portfolio".

Section 2.0: Asset Inventory & State

LMCH's assets are categorized into two groups: "core assets", which comprise all real property (i.e. buildings and sites), and "other assets" which are comprised of all remaining Tangible Capital Assets (TCA) and include appliances, vehicles, and furniture. Provided below is a high-level overview of LMCH Asset Inventory. In subsequent sections, more detailed asset information is provided.

Table 3: LMCH Asset Overview

Asset Category	Inventory	Unit	Total 2020 Replacement Cost
Core Assets	3276	Residential Unit	$733,746,575
Other Assets	5	Asset Sub-Categories	$8,037,000
Total			$741,783,575

2.1 Core Assets Inventory Overview

LMCH's core assets are comprised of 32 residential and multi-residential properties located within the City of London and Middlesex County (see Appendix 1 for a map of the properties). LMCH's portfolio contains three distinct property types: (1) detached and semi-detached houses scattered throughout the city (see Appendix 2), (2) townhouse complexes, and (3) low, medium, and high-rise apartment towers. Across the portfolio, there are 3,276 units, ranging in size from bachelor to five-bedrooms. A summary of LMCH's core asset inventory is provided in Table 4.

Table 4: Core Asset Overview

Asset Type	Asset Grouping Description	Inventory	City Ward or Municipality	Total # Units	# of Bedrooms						Age as of 2020
					Bach	1	2	3	4	5	
Real Property	Multi-Residential	632 Hale	2	146		145	1				49
		202 McNay	4	252		251	1				44
		345 Wharncliffe	6	145		144	1				49
		349 Wharncliffe	6	145		144	1				49
		872 William	6	70	46	24					54
		1194 Commissioners	9	126		125	1				51
		30 Baseline	11	251		250	1				48
		200 Berkshire	11	89		88	1				50
		39 Tecumseh	11	38	19	19					59
		85 Walnut	13	232		231	1				45
		241 Simcoe	13	217		216	1				45
		170 Kent	13	212		211	1				48
		304 Oxford	13	109		108	1				49
		580 Dundas	13	151	125	25	1				52
		136 Albert	13	82	59	22	1				51
		2061 Dorchester	Dorchester	16		16					41
		10 York	Newbury	10		10					42
		249 Ellen	North Middlesex	10		10					46
		157 Simpson	SW Middlesex	21		21					43
		49 Bella	Strathroy	51		49	2				41
		125 Head	Strathroy	25		25					47
		Multi-Res Total		**2398**	**249**	**2134**	**15**	**0**	**0**	**0**	
	Town House Complexes	Allan Rush	1	100				86	14		55
		Marconi	2	51				37	10	4	48
		Huron	4	110			67	43			50
		Boullee	4	136				100	22	14	49
		Limberlost	7	160			23	85	42	10	60
		Southdale	14	166			39	106	21		49
		370 Pond Mills	14	81				15	50	16	52
		Townhouse Total		**804**	**0**	**0**	**129**	**472**	**159**	**44**	
	Clustered Semi-Detached	Marconi	2	34				20	10	4	52
		Penny Lane	Strathroy	20			5	8	2	5	45
	Scattered Detached/semis	City	1,2, & 3	14				14			57
		County	Newbury	6				6			50
		Semi & Scattered Total		**74**	**0**	**0**	**5**	**48**	**12**	**9**	
	Real Property Total			**3276**	**249**	**2134**	**149**	**520**	**171**	**53**	

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Each property's age, as provided in Table 3, is the building's year built less the year 2020. Figure 3 below provides the industry average useful life periods, the number of years an asset class is likely to remain in service in a cost effective manner, for each asset category. When a building's age is greater than its useful life, operations and maintenance costs will often increase. Readers should be aware however, that useful life does not include structural components of buildings, as they tend to last substantially longer. Further, investment to major component in a building (i.e. mechanical and electrical) will reduce the building's effective age. Thus, a building's actual age relative to its useful life may not accurately reflect its condition. For example, century homes that have been extensively renovated will have an actual age well in excess of the expected useful life; however, their effective age will be much lower and likely within or close to their useful life.

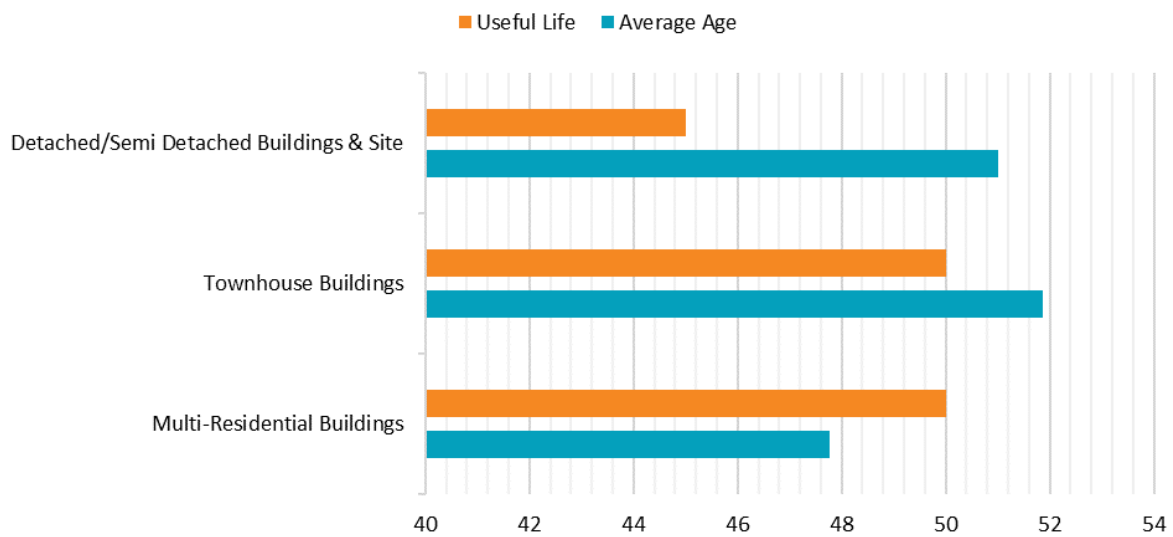## Core Assets: Average Age vs. Useful Life

Figure 3: Core Assets Average Age vs. Useful Life Summary

2.2 Core Assets: Current State

A critical tool for understanding the current state of a real estate portfolio is up to date information about the site and building components on each property, including their date of installation, useful life span, and condition. Then, cost estimates can be developed, schedules of updates created, and the criticality of updates identified. This data assist LMCH to anticipate building needs, inform capital budgets and projects, make justified decisions, and maintain accurate building information.

To improve LMCH's asset management and better understand the state and condition of its portfolio, a third party completed Building Condition Assessment (BCA) on most of LMCH properties in 2015. On a property-by-property basis, the BCAs catalogue, all of the building components that exist, their estimated age, typical useful life, and estimated replacement date. The data collected through these BCAs is managed in a proprietary software program called VFA and is used to generate reports that contain important information including what capital investment is needed, what it is needed for, and when it is needed.

Through the data compiled using the BCA, the software program VFA generates a Facility Condition Index (FCI) score, which is an important metric for understanding the state of a property or a portfolio of properties.

FCI scores are computed by dividing the total estimated cost of building components requiring replacement in the current or next two calendar years by the assets total replacement value. All building components that require replacement are called requirements. In this report, requirement costs are for the period of 2020 and 2029 including deferments (i.e. due prior to 2020).

FCI scores typically range from zero to one. An FCI score of zero (0) indicates that the selected asset is in perfect condition and that nothing needs replacement in the current year or the next two calendar years. An FCI rating of one indicates the opposite: within the current year and the next two calendar years, every component in the building needs replacement. Therefore, the higher the FCI score, the poorer the condition of an asset. FCI scores are an effective tool to compare and benchmark a portfolio of assets that are different in their size and built form (e.g. townhouse property vs. high-rise apartment building).

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LMCH categorizes FCI scores as follows:

Table 5: FCI Score Categories

FCI Score Range	Score Standard
0.00-0.05 (0%-5%)	Very Good (1)
0.06-0.20 (6%-20%)	Good (2)
0.21-040 (21%-40%)	Fair (3)
0.41-0.60 (41%-60%)	Poor (2)
0.61 (61%) or Greater	Very Poor (5)
N/A	Not Assessed (6)[4]

Table 6 below outlines the 2020 total estimated replacement cost by asset grouping. For each asset grouping, costs are broken down by property (building and site), building only, and site only. Also provided is the 2020 weighted average FCI score category for the property (site and building), site, and building. In 2020, the weighted average property FCI score category of properties (buildings and sites) was poor, the building (excluding site) FCI score category was also poor and the weighted average FCI score category for sites only was very poor.

Table 6: LMCH Core Asset Inventory Breakdown

LMCH Core Assets: Inventory Breakdown						
Inventory	Total 2020 Replacement Cost	Weighted Average Property 2020 FCI Condition	Building 2020 Replacement Cost	Building 2020 Overall FCI Condition	Site 2020 Replacement Cost	Weighted Average Site 2020 FCI Score
Multi-Res Total	$ 494,933,177	Poor	$ 489,377,864	Poor	$5,555,314	Very poor
Townhouse Total	$ 222,104,799	Poor	$ 209,836,627	Poor	$12,268,172	Very poor
Semi & Scattered Total	$8,921,269	Not Assessed	$8,921,269	Not Assessed		

[4] This category is reserved for assets where data is either not available, not updated, or cannot be considered reliable. Flagging this data allows LMCH to identify where gaps in information exists and allows the organization to develop assessment plans to improve future data reliability and accuracy.

Inventory	Total 2020 Replacement Cost	Weighted Average Property 2020 FCI Condition	Building 2020 Replacement Cost	Building 2020 Overall FCI Condition	Site 2020 Replacement Cost	Weighted Average Site 2020 FCI Score
Land: Portfolio Wide	$7,787,329	Not Assessed		Not Assessed	$17,823,486	76%
Portfolio Total	$733,746,575	45%	$ 708,135,759	44%	$17,823,486	76%

On a property basis, the assessed portfolios FCI score category distribution is summarized in Table 6 and Figure 4 below. As Figure 4 indicates, as of January 2020 56% (representing 14 properties) of assessed LMCH properties (site and building) held FCI scores within the poor range (0.40-0.60), 40 % or 10 properties held FCI scores in the fair range (0.21-0.40) and 4% or one(1) property has an FCI score in the very poor range (0.06-0.20).

Assessed Portfolio FCI Distribution

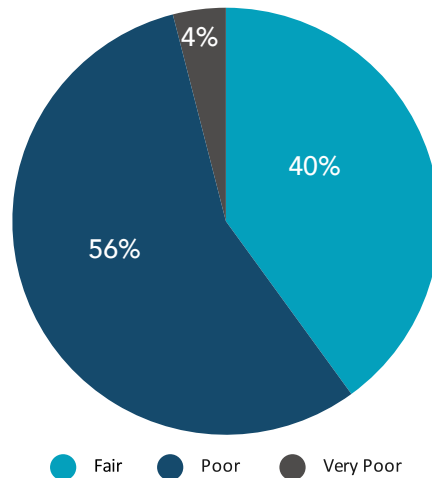Figure 4: Assessed Portfolio FCI Distribution

Recognizing that FCI scores vary significantly when evaluated only on a site basis and a property basis, the FCI condition score category has been provided for each asset grouping for site only and for building only. The results indicate that most buildings within the assessed portfolio are in fair condition, and most sites are in poor or very poor condition.

The FCI score is a dynamic measure that changes with time, level of capital investment, and by property. Thus, the results presented here are as of year beginning 2020 and are not representative of any future or previous point in time. The FCI scores reported in the AMP are based on capital investments made as of January 1 2020 and the requirements deferred and due in 2020, 2021, and 2022. With changes in the level of capital investment provided and the capital funding needed, the FCI score will change too.

Table 6 below also provides the 2020 estimated replacement costs. Here, it is evident that the largest portion of replacement costs are associated with multi-residential buildings; the second largest portion is for town house buildings. Replacement costs associated with sites, and the semi-detached and scattered site and buildings are in relative terms, minimal.

Table 6: LMCH Core Assets Replacement Value & Condition Summary Information

	Asset Description	# of Units	Unit Descriptor	2020 Replacement Value	Very Good: FCI < 5%	Good: FCI: <20%	Fair: FCI < 40%	Poor: FCI <60%	Very Poor: FCI > 60%	Not assessed
Asset Type					Very Good: FCI < 5%	Good: FCI: <20%	Fair: FCI < 40%	Poor: FCI <60%	Very Poor: FCI > 60%	Not assessed
Real Property	Multi-Residential Buildings	21	Count	$ 489,377,864	0	1	15	2	0	3
	Multi-Residential Sites	21	Count	$ 5,555,314	1	0	1	5	10	3
	Townhouse Buildings	7	Count	$ 209,836,627	0	0	3	4	0	0
	Townhouse Site Work	7	Count	$ 12,268,172	0	0	3	0	4	0
	Detached/ Semi Detached Buildings & Site	4	Count	$ 8,921,269	0	0	0	0	0	4
	Land	97	Acres	$7,787,329	0	0	0	0	0	97
	Total Real Property			$ 733,746,575	1	1	22	11	14	107

LMCH Asset Summary Information — Number of Properties within an FCI Condition Range

2.3 Core Assets Detailed Requirement Analysis: Overview

In addition to understanding the state of the portfolio, it is important to identify and plan for capital costs on a longer-term basis. Unless stated otherwise, all data referenced in this report is representative of the period of 2020-2029. While BCAs were completed on the majority of properties within LMCH's portfolio, a small portion of the portfolio did not receive BCAs and are not included in the VFA requirements. All costing provided by VFA is based on RS Means (Class D costing).

Building and site components are constantly depreciating due to their normal life cycle, higher than normal use, or other external or environmental factors. Accordingly, FCI scores and requirement results are not static, but are in constant flux as buildings depreciate and requirements are remediated.

With a wide variety of building requirements, there are differences in the priority of investment that may exist between one requirement and another (e.g. interior door vs. fire safety system). For this reason, LMCH considers not only the FCI score, but also what building components contribute to that score, their impact to the asset's ability to deliver service, provide for a safe environment, and safeguard against legal and reputational issues.

To better understand the priority for capital investment that a requirement carries, each property's 10-year funding requirements (2020-2029) were extracted and identified as high, medium, low, and limited priority[5].

After removing committed or recently completed capital projects and using a data extraction period of 2020 (including deferment) to 2029, LMCH's assessed portfolio has a total requirement cost of $452.34 million. On a priority basis, requirement costs are mostly within the limited priority category ($338.26 million). High priority requirements are still quite significant ($59.94 million), and while medium and low priority requirements are relatively minimal, on a cost basis they are substantial ($26.488 and $27.65 million respectively). Table 8 below summarizes the requirement cost breakdown.

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[5] A more detailed overview of priority groupings is provided in Section 4.

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Table 8: 2020-2029 Requirements Priority Distribution

2020-2029 Requirements Summary Statistics

Total High Priority All Years	$59,941,000
Total Medium Priority All Years	$26,488,000
Total Low Priority All Years	$27,652,000
Total Limited Priority All Years	$338,261,000
Grand Total	$452,342,000

VFA funding requirements for LMCH properties excluding some in the county and all scattered properties. All cost estimates quoted in Canadian dollars with no adjustments made for inflation.

Limited priority requirements are in acceptable condition as long as they are functional. They are relatively easy to replace (or in some cases repair), require limited coordination to do so, and have isolated, short term, and often negligible, impact on tenants. LMCH's limited priority requirements total $338.26 million.

2.4 Historic Capital Funding

Between devolution in 2001 and 2019 fiscal year end LMCH received $2.2 million annually in regular capital funding. Despite increased capital costs (due to a large and aging portfolio and expiring building components) no adjustments were made to the regular capital budget. LMCH was not alone as an LHC in its struggle to meet its portfolio's growing capital demands. However, unlike many LHCs, LMCH's capital funding throughout this period was significantly lower than the average LHC.

In 2013, the Housing Services Corporation (HSC) surveyed eleven LHCs in Ontario. The objective of the survey was to collect and document information about LHCs and assess the structures that evolved from the former Ontario Housing Corporation's assets. Specifically, the survey sought to "better understand the issues and challenges affecting the development, maintenance, administration and delivery of (community) housing in

Ontario." The survey results revealed that asset management was a critical concern for all LHCs (Oliveira, 2013, p. 39). In many cases the aging stock is time-consuming and costly to repair, units are poorly maintained, turnover frequently, and the housing stock largely did not meet community needs (Oliveira, 2013, p. 33).

The results also indicated that, based on the 2012 annual capital budget for the 11 LHCs, the annual per unit budget ranged from $583 to $2,176. Generally, the results indicated a moderately positive correlation between the size of the LHC and the per unit capital budget, meaning that as the portfolio size increased, the per unit budget increased too. However, of all the LHCs surveyed, LMCH had the lowest annual per unit capital budget, at $583 per unit, despite its medium portfolio size[6]. In fact, LMCH's capital budget was only half of the average LHC capital budget, at $1,113 per unit, and in several cases, it was significantly less than LHCs with smaller portfolios. For example, Haldimand Norfolk Housing Corporation, which has a small portfolio, without complex high-rise buildings, 2012's annual per unit capital budget was $1,207 (Oliveira, 2013, p. 36).These figures demonstrate how LMCH has been historically underfunded and how this has contributed to the declining state of its portfolio.

Recently, there has been a greater municipal recognition of the need for enhanced capital funding. In response, through the 2020-2023 Multi-Year Budget (MYB) LMCH's regular capital funding was increased from historical $2.2 million to $4 million in 2020, $5.25 million in 2021, $6.75 million in 2022 and $8.25 million in 2023. At a minimum LMCH anticipates that capital funding beyond 2023 will be maintained at $8.35 million annually. In additional, capital funding for $36.97 million towards co-investment with Canada Mortgage Housing Corporation (CMHC) was also approved. This monumental funding increase has been an incredible success for LMCH and the community at large and it will assist LMCH in addressing some of its capital needs.

2.5 Other LMCH Assets

While LMCH's assets are predominately composed of real property assets (referred to as the core assets), LMCH also holds other Tangible Capital Assets (TCA).

Following Public Sector Accounting Board (PSAB), TCA's are non-financial assets having a physical substance[7]. Beginning in 2008, all public sector entities were required to practice TCA accounting. This resulted in the development of TCA inventories as defined by PSAB.

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[6] At the time of the survey, LMCH owned 3,772 units and directly managed 3,282 of those units (Oliveira, 2013, p.15) Today, LMCH owns and directly manages 3,282 units, six of which are out of stock. Therefore, LMCH's capital budget on a per in stock basis is $671.55.

[7] For additional details on the definition of tangible capital assets please consult PS 1000.43, PS 3150.05.

In addition to building and improvements, site improvements, and land, discussed earlier, TCA includes technology/communications, furniture and fixtures, machinery and equipment, and appliances. As per PSAB rules, historical cost is recorded for all TCA that meet capitalization thresholds. LMCH defined these thresholds as follows:

Table 9: TCA Capitalization Thresholds

Asset Category	Capitalization Threshold
Technology/ Communications	$5,000 (pooled)
Furniture & Fixtures	$5,000 (pooled)
Machinery & Equipment	$5,000 (pooled)
Applicances[8]	$5,000 (pooled)

Assets are considered TCA when their per unit cost is at least $1,000. This amount can also be combined with other units in the same category (i.e. multiple fixtures) to realize a pooled value of $5,000. Except land, building and improvements, and site improvements, replacement costs are the TCA historical costs adjusted by the Canadian Price Inflation (CPI) Index annual average rate. Replacement costs are as of January 2020.

Technology/communication TCA are mostly comprised of IT resources like laptops and cellphones that are central to the daily operations of LMCH. Furniture and Fixtures includes LMCH head office furniture as well as furniture located in the lounges of LMCH buildings. Machinery and Equipment TCA includes items that are used within a building such as a waste control system for example. Appliances are primarily composed of fridges and stoves in many of LMCH's buildings. Each TCA category has a defined useful life, these are:

Table 10: TCA Defined Useful Lives

Asset Category	TCA Defined Useful Life (years)
Technology/ Communications	3
Furniture & Fixtures	25
Machinery & Equipment	10
Applicances[9]	10

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[8] All appliance purchases are capitalized regardless of value.
[9] All appliance purchases are capitalized regardless of value.

Asset Inventory & State

Useful life periods are primarily for accounting purposes, but may also serve as an indicator of an assets condition. While this is a crude measure of condition it is still a fair and reasonable way to assess condition and does not demand costly resources required for more in-depth review that in many cases cannot be justified by the cost of the asset. A positive condition figure indicates that the assets age is less than its useful life as defined above. When the condition is negative, it indicates that the asset is in use beyond its useful life. The condition descriptor and its relationship to remaining useful life ranges is as follows:

Table 11: Useful Life Condition Rating Breakdown

Condition Descriptor	Remaining Useful Life Range
Very Good (1)	60-100 %
Good (2)	40-59 %
Fair (3)	20-39 %
Poor (4)	0-19 %
Very Poor (5)	Less than 0 %

Table 12 below outlines the total estimated 2020 replacement value by asset category and for all TCA assets. This table also provides the weighted average age and percentage distribution of the total replacement value by condition for each asset category. For example, technology/ communications has a weighted average age of 4.69 years, the 2020 total replacement value is $1,302,000; 32% of this total replacement value is in very good condition, 16% is in fair condition, 4% is in poor condition, and 48% is in very poor condition.

Asset Inventory & State

Table 12: TCA Replacement Value & Condition Summary

Asset Category	Weighted Average Age of Asset Category (years)	Total 2020 Replacement Value	Distribution (%) of Replacement Value By Condition				
			1	2	3	4	5
Technology/Communications	4.69	$1,302,000	32	0	16	4	48
Furniture & Fixtures	5.79	$249,000	44	0	53	0	3
Machinery & Equipment	9.83	$3,995,000	40	59	1	0	0
Appliances	10.38	$2,437,000	19	6	6	2	67
Corporate Vehicles	8	$54,000	0	0	0	100	0
Total		$8,037,000	32	31	6	2	28[1]

[10] Please note: Due to rounding, total may not add up to 100.

Asset Inventory & State

Section 3.0 Level(s) of Service

Level(s) of service (LOS) are statements that describe the outputs and objectives that LMCH intends to deliver to a range of stakeholders. LOS are informed by corporate values, customer expectations, regulatory and legislated requirements, internal guidelines, and policies and procedures. In many cases, LOS are implied based on past service delivery, community expectations, and infrastructure system design. Effective asset management requires formalized LOS supported through a framework of performance measures, targets, and timeframes to achieve the targets, and that the costs to deliver the documented LOS are clear.

3.1 LOS and Asset Management

LOS are designed to measure the most important goals of an organization and define needs, establish priorities and identify investment requirements. The objectives of LOS include:

- Managing risk
- Aligning with business and corporate strategy
- Maximizing funding

- Minimizing whole life costs
- Optimizing asset management

Defined LOS assist LMCH to achieve these objectives and improve the organization's ability to gauge and understand the risks and limitations that may be encountered in pursuit of the desired LOS. Such risks and limitations may include legislation, government agendas and the availability of tenant support.

Given the impact of external factors (i.e. legislation and political decisions), LMCH's LOS must be adaptable to modifications in its operating environment, such as changes to:

- Regulatory requirements
- Customer Demands
- Physical deterioration

- Funding levels
- Operational costs

There are three types of LOS: Corporate, Customer, and Asset; their definitions are as follows:

Corporate	Performance expectations based on LMCH's corporate values and mission.
Community	Describes the attributes (e.g. reliable) of the services the community expects from LMCH.
Asset	What the asset must do (i.e. performance metrics) to provide acceptable services and control risk to community LOS.

Figure 5: LOS Types & Definition

Corporate, community, and asset LOS are closely connected to one another. For example, LMCH's mission of providing and maintaining homes in a safe and supportive environment informs LMCH's corporate LOS. This Corporate LOS in turn informs the Community LOS to provide homes that are safe and secure for tenants. Based on the expectation of feeling safe and secure, the Asset LOS required to meet the Corporate and Community LOS is determined.

3.2 LOS Metrics

LMCH's corporate LOS is to improve, renew, and maintain the homes that it offers. This LOS is also one of LMCH's strategic goals and strongly connects to the City of London's strategic focus of strengthening our community. Branching off the Corporate LOS are three Community LOS, which describe the attributes of service that tenants experience. The three community LOS are:
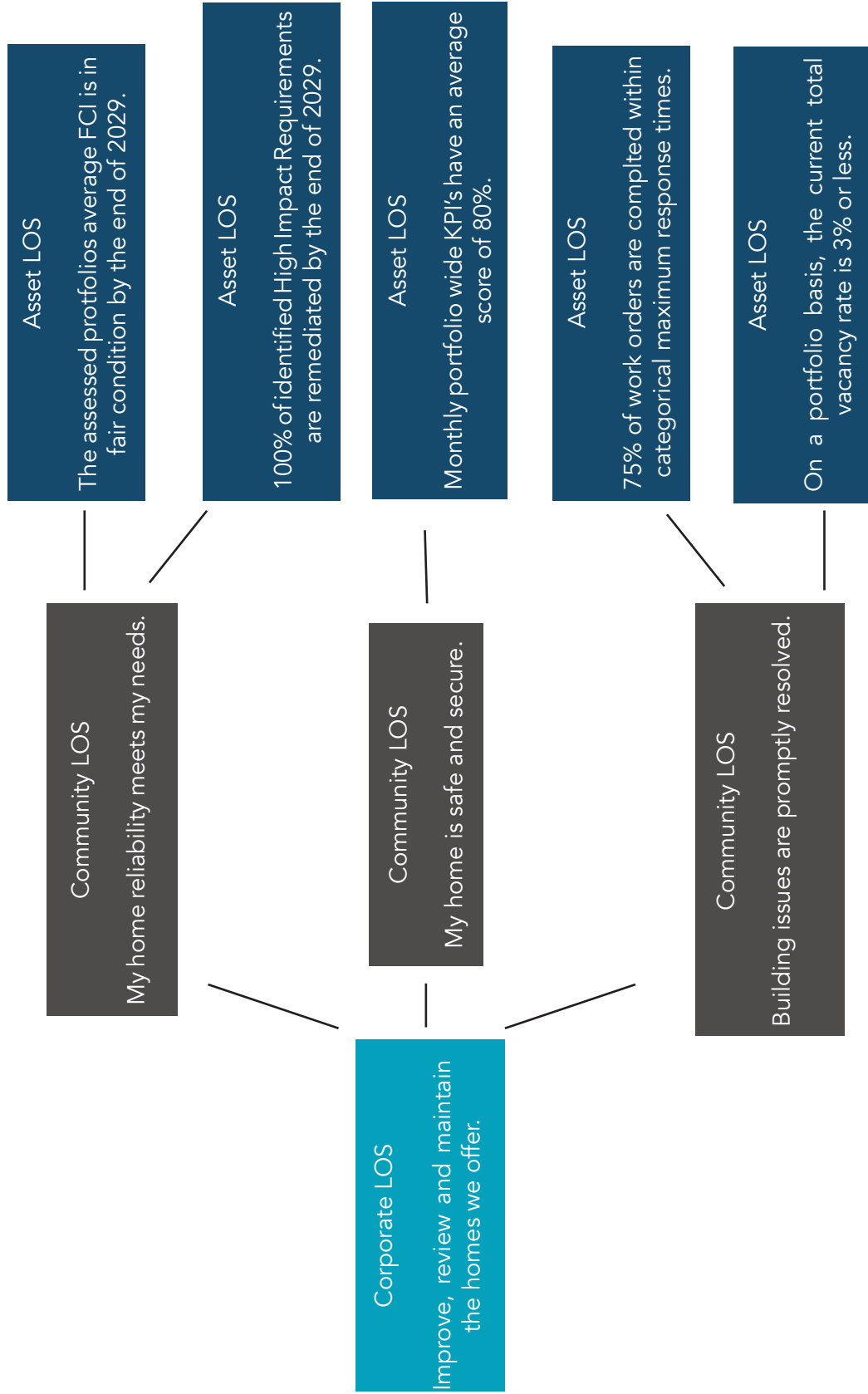
1. My home reliably meets my needs
2. My home is safe and secure
3. Building issues are promptly resolved

Community LOS describe attributes (e.g. reliable, safe and secure,) that stakeholders easily recognize and understand. Community LOS are met when the organization and the asset consistently perform to an expected level. Accordingly, Community LOS relate to five Asset LOS. Each of the Asset LOS are quantifiable measures that apply to the assets directly and asset related systems (e.g. work order management system). All of these LOS and an outline of how they relate to one another is provided below:

Figure 6: LMCH's LOS

Corporate LOS
Improve, review and maintain the homes we offer.

Community LOS
My home reliability meets my needs.

Community LOS
My home is safe and secure.

Community LOS
Building issues are promptly resolved.

Asset LOS
The assessed protfolios average FCI is in fair condition by the end of 2029.

Asset LOS
100% of identified High Impact Requirements are remediated by the end of 2029.

Asset LOS
Monthly portfolio wide KPI's have an average score of 80%.

Asset LOS
75% of work orders are complted within categorical maximum response times.

Asset LOS
On a portfolio basis, the current total vacancy rate is 3% or less.

3.3 LOS: Risk and Limitations

For each of the asset LOS identified earlier the data source and period and the risks and limitations of not achieving the outlined LOS are identified in the table below:

Table 13: FCI Score Outline

Asset LOS	Data Source & Period	Risks and Limitations
• The average assessed portfolio FCI score is within the fair range by 2029 (0.21-0.41).	• FCI scores are reported using VFA. • For reporting purposes, the assessed portfolio's average FCI score is captured annually in the month of January. • The assessed portfolio's FCI score in 2029 is the determinant of success. • FCI Score categorization is as outlined in Section 2.2. of the AMP	• Insufficient funding levels render this LOS impossible to achieve. • New Building Condition Assessments reveal that condition degradation has occurred at a faster rate than predicted and as a result FCI scores are worse than projected

Table 14: High Priority Requirements Remediation LOS Outline

Asset LOS	Data Source & Period	Risks and Limitations
• 100% remediation of the identified high priority requirements within 10 years of the AMP.	• All requirements are derived from VFA and categorized into priority levels by LMCH. • High priority requirements for the period of 2020-2029 have a total estimated cost of $59.94 million. • Remediation means that the requirement has been replaced and/or extensively repaired such that its useful life is reset.	• Significant levels of unplanned failures and breakdowns in other priority categories necessitate the funds allocated to high priority requirements are shifted to other priority categories. • Insufficient levels of funding may make it impossible for LMCH to meet this LOS.[11]

Table 15: KPI LOS Outline

Asset LOS	Data Source & Period	Risks and Limitations
• Work Orders are completed within categorical maximum response times.	• Please refer to Appendix 4 to review in detail categorical maximum response times. • For this LOS all reported work orders are completed by LMCH maintenance staff only. • Work order statistics will be gathered, measured, and reported on an annual basis	• There are not enough staffing resources to complete work orders within the prescribed time period. • The number of work orders created on an annual basis increases significantly. • The work order management system has severe reporting challenges and the data collected is deemed unreliable. • Comprehensive, and long-term solutions require more funding than is available; work orders become perpetual.

[11] High Priority requirements are as defined in the 2020-2029 AMP as of January 2020. This LOS commits to resolving 100% of establish high priority requirements by the end of 2029.

Table 16: Building KPI LOS

Asset LOS	Data Source & Period	Risks and Limitations
• Monthly portfolio-wide building Key Performance Indices (KPI's) have an average portfolio score of 80% or higher.	• Once a month each building within the portfolio is inspected, reviewed for compliance with building condition and administration, and given a score out of 100 (see Appendix 3). • Inspections are completed by LMCH staff. • The portfolio average is the sum of each buildings KPI score divided by the number of properties in the portfolio.	• Severe and/or unexpected damage results in repeated failure and/or sustained service disruption of select components which negatively and significantly impact the KPI score for an extended period of time. • Insufficient HR staffing resources available to complete monthly KPI inspection and reporting.

Table 17: Unit Turnover LOS

Asset LOS	Data Source & Period	Risks and Limitations
• On a portfolio basis, the current total vacancy rate is 3% or less.	• Please refer to Appendix 5 to review vacancy rate definitions. • Unit turnover data is created, stored, and retrieved from InSite, an administrative program used by LMCH. • All reported unit turnovers are completed by LMCH maintenance staff only. • Data analysis is completed twice annually.	• There are not enough LMCH staffing resources and/or units turnover too quickly to complete unit turnover within the prescribed time period. • Comprehensive, and long-term solutions (i.e. tenant support) require more funding, permissions, or policy changes than are available and unit turnover becomes perpetual.

3.4 Desired LOS

Desired LOS describe the ideal performance level of each Asset LOS. In some cases, the desired LOS may be very specific and prescriptive while in others it is more general. An example of a very specific desired LOS is an exact KPI score (e.g. portfolio average of 82.5%); a more general desired LOS is to improve the average KPI score each year.

Both approaches have value when appropriately applied, but when inappropriately applied can actually be detrimental. For example, being excessively specific about a KPI score may result in premature stagnation once the desired LOS is achieved. Conversely, not being specific enough can make it difficult to measure and report on performance.

In consideration of the advantages and disadvantages of specificity and generalization, the following desired LOS performance targets were determined:

Table 18: LOS Current & Desired Performance

Asset LOS	Current LOS Performance	Desired LOS Performance Target
• The average assessed portfolio FCI score is within the fair range by 2029 (0.21-0.41).	• January 2020 assessed portfolio weighted average FCI score: 0.41.	↔
• Remediate 100% of the identified high priority requirements within 10 years of the AMP.	• Information to be reported for Fiscal 2020 year-end.	Not applicable at this point in time.
• Monthly Portfolio wide building Key Performance Indices (KPI's) have an average portfolio score of 80% or higher.	• The 2018 average portfolio KPI score was 75%.	↑
• Work Orders (WO) are complete within categorical maximum response times.	• By category, 2/5 or 40% of WOs were completed with-in the categorical times.	↑

Asset LOS	Current LOS Performance	Desired LOS Performance Target
• Current Total Vacancy rate is 3% or less.	• As of February 2020 month end the current total vacancy rate was 4.2%.	↑

Table 19: Legend

↑	Desired Performance level to increase from existing
↓	Desired Performance level to decrease from existing
↔	Desired Performance level is to maintain existing

These LOS were determined with a clear understanding that, after their implementation, the LOS will be evaluated, in some instances may be revised, removed, and/or new LOS created. These revisions may be for a variety of reasons, including:

- Evaluation of existing LOS indicates that the metric is no longer appropriate
- Changes to corporate goals and outcomes necessiatate revisions to existing LOS
- Existing LOS can no longer be measured (e.g. impassable barriers to collection of information)
- There is significant risk posed by not measuring LOS
- There is singnificant opportunity posed by measuring LOS
- The LOS are no suitable at the current time but may not be fit fot the future

Section 4.0: Lifecycle Management

A long-range strategy that supports the advancement of organizational goals and aligns with the mission and vision are important components of a comprehensive AMP. This section outlines the lifecycle activities of LMCH assets and provides strategies and tools to address current and forthcoming asset requirements to achieve the desired LOS. The need for portfolio growth and opportunities for mixed-income models is also discussed, highlighting other LHCs that have successfully implemented and operationalized mixed-income models.

4.1 Lifecycle Management Activities

Lifecycle management is the process of optimizing value in assets throughout their lifecycle using a series of planned actions that enable the asset to deliver the LOS while managing risk and doing so at the lowest cost. There are several different types of lifecycle activities; these are:

Table 20: Lifecycle Activity Definitions

Lifecycle Activity	Definition
Non-Infrastructure	Actions or policies that can lower costs and/or extend asset life.
Maintenance	Regularly scheduled inspections and maintenance, or more significant repair activities associated with unexpected events.
Rehabilitation	Significant treatments designed to extend the life of the asset.
Replacement	Activities that are expected to occur once an asset has reached the end of its useful life.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life, or when it is no longer needed.

Lifecycle Activity	Definition
Service Improvement	Planned activities required to improve an asset's capacity, quality, and/or system reliability.
Growth	Planned activities required to extend services to previously unserved areas or expand services to meet growth demands.

Lifecycle management must consider the specific needs of each asset within the portfolio in conjunction with the mission of the organization, the resources available, and current and future risks and opportunities. The follow tables and sections outline each of the seven-lifecycle activities and their application to LMCH, noting strategies to obtain the desired outcome and tools to deploy the strategies.

Table 21: Non-Infrastructure Lifecycle Activities Strategies and Tools

LMCH Example	Strategies	Tools (to deploy strategies)
• More appropriate tenant placement, and improved support services to reduce behavioral issues and consequently willful property neglect and damage. • Development and adherence to an AMP so that assets are most effectively managed and capital work is prudently selected.	**Mixed Income Model:** Implementation of a mixed income model or demographic re-alignment by for example, mixing adults and seniors in the same building. **Repositioning:** Stabilize the tenant base through significant social intervention, supports, programming and partnerships and, in due time, positioning the asset to adopt a mixed income model.	**Developing Community Profiles:** Consider discontinuing the placement of tenants by site (e.g. adult-only sites and seniors-only sites) and instead integrating more diverse tenant profiles into sites to develop communities by reducing demographic silos (e.g. adding seniors to family sites). **Tenant Placement & Support:** Place more appropriate and increased levels of support alongside tenants with complex needs, and combine with appropriate program management. Collaborate with community partners to advance housing and whole-life stability. **Intensifying Community Use:** Increase the availability and use of onsite community space for community programs. By providing tenants with resources to improve their wellbeing, it is predicted that willful property damage and neglect will be reduced, which will decrease property costs and extend asset life.

4.1.1 Mixed Income Models

Mixed income housing occurs where there is a variety of housing unit types (e.g. apartment, townhomes etc.) and/or a tenant base with a diversity of income levels. Mixed income housing provides a mechanism to reduce poverty concentration and combat residential segregation while improving financial and social sustainability. The following sections discusses how other LHC's have implemented mixed income models, and highlights the significant need for various levels of affordable housing.

4.1.2 Examples of Effective LHC Mixed-Income Models

There are several examples of highly successful mixed income buildings managed by LHCs that can serve as a reference to guide LMCH's approach to mixed income communities.

Peterborough Housing Corporation (PHC), which is the largest provider of RGI housing in the City of Peterborough and the surrounding county created a development subsidiary, *Finally a Home*, and completed their first development in 2006. To date, *Finally a Home* has been the most active developer of affordable housing in the Peterborough region. Their developments are diverse and even consist of a two-phase supportive seniors building containing 81 units across six stories. The building design includes two main floor lounges, full and private dining rooms, a commercial kitchen, and an area for care workers and scooter storage. The site will also house a daycare and a community hub for a care agency. There will be 50 supportive one and two-bedroom units with 24/7 care and three meals a day at a significantly subsidized cost. The remaining 31 units will be affordable and high-end market with services purchased. The profit for purpose driven development uses the increased cash flow from the affordable and high-end market units to offset costs for the supportive units, while providing high quality, comprehensive care and service standards for *all* residents (Peterborough Housing Corporation, 2019).

Other LHCs with mixed income communities have observed several community benefits, such as:

- More engaged communities (anecdotally, the affordable tenants become activity and association leaders within the buildings or communities).

- Enhanced pride of ownership for tenants.

- De-stigmatization can occur because once portions of tenants have chosen the building there is a sense that it is no longer a community housing project, but a reasonably priced community. Public perception can shift dramatically as a result.

- The self-esteem of existing tenants can improve as a result of the negative address perception being reduced (Housing, 2018).

In the LMCH context, employing a mixed-income strategy requires the support of the Shareholder, as the current operating framework does not permit anything other than 100% RGI tenancies.

Mixed-income models provide an affordable option for various income levels, create opportunities for movement within the housing continuum (Figure 7), and deliver an important increment in the housing continuum.

Figure 7: Housing Continuum

Providing a housing model, like mixed income, that supports tenants at a critical time in their journey through the continuum is a cornerstone of LMCH's vision to:

> "Envision healthy homes and communities in London and Middlesex. Leading by example, LMHC will help make a difference and positively impact lives using housing as the foundation."

4.1.3 The Importance of LMCH's Portfolio Growth

The large and growing community housing waitlist is a clear demonstration of the significant need for more affordable housing in the City of London and County of

Middlesex. Since 2016, the local housing waitlist has increased by 70%. As of March 2019, there were approximately 4,800 people eligible and waiting for available community housing in London-Middlesex. The length of time it takes for a unit to become available depends on a range of factors, such as application date, applications status, amount of building selections, refusals, and acceptance from the housing provider. For individuals with an SPP or Urgent status, the average wait time is approximately 1-3 years and, for individuals with a non-urgent status, the average wait time is approximately 4-7 years (D. Calderwood-Smith, personal communications, May 2 2019). The demand for affordable housing is so great that, even for urgent cases, there is a shift from measuring wait times by days and months to measuring it by years.

The clear pressure on the housing stock dictates that net growth in unit count, in tandem with rehabilitation of the existing portfolio, are pressing priorities for LMCH and the broader housing community. LMCH's portfolio growth can also enable more financial sustainability, greater tenant support, improved tenant placement, and more opportunities for movement across the housing continuum.

In accordance with the growing demands for housing, and as part of its strategic development, LMCH set a goal to increase the number of homes it provides over the next 10 years. LMCH set the following goals related to the growth and rehabilitation of its portfolio:

1. To transform pathways into LMCH through informed policy and processes that create conditions to support the right person in the right place and improves housing stability.

2. To care for and engage stakeholders by working together to manage any impacts of capital projects and striving to create positive outcomes for all.

3. To create healthy homes and communities by integrating physical design, tenant diversity, and affordability into vibrant neighbourhoods to eliminate stigma.

As the cost of housing increases, the number of residents paying an unaffordable sum – defined as more than 30% of gross income – for housing costs has increased. This growth in unaffordable shelter costs results in significant cost burdens on citizens and highlights the importance of LMCH's portfolio growth. This need for affordable housing is clearly displayed by the relationship between rental costs and income levels.

For example, in 2018 the average monthly market rent for a 3-bedroom apartment in London was $1,240. Relative to other urban markets this is an affordable rate, but with

Ontario's minimum wage of $14/hour and London's level of unemployment, market rent is not affordable for a large segment of the population. Table 22 below outlines the unaffordability of housing for single earners or lone-parent households who represent a large segment of London's population.

Table 22: Market Rent vs. Minimum Wage Income

Average 2018 Market Monthly Rent, 3 Bed Unit, London	"Affordable[12]" Monthly rent, 3 Bed Unit, London	Required Gross household Income for "Affordable", 3 Bed unit, London	Gross Income, Single Person, 35 hr/week, 52 wk/yr, Minimum Wage
$1,240 (plus utilities)	95% AMR $1,178	$47,120 (95% AMR)	$25,480
	70% AMR $868	$34,000 (70% AMR)	

These figures illustrate that even where an individual is able to work full-time their earnings are often insufficient to cover the cost of housing, both at market and "affordable" rates. The affordability challenge is especially severe in cases where an individual is unable to work.

Other personal challenges, like mental health and substance abuse, negatively affect one's ability to find, secure, and afford stable housing. Substance abuse is a widespread issue in Canada and opioids are a public health emergency. Opioids particularly affect London, a mid-sized city, which had the third and fifth highest rates of opioid overdoses in Canada in 2017 and in 2018 respectively (Canadian Institute for Health Information, 2018, p. 22). Marginalized populations on low-income also tend to suffer from homelessness and/or housing instability, (and often receive SPP status). Disproportionately, such populations experience the challenges associated with low-income: high and increasing costs for shelter, low employment rates and personal challenges. Accordingly, the Canadian Centre on Substance Abuse identifies housing as a key socioeconomic determinant of health (Canadian Centre on Substance Abuse, 2014, p. 6).

In addition to these factors, inward migration to the Southwestern, Ontario has been almost explosive in nature. Net International migration to the region fluctuated between 5, 000 and 10,000 persons annually for the period of 2001 to 2009 and then increased to 15,200 persons by 2016. Figure 8, below outlines this migration trend (Berlin, 2019).

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[12] Developers are able to improve soning outcomes (e.g. higher permitted build density) by providing public benefits like affordable housing (known as "bonusing"). By leveraging bonusing, the developers can drastically increase density by committing to as little as 3% affordable content. Affordability in the context of bonused buildings can be as high as 95% of average market rent (C. Saunders, 2018, p.2)

Components of Population Change, Southwestern Ontario
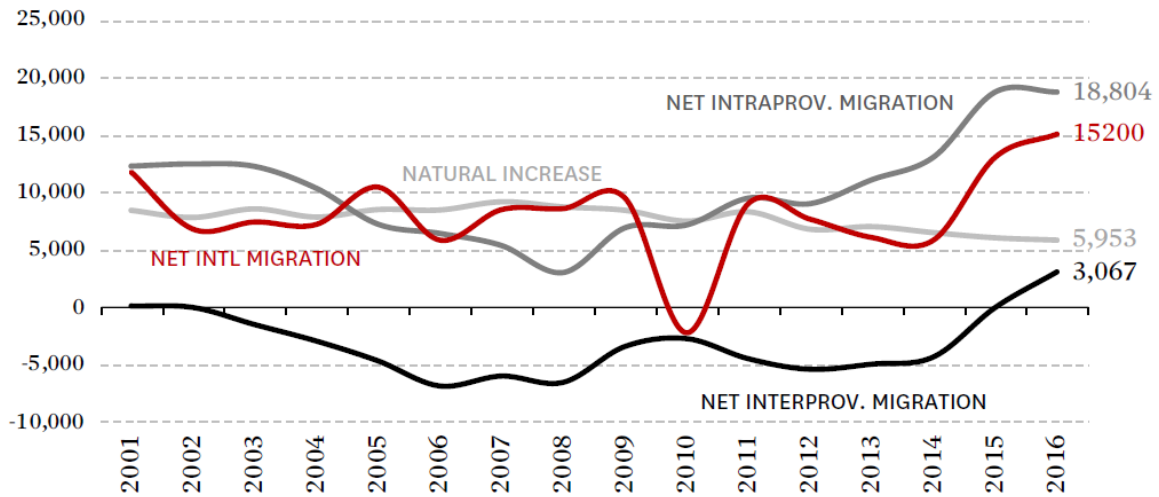### 2001/02 - 2016/17

Figure 8: Population Growth, Southwestern Ontario

The reality of high market rents relative to entry-level employment income, migration trends and other social factors (i.e. mental health and drug use) are further increasing the public demand for community housing. LMCH is bearing a significant burden of the housing pressure because it manages 41% of the City's community housing units. This does not account for the fact that, unlike LMCH (at present), the majority of other community housing providers have mandated targets to house *both* market and RGI tenants, thus creating mixed-income communities.

4.2 Lifecycle Management Activities: Continued

In addition to growth, several other lifecycle activities are crucial to LMCH's operation. Strategies and tools to deploy these strategies are outlined in the following tables:

Table 23: Maintenance Strategies & Tools

LMCH Example	Strategies	Tools to deploy Strategies
• Annual unit inspections to proactively identify and repair maintenance issues. • Building KPI inspection program to identify issues. • Completion of work orders. • Responding to unexpected asset component failure.	**Long Term Stewardship:** Complete regularly scheduled maintenance activities, respond to unexpected events and failures as required.	**KPI Trend Analysis:** Review results of KPI inspections and annual unit inspections to identify, assess, and respond to trends. **Preventative Maintenance**: As much as possible make regular investments in key building components to extend their life, and improve their performance, and reliability.

Table 24: Rehabilitation Strategies & Tools

LMCH Example	Strategies	Tools to deploy Strategies
• Epoxy pipe lining to seal leaks, prevent further corrosion and leaching and protect against water damage. • Building envelope scheme.	**Asset Life Extension**: Extend the life of assets as much as possible through significant treatments. Continue these treatments only as long as they are cost effective (i.e. cost of rehabilitation is not in excess of cost of replacement). **Preventative based Rehabilitation:** Identify measures to reduce the rate and potential for asset deterioration and implement where cost effective. May include strategies like bathroom fans connected to light switches to reduce and prevent moisture issues.	**Major Components Condition Review:** Review major building component on a regular basis to ensure that rehabilitation can be deployed rather than the asset deteriorating to the point that rehabilitation is no longer an option. **Project Management**: Provide appropriate levels of project management to all capital projects to ensure that capital work adheres to contractual specification with all deficiencies corrected before project close out.

Table 25: Replacement Strategies & Tools

LMCH Example	Strategies	Tools to deploy Strategies
• Replacement of major building components e.g. roofing, windows, make-up air units.	**Capital Investment Program:** Where existing requirements have no remaining useful life, and/or are a high priority requirement with a high-risk score, the requirement is replaced.	**Risk Management:** Review building requirements, identify their priority grouping and evaluate the risk they hold. Use this information to select capital projects within a constrained fiscal environment. **Project Specification & Design:** Complete thorough analysis of construction and operating costs and benefit to ensure prudent selection of project design and specifications. **Condition Review:** Review major building components before replacement to ensure that replacement is necessary and appropriate.

Table 26: Disposal Strategies & Tools

LMCH Example	Strategies	Tools to deploy Strategies
• LMCH is currently not permitted to sell its core assets.	**Asset Disposal and Investment:** Where it makes more economic sense to dispose of assets, sell and use the proceeds for more suitable development. This is subject to Service Manager permission.	**Research & Due Diligence:** Complete thorough analysis of carrying costs, housing benefit, cost of alternative housing, and cost of disposal prior to any final disposal decision. **Salvage Value Maximization:** Where cost effective and executable, salvage all remaining value from assets prior to their disposal.

Table 27: Service Improvement Strategies & Tools

LMCH Example	Strategies	Tools to deploy Strategies
• Advance information technology services on housing sites to improve service quality and communication effectiveness. • Replace existing requirements with higher quality replacements.	**Use of Technology:** Implement new technology resources that improve service delivery, reduce cost of service, and/or improve quality (e.g. improved communication technology between head office and site shops for more streamlined communication and administration). **High Need, High Benefit:** Invest where the needs are highest, the benefits are the greatest, and the costs are most reasonable.	**Cross Departmental Initiatives:** Engaging the Information Technology department in discussions related to strategies for improving assets using information technology tools. This provides the asset management department with another vantage point and knowledge source to encourage innovation and service improvement. **Staff Awareness, Training, and Collaboration:** Encourage asset management staff to attend conferences, collaborate with other LHC's, and engage industry partners to learn about new and innovative building technologies, building management practices and strategies. **Investigation:** Evaluate all potential service improvements and prioritize based on alignment with corporate goals, prevalence of needs, benefits, costs, and operational impacts.

Table 28: Growth Strategies & Tools

LMCH Example	Strategies	Tools to deploy Strategies
• New unit construction to service increased demand for housing.	**Acquisition of New Sites or Conversion Opportunities:** Acquire already developed multi-residential properties and/or acquire already developed non-residential properties with a plan to convert to residential. **Surplus Land Utilization:** Use surplus land available on existing LMCH sites to facilitate incremental development and densification.	**Shareholder Engagement:** Continue developing a strong working relationship with the shareholder that supports and encourages pursuit and attainment of growth opportunities. **Partnerships & Programs:** Engage with partners, like CMHC, for funding opportunities, expertise, and partnerships with the objective of unit growth.

4.2 Lifecycle Practices & Associated Risks

These following planned activities enable the asset to provide the desired LOS (discussed in section 5) in a sustainable way, while managing risk, at the lowest life cycle cost. The operational and/or capital budgets finance these activities, which for LMCH are as follows:

1. Non-Infrastructure Solutions
2. Maintenance Activities
3. Rehabilitation
4. Replacement
5. Disposal Activities
6. Growth
7. Service Improvement

Table 29: Lifecycle Activities, Actions & Risks

Activites	Practices or Planned Actions	Risks Associated with Planned Actions or Practices
Non-infrastructure solutions	• Development of LMCH's AMP. • Development and Implementation of LOS. • Permission from the shareholder to address and respond to issues differently (e.g. hold reserves, debt-finance, implement mixed income models, and revise 9/10 rule). • Increased and improved social supports to improve tenant outcomes and reduce willful damage and neglect.	• Lack of realization of benefits from the activity: i.e. AMP is not adhered to, social supports do not result in the intended effect. • The shareholder does not provide requested changes; foundational issues are not fully addressed.
Maintenance Activities	• Continue the Building KPI regular inspection program for key asstes. • Continue annual unit inspection program to proactively identify and address maintenance and repair needs.	• Inconsistent building KPI reporting due to potential for bias, improper result tracking, and/or ineffective utilization of information. • Insufficient capacity to fully execute planned maintenance activities (e.g. unit inspection) in conjunction with reactive maintenance activities (e.g. work orders).

Activites	Practices or Planned Actions	Risks Associated with Planned Actions or Practices
Rehabilitation	• Updates that extend the life of existing assets. Updates may include roof patching, epoxy pipe lining to reduce pinhole leaks, significant repair and rehabilitation to various elevator components to extend elevator life.	• Project is premised on incorrect assumptions, design specifications, and/or construction and anticipated benefits (i.e. extended useful life) do not fully materialize. • Cost of rehabilitation is marginally less than or equal to the cost of rehabilitation; total overall costs of rehabilitation is in fact higher than replacement.
Replacement	• Replacement of major building components that have served their useful life and/or are at significant risk of failure or have already failed.	• Design is of poor quality, equipment is not appropriately specified, project is poorly administered and/or there are significant scope changes.
Disposal Activities	• Sell assets that are difficult, time-consuming, and costly to maintain and invest sale proceeds into new development and acquisitions.	• Assets sold are more operationally efficient and better suited than assets acquired.

Activites	Practices or Planned Actions	Risks Associated with Planned Actions or Practices
Growth	• Increase in the number of housing units LMCH has to offer. • Improve land utilization of existing properties to facilitate growth. • Modify and/or improve existing asset's design for more optimal space utilization.	• Unit type and size are incorrectly estimated; demand is not effectively met and asset loses operational efficiencies (e.g. higher vacancies). • Costs are in excess of budget and projects take longer than projected.
Service Improvement Activities	• Advance information technology resources to gain operational efficiencies. • Building components that improve operational efficiency of building and/or aesthetic appearance. • Higher quality building components where investment is justified by needs and benefits.	• Inconsistent building KPI reporting due to potential for bias, improper result tracking, and/or ineffective utilization of information. • Insufficient capacity to fully execute planned maintenance activities (e.g. unit inspection) in conjunction with reactive maintenance activities (e.g. work orders).

4.3 Asset Lifecycle Management Strategy: Current Budget

The relationship between the current funding levels and projected condition of the portfolio is an important tool for informing and justifying budgets. This understanding also provides a clear view of the implications of budget decisions, including the ability to meet the identified LOS metrics. LMCH identified LOS in section 4 of the report. As identified below in Figure 9, two of these LOS are particularly impacted by funding.

> **Asset LOS**
>
> The assessed portfolio average FCI is in fair condition by the end of 2029.

> **Asset LOS**
>
> 100% of identified High Impact Requirements are remediated by the end of 2029.
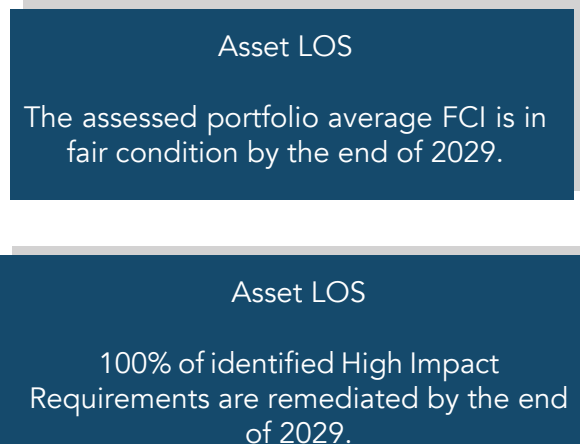
Figure 9: Asset LOS

To understand the current and forecasted relationship between funding, the assessed portfolio's average FCI score, and high priority requirements, LMCH modelled the assessed portfolio's average FCI score over a 10 year period based on the capital funding provided as a result of the approval of the 2020-2023 Business Case (#12 Infrastructure Gap). Even with the significant increase in capital funding, the analysis revealed that the assessed portfolios average FCI score will continue to decline and that the LOS metric to maintain the FCI score within the fair range (0.21-0.41) will not be met.

By 2021, the assessed portfolio's average FCI score reaches 0.48, which is a critical tipping point in the middle of the poor range. By 2025, the assessed portfolio's average FCI score is 0.57 and very poor. These results are presented in Table 30 and Figure 10 below.

Table 30: Projected FCI Score with Approved Annual Capital Budget

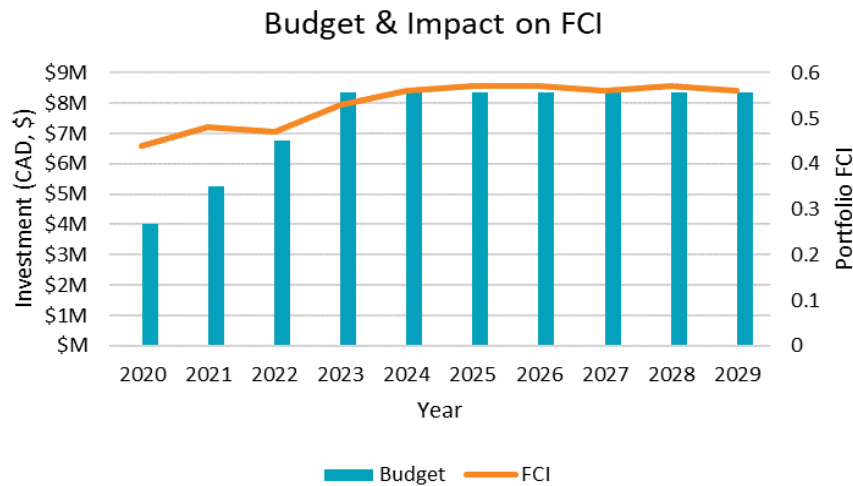| Year	Funding (in 000's)	Portfolio FCI
2020	4,000	0.44
2021	5,250	0.48
2022	6,750	0.47
2023	8,350	0.53
2024	8,350	0.56
2025	8,350	0.57
2026	8,350	0.57
2027	8,350	0.56
2028	8,350	0.57
2029	8,350	0.56
TOTAL	$74,450	

Figure 10: Assessed Portfolio's Projected Annual FCI Score

The second LOS is to remediate 100% of the high priority requirements within 10 years of the AMP. To achieve this LOS, an annual investment of approximately 10% (or $5.94 million)

of the total high priority requirement costs ($59,941,000) is required.

Historically, a total of $2.2 million of regular capital funding was provided annually. This indicates that the historical total regular capital funding was about a third of the total required capital funding for high priority requirements alone. Fortunately, there have been recent changes to capital funding which will result in capital funding of $4 million in 2020, $5.25 million in 2021, $7.25 million in 2022, and $8.25 million in 2023. While this is a monumental increase, it is still substantially less than the necessary capital funding required to remediate the high priority requirements, and maintain the assessed portfolios average FCI score within the fair category by 2029.

4.4 Asset Lifecycle Management Strategy: Optimum Budget

As indicated in Table 31 and Figure 11 below, the capital budget required to prevent the decline of LMCH properties, beyond an average FCI score of 0.35 within ten years is $22.72 million annually, or $ 227.2 M over ten years.

Table 31: Required Capital Budget to Maintain FCI score in Fair Range by 2029

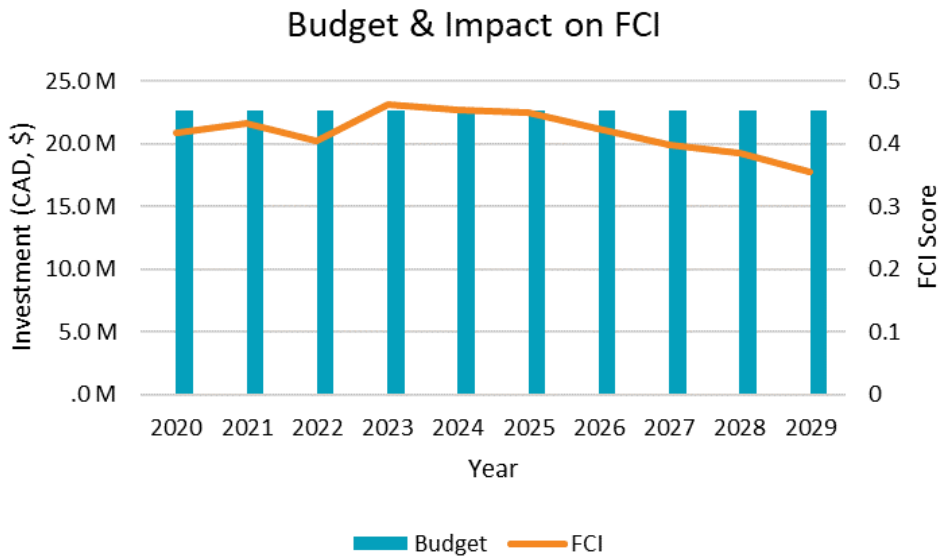| Year	Funding (in 000's)	Portfolio FCI
2020	$22,720	0.418
2021	$22,720	0.433
2022	$22,720	0.405
2023	$22,720	0.464
2024	$22,720	0.455
2025	$22,720	0.450
2026	$22,720	0.425
2027	$22,720	0.398
2028	$22,720	0.386
2029	$22,720	0.355
TOTAL	$227,210	

Budget & Impact on FCI

Figure 11: FCI Score Shift by Year with Requested Capital Funding

The second LOS is the full remediation of high priority requirements within the 10 years of the AMP. To achieve this LOS, a total of $59.30 million would be required over a period of 10 years, representing on an average annual basis $5.93 M. If the optimum budget (as outlined in table 19 above) were provided an average annual allocation of $5.93 M for high priority requirements could be achieved, and over a 10 year period all assessed high priority requirements would be addressed.

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[13] Please Note that cost estimates have been extrapolated to represent LMCH's complete portfolio (3276 units) excluding those "out of stock".

Section 5.0: Requirement Priority & Risk Management

Earlier sections of the AMP outlined the current state of the assets, levels of service, and lifecycle management. To provide the reader with important context and background information this section of the AMP defines priority groupings and outlines how risk is calculated, and how it may influence capital project decisions.

5.1 Introduction

Inherent in the management of public funds and assets is the assumption of risk. In the context of asset management, risk is a function of the probability of failure multiplied by the consequence of failure. Risks that materialize have a wide range of consequences, including:

- **Health and safety:** Asset failure results in health and/or safety threat or impact to staff, tenants, and/or the public at large. Emergency response services (e.g. fire, ambulance) are required.
- **Regulations and Legal:** Asset failure or non-compliance resulting in penalties and/or additional expenditures (e.g. fines) related to the violation and/or resolution of the issue.
- **Reputation:** Actions that LMCH takes or fails to take impact various stakeholders (e.g. London residents, LMCH tenants, community stakeholders) and damage LMCH's reputation.
- **Social:** Failures that negatively affect the social wellbeing of tenants, their families, and the broader community.
- **Service Delivery:** Asset failure that results in disruption of service, or reduced levels of service.
- **Environmental:** Asset failure resulting in damage to the natural environment, including its species and habitats.
- **Financial:** asset failure resulting in class action lawsuits, significant and unexpected repair costs, operational inefficiencies, and/or loss in revenue.

Historically, LMCH has managed risk by identifying obvious risks and leveraging professional experience and external consultations to detect other noteworthy risks. As much as possible the organization has pro-actively managed risks—i.e. making obvious repairs, prioritizing investment to critical building components.

However, LMCH must systematically and rigorously manage its risks most effectively. This is a necessity for many reasons. Predominantly, these reasons are:

1. The old age and declining condition of the portfolio results in heightened asset risk that demands significant risk management efforts.

2. Fiscal constraints necessitate optimized decisions, which relies on having a robust knowledge of risk.

3. Health and safety are paramount; a comprehensive understanding and management of risk is central to the ability to safeguard public health and safety.

5.2 Priority Groupings

When making capital investment decisions within a constrained fiscal reality, investment prioritization is crucial. The basis of prioritization is generally a reflection of the organization's values, missions, goals, and funding realities.

Prioritization enables organizations to narrow their focus of investment in a consistent manner that works towards the realization of values, missions, and goals. LMCH's mission is to provide and maintain homes to meet the needs of tenants, with a vision for healthy homes and communities. There are seven (7) strategic goals and objectives that focus on maintaining and improving the housing stock while simultaneously improving organizational capacity, effectiveness, and sustainability.

To maintain and improve the existing housing stock to the greatest extent possible a few foundational relationships must be recognized:

1. Investment should be prioritized to building systems and components that affect critical service delivery to the largest volume of tenants. Generally, these are central building systems in high-rise buildings.

2. Investment should be made first to critical systems, such as life safety systems and HVAC systems.

3. Some building components will effectively function well beyond their anticipated useful life (e.g. interior doors) and in the event of failure result in limited consequences. As much as possible, these building components should be run to their failure.

4. Prioritizing investment enhances organizational effectiveness. For example, investing in central building systems that affect many tenants means there are less serious operational challenges because critical building systems do not fail as often and/or as catastrophically.
5. There must be a consideration for the demographics of the building and tenants' ability to utilize alternative, short-term solutions-i.e. ability to use stairs during elevator shutdown.

Recognizing these principles, LMCH's subject matter experts who hold both a strong working knowledge of the real property assets coupled with extensive industry experience reviewed 2020-2029 requirements and grouped them into the following four priority categories:

Table 32: Requirement Priority Categories

Priority	Description	Example
High Priority	Requirements are critical and central to the building's operation. They are often in large buildings and should be replaced within their useful life period rather than run to their failure.	**Lone elevator in a high-rise, seniors building:** This requirement meets the critical need for access throughout the building. It is within a multi-residential building that houses seniors who more frequently have mobility challenges. There may be no secondary elevator.
Medium Priority	Requirements are very important to the buildings' operation, but not critical. They are in multi-residential buildings and should be replaced when they have served their useful life, but no later.	**A hot water heater in a high-rise building:** Failure of a hot water heater negatively affects the buildings operation, but not in foundational ways, (i.e. tenants still have access to water).
Low Priority	The impacts of a requirements failure are generally isolated to a floor or a few units. The system provides services that are not critical to the building.	**Storm sewer catch basin renewal:** A limited number of tenants are impacted by the failure of this system. The system provides important

Priority	Description	Example
Low Priority	As much as possible, the requirement should be run to, or close to, their failure.	services, but they are not regularly used. Unless other external factors are causing the accelerated decline, the system should be run close to its failure.
Limited Priority	Requirements are specific to units and their failure does not affect other units. These are not central systems and generally should be replaced when they have failed.	**Interior doors:** Interior doors are specific to a single unit; their failure has no effect on other tenants or units. If they are functional and meet regulations, they should not be replaced.

Grouping requirements by priority levels allows meaningful categorizing of a significant amount of assorted requirement data. This assists in narrowing the focus as to where—to the extent possible—investment should be made. It still recognizes, that requirements within all priority groupings (including low and limited) will fail and require capital investment. Generally, low and limited requirements will be funded as they break; however, where there is chronic failure or unacceptable condition of specific requirements (e.g. flooring) a more focused and systematic replacement and accompanying capital investment may be required.

Having identified broad priority levels for requirements it is then valuable to drill down further and understand the level of risk that each requirement within a priority level carries.

5.3 Risk Criteria

The risk of asset failure is the probability that a component will fail multiplied by the consequences of its failure. To quantify risk, it is necessary to identify consequence and probability criteria and then to objectively quantify their associated scores.

Given this need, LMCH established criteria relating to the probability of failure and

Requirement Priority & Risk Management

consequence of failure. For each requirement in high and medium priority groupings, probability and consequence of failure criteria were evaluated and awarded a score between 0 and 25. Requirements within the low and limited priority grouping were not evaluated from a risk perspective.

High and medium priority requirements were evaluated for their probability of failure based on the following scale and criteria:

Table 33: Probability of Failure Score Ranges

Probability of Failure		
Probability Score Range	Frequency of Event Occurrence	Likelihood of re-occurrence
0-5	Event has not occurred	Very low
6-10	Event has occurred elsewhere or at LMCH in extreme isolation	Low
11-15	Failure can and may occur	Medium
16-20	Failure has occurred and may occur again	High

1. **Probability of Failure Criteria: Risk Failure**

   This is the likelihood of a building component failing to function as designed. Some building components, like interior doors, may have exceeded their useful life, but despite that have a low risk of failing. Other building components, like a boiler, have a much higher risk of failure especially once their useful life has been exceeded.

High and medium priority requirements were also evaluated for their consequence of failure based on the following scale and using the below criterions:

Table 34: Consequence of Failure Score Ranges

Consequence of Failure		
Consequence Score Range	Consequence Description	Consequence Descriptor
0-5	Minimal service delivery affects, no or very minimal legal and/or regulatory issues, minimal reputational scrutiny or environmental impacts.	Minimal
6-10	Modest service delivery affects, greater propensity for legal and/or regulatory issues, some reputational and/or environmental harm.	Marginal
11-15	Direct service delivery impacts, presence of legal and/or regulatory issues, some reputational and/or environmental harm.	Serious
16-20	Direct and significant service delivery impacts, substantial legal issues and certain, serious regulatory violation, reputational and environmental harm.	Critical
20-25	Service delivery is entirely or substaintially unavailable, legal issues are certain, serious regulatory violations, catastrophic reputational and/or environmental harm.	Catastrophic

2. Consequence of Failure Criteria: Criticality

Criticality is the degree to which the requirement is critical to the functionality of a building. For example, the heating and ventilation system is an incredibly important building component but a newly painted hallway, while esthetically pleasing, does not affect a building's function. Thus, a heating and ventilation system would score much higher in the criticality criterion than a painted hallway would.

3. Consequence of Failure Criteria: Severity

This considers the safety risks for building components should they fail, and the availability (or lack thereof) of backup components or alternative solutions. Fire alarms and sprinklers are building components that hold serious safety risks if they do not properly function and often they do not have a backup system. Therefore the severity of their impact, should they fail, is extremely high.

Requirement Priority & Risk Management

4. Consequence of Failure Criteria: Tenant Impact

Tenant impact considers how many tenants are impacted by a building component failure, and the duration and level of severity of that impact. Tenant impacts cannot be frivolous; a single tenant who is bothered by the particular off white used in the hallway does not constitute any tenant impact. However, failure of hallway lighting in a multi-residential building affects every tenant, potentially for an extensive period of time, and in significant ways (e.g. tenant's physical safety and security).

5.4 Risk Analysis

The risk of asset failure is the probability that a component will fail multiplied by the consequences of its failure. There can be significant variation in the probability of failure amongst requirements; it may be extremely high representing failure that happens often, extremely low or improbable, meaning the failure has not happened before and is unlikely to happen at all, or somewhere in-between.

Similarly, the consequence of failure may be diverse in nature (i.e. environmental, financial, social) and variable in severity. For example, the consequence of the failure of an interior door has a limited impact on the safety of tenants (social), and the delivery of critical services (e.g. mechanical and electrical) of the building (service delivery). Conversely, the failure of a central heating system, for example, affects potentially hundreds of tenants in significant ways (social), may have significant unplanned financial implications (financial), and of course compromises the function of the building (service delivery). Given the range of probability and consequences of asset failure, it becomes clear that it is not only important to understand the portfolio's requirements as a whole, but also to quantify risk.

Requirement Priority & Risk Management

Risk Quantification:

To quantify risk the probability of failure score is multiplied by the sum of the consequence of failure criteria scores. Here is one example:

Table 35: Risk Score Calculation Example

Requirement Risk Score Calculation Example	
Probability of Failure Score	15
Consequence of failure: Critically	25
Consequence of failure: Severity	25
Consequence of failure: Tenant Impact	25
Consequence of Failure Score Sum[14]	75
Risk=Probability X Consequence	15 X 75
Risk Score	1,125

Computing each requirement's risk score provides an evaluation that is systematic, objective, and consistent. This is crucially important where capital funding is limited and capital needs are substantial.

Within each priority grouping where risk scores are computed (high and medium), a requirement may carry a risk score between 0 and 1875. Generally, high priority requirements will carry higher risk scores than medium priority requirements. Regardless of the priority grouping the higher the risk score the greater the probability of failure and the more severe the consequence of failure. The computed figure, the risk score, communicates the urgency for investment to the requirement and highlights the potential risk carried if the requirement does not receive appropriate and timely investment.

This method of risk assessment is powerful in its ability to meaningfully filter large amounts of data and objectively assess that data to provide useful information. The primary disadvantage of this method is its potential to overstate risk because the consequence of failure represents the worst-case scenario situation. Compared to other methods, this method is relatively simple and low cost.

5.4.1 Evaluating Risk: An Iterative Process

Both the probability of a requirement failing and the consequences of its failure will change

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[14] The use of consequence scores as the sum, average, and maximum of the three consequence criteria (critcality, severity, and tenant impact) was analyzed and it was determined that the use of consequence sum scores computes the most distinctive, informative and useful risk score distributions.

with time. For example, the probability of failure will generally increase with the age of the requirement; it may also increase from higher than normal use or other unique circumstances (e.g. growing trees lead to heightened wear and tear on the roof). The consequences of failure may also vary based on the introduction of new legislation and law, or the modification of existing. The fluctuating nature of risk indicates that the evaluation and reporting of it must be ongoing too.

5.5 Risk Responses

Understanding the risk carried by a requirement, the following responses are available:

- Avoid (significantly or completely) — Risk can be avoided in two ways:

  - Completely: disposing of the requirement that carries the risk (i.e. disposal) or discontinuing the service provided by the asset. This is generally not an option available for services provided by the public sector.

  - Significantly: Investing substantially in the requirement that carries the risk such that the risk carried is reduced to the lowest possible level. An example would be replacing a requirement like an old and poorly functioning furnace with a new, high functioning furnace. The replacement has a much lower probability of failure and therefore its risk is significantly reduced. This approach is generally expensive and can be complex to implement.

- Transfer— the risk carried by an asset or requirement is transferred to a third party (i.e. furnace rental as opposed to ownership).

- Mitigate –the risk is reduced through a variety of actions and initiatives (e.g. revised operational practices etc.). The depth of mitigation may vary significantly based on the approach and the level of risk carried by the requirement.

- Accept – the risk is accepted and carried (e.g. run to failure)[15].

LMCH has a limited opportunity or desire to respond by avoiding risk through disposal or dis-continued service because it is LMCH's mission and legislative duty to provide housing at specific service levels. This leaves LMCH with four predominant risk responses: avoid significantly, transfer, mitigate, and accept. Transferring risk may be a worthwhile option where it is operationally and cost-effective to the organization without compromising the

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[15] It is important to recognize that rosk may be a liability, but also an opportunity. For example, successfully utilizing an asset for 110% of its useful life rather than 100% generates capital cost savings.

level of service provided. Where transferring risk is not possible or advantageous to LMCH the remaining three risk responses—avoid significantly, mitigate and accept— must be evaluated.

Responding to risk by avoiding it significantly may be the determined approach where alternative responses (i.e. mitigate, accept) are not accepted due to the level of risk carried, and/or where alternative risk responses do not reduce risk levels substantially enough. Avoiding risk significantly is generally the most fiscally expensive of all approaches and tends to require a substantial investment of staff time dedicated to procurement and management of capital projects.

Mitigation is another risk response and may involve operational changes (e.g. increased maintenance) that reduce the probability of failure and/or the consequences of failure. Generally, where risk is low operational changes may be acceptable mitigations. However, where the risk is more severe, more intensive risk responses like significant avoidance may be most effective.

In other cases, particularly where the requirement is limited or low priority, accepting the risk may be the action taken. This means that the requirement will be in use as long as it is operational. Accepting risk is an important response when it can be reasonably determined that the risk carried is acceptably low.

Requirement priority groupings and risk scores are crucial tools to evaluate requirements and the risk they carry and then assess the most appropriate risk response. LMCH's risk management strategy is a multi-step process; thus far, we have discussed the first three steps:

1. Determine the appropriate priority grouping of the requirement: high, medium, low, and limited.

2. For all high and medium priority requirement determine the probability and consequence of failure, and then calculate the risk.

3. Within respective priority groupings, rank requirements by their risk score and use this information to help inform capital project decisions.

Where the best risk response is to avoid it significantly, fiscally evaluating how capital investment impacts the risk carried is another important tool for making informed and defensible capital investment decisions. Steps four (4) and beyond of the process produce important information to assist in this process:

Requirement Priority & Risk Management

1. Identify feasible interventions that reduce risk (e.g. operational practices, preventative maintenance, and capital investment).
2. Compare the cost of risk reduction with the level of risk reduction.
    i. For example, Requirement A is in high priority grouping and has a risk score of 400. Risk can be eliminated if a capital project to replace the requirement is advanced. The cost of the capital project is $100,000. Therefore the cost to reduce one unit of risk if $250
    ii. Requirement B is in high priority grouping and has a risk score of 500. Risk can be eliminated if a capital project to replace the requirement is advanced. The cost of the capital project is $150,000. Therefore, the cost to reduce one unit of risk is $300.
    iii. Therefore requirement A has a lower unit cost of risk reduction ($250 vs. $300), and is, therefore, a better fiscal investment.
3. Conduct further review on requirements that have a high and medium priority grouping, a high-risk score and a low per unit of risk cost. Technical considerations in conjunction with the alignment of corporate values and project feasibility will all be important considerations. Often, at this stage, external expert opinion may be sought.
4. Given the findings of the process determine how a requirement's risk will be managed- i.e. will the risk be carried, removed through the necessary investment or asset disposal, or otherwise reduced (e.g. preventative maintenance).

LMCH has operationalized steps 1-3 above and upon completion of the AMP 2020-2029 intends to begin working towards the implementation of steps 4 to 6.

5.5.1 Residual Risk

Regardless of the rigor of an institution's risk management policies and practices there is always a level of residual risk carried. Given this reality, it becomes essential to develop corporate risk management strategies.

LMCH has a Business Continuity Plan, which provides steps for responding to emergencies such as a sustained LMCH office closure, and emergency repairs at LMCH properties. Examples of emergency repairs include the loss of essential utilities, fires and fire alarm panel problems, and toxic spills. The document provides LMCH staff with a comprehensive overview of the procedure for responding to emergencies and includes relevant internal

and external contacts. A more succinct version of the plan was also developed for use and reference while on LMCH's properties.

5.6 Risk Implementation

Identifying requirement priority and understanding risk is a crucial component of LMCH's future. Recognizing this need and the development stage of asset management that LMCH is in, the following commitments and next steps are in order:

- LMCH will continue to categorize requirements priority groupings as defined in the AMP. To improve and refine this process LMCH will work to automate and sophisticate this process so that it is more manageable (i.e. less time-intensive) and objective. At the same time, LMCH recognizes that expert opinion is crucial for effectively assigning priority groupings and therefore will require a person based review of the priority groupings following the automated assignment.

- Similarly, risk as a function of probability and consequence of failure will be a multi-phased approach with the first analysis based on automated evaluation of criteria (i.e. size of building). To identify and correct data outliers and anomalies, LMCH staff will review and as appropriate adjust the data.

- Following the identification of priority groupings and the computation of risk scores for requirements within high and medium priority groupings, LMCH will review the results and as much as possible invest in requirements that carry high-risk scores, especially where they are also in high priority groupings.

- Where beneficial and appropriate LMCH will work to explore and advance risk responses by determining and analyzing the unit cost of risk reduction rates.

5.7 Risk Monitoring & Reporting

Both the probability of a requirement failing and the consequences of its failure will change with time. For example, the probability of failure will generally increase with the age of the requirement; it may also increase from higher than normal use or change because of otherunique circumstances (e.g. growing trees lead to heightened wear and tear on the

Requirement Priority & Risk Management

roof). The consequences of failure may also vary based on the introduction of new legislation and law, or the modification of existing. The fluctuating nature of risk indicates that the evaluation and reporting of it must be ongoing too. Accordingly, on an annual basis, LMCH will review the risk criteria scores and adjust as necessary. Where there are changes to any of the risk criteria scores there will be associated changes with the risk scores too.

LMCH will also work to automate the population of risk criteria and the resulting risk score. Currently, the process is not automated and requires significant investments in staff time. The process is also subject to bias, however at the same time it benefits from important subject matter expert insight unrealizable by an automated scoring program.

To benefit from the efficiencies generated by automation, without compromising the important insight LMCH can offer, LMCH along with important partners like VFA will work to further develop and refine automating probability and consequence of failure criteria scores. This automation will ensure that dynamic changes (e.g. age) in the parameters feeding the criteria score are captured and reflected in the resulting scoring. LMCH will review the risk criteria scores to identify and adjust for unique building circumstances (i.e. chronic issue with a building component suggesting it will fail prematurely) that impact the probability and/or consequence of a requirement's failure.

5.8 Risk Conclusions

This chapter has provided readers with a comprehensive overview of LMCH's core assets requirement priority groups. It has also presented the criteria for the probability and consequence of failure and outlined how those criteria are used to compute a risk score. It has identified valuable strategies for evaluating risk from a cost lens and outlined several key next steps to improve the priority grouping and risk evaluation components of LMCH's Asset management practices. These tools and strategies are a valuable and foundational aspect of asset management; however, they are not absolute in their ability to predict risk and there will be instances where assets fail not as predicted or the actual risks are greater or less than the calculated risk.

Requirement Priority & Risk Management

Section 6.0 Forcasted Infrastructure Gap

The following section outlines LMCH's infrastructure gap, which is the difference between the level of regular funding currently received and the level of regular capital funding required to meet the defined LOS. To provide context, LMCH's historic levels of capital funding (which have contributed to the infrastructure gap), is discussed and contrasted with other LHCs capital funding.

6.1 Lifecycle Renewal Infrastructure Gap

To calculate the lifecycle renewal infrastructure gap, the total funding required to achieve an average assessed portfolio FCI score of 0.35 (as discussed in 5.4) within ten years was determined and added to the cost of renewing "other assets" after they served 110% of their useful life. This total cost was then compared to the planned funding to determine the infrastructure gap. The results of the analysis are highlighted in Table 36 below.

Table 36: Lifecycle Renewals Current & Required Funding

Activity	Planned Capital Lifecycle Funding (over 10 years)	Required 10 Year Funding	Infrastructure Gap
Lifecycle Renewal	$87.23M	$235.05 M	$147.82 M
Less: Reserve Fund	$15.65 M		$132.15 M

Planned Capital lifecycle funding is comprised of the following four budget sources:

- LMH261820- Public Housing Major Repairs: This represents LMCH's base capital budget of $2.2 million annually and $22.08 million throughout the period.

- LMH261820- LMCH's Infrastructure Gap Business Case #19: This represents additional capital funding of $52.37 million between 2020 to 2029.

- LMH2620- LMCH Co-Investment with CMHC Business Case #18: This represents capital funding towards lifecycle renewal investments under CMHC Co-Investment[16]. Preliminary estimates total $8.5 million between 2020 and 2027.

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[16] The estimated $8.5 million investment to lifecycle renewal under the CMHC co-investment program is provided as the best available estimate at the time of production of the AMP. This estimation is not final and is subject to further review and negotiations between LMCH, its shareholder and CMHC.

- A portion of operational funding to replace "other assets" (refer back to 2.6 for further detail) upon serving 110% of their useful life.

- Public Housing Major Upgrades Reserve Fund: A reserve fund held on behalf of LMCH, which by 2029 will provide an estimated $15.65 million in funding available to mitigate the infrastructure gap.

The results of comparing planned capital lifecycle funding against required capital funding indicate that despite the increased funding, there is still a significant infrastructure gap. Each year, the infrastructure gap grows by $13.65 million to $17.93 million and by 2029, the lifecycle renewal infrastructure gap is $147.82 million. If reserve funds of $15.65 million are applied, the lifecycle renewal infrastructure gap is reduced to $132.16 million. The relationship between the required investment and planned funding is outlined in Figure 12 and Table 37 below.
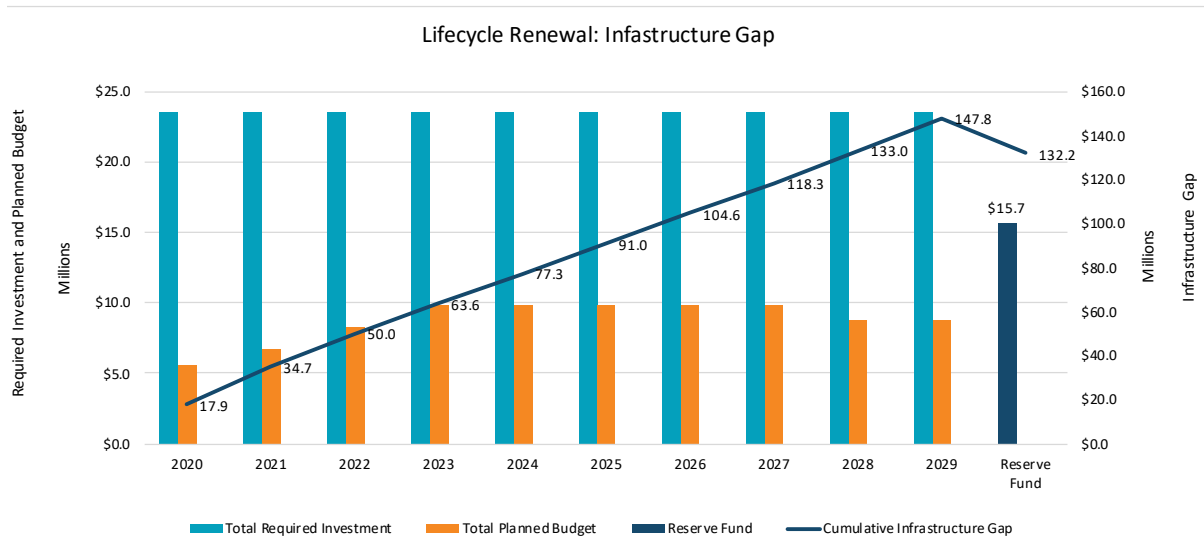
Figure 12: Lifecycle Renewal Infrastructure Gap

Table 37: Lifecycle Renewal Infrastructure Gap Detailed Cost Breakdown

Lifecycle Renewal: Infrastructure Gap ("$ millions")											
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Required Funding	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	235.05
Planned Funding Sources											
Base Capital Budget	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	22.08
Infrastructure Gap Business Case	1.79	3.04	4.54	6.14	6.14	6.14	6.14	6.14	6.14	6.14	52.37
LMCH Co Investment with CMHC *lifecycle renewal only	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06			8.50
Operating Budget for TCA Assets	.784	.784	.784	.784	.784	.784	.784	.784	.784	.784	.784
Less: Required Service Improvements	.275	.410	.325	.350	.350	.350	.350	.350	.400	.400	3.56
Reserve Fund											15.65
Total Lifecycle Renewal Funding	5.57	6.68	8.27	9.84	9.84	9.84	9.84	9.84	8.73	8.73	102.88
Cumulative Infrastructure Gap [17]	17.93	34.74	49.98	63.63	77.29	90.95	104.60	118.26	133.03	147.80	132.15

[17] Amounts subject to rounding.

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As discussed in Section 5, in addition to lifecycle renewal, growth and service improvement activities also provide important contributions to the portfolio. They represent vital planned actions that enable the assets to provide the desired levels of service and meet community needs.

Understanding the cost of delivering such service improvement and growth activities and comparing these costs to the funding provided is central to the determination of their respective infrastructure gaps.

6.2 Service Improvement: Infrastructure Gap

As outlined in section 5.1, a service improvement occurs when there are planned activities that improve an asset's capacity, quality, and/or system reliability. A good example is replacing a kitchen's single sink with a double sink. The double sink improves the capacity of the sink to hold dishes; this is often valuable to larger households.

It is important to identify service improvements that provide impactful benefit across the organization and tenant base. To ensure that the selected service improvements accurately represent the needs of the organization, the following six-step process was utilized:

1. Identification of all LMCH 2017-2020 strategic goals that can be supported through infrastructure-based service improvements.
2. Review of all relevant third-party information and research related to impactful service-based improvements[18]
3. Engagement of a diversity of LMCH departmental staff (e.g. Community engagement, Tenant Services) to identify potential service improvements.
4. Review of identified potential service improvements followed by prioritization based on alignment with strategic goals, the prevalence of need, reasonableness, benefits vs. costs, and ability to execute.
5. Cost estimates and reasonable timelines developed for prioritized service improvements.
6. Service improvement infrastructure gap determined by comparing estimated costs of identified service improvements with current funding.

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[18] Some specific examples of relevant information and research include the 2019 LMCH Tenant Survey and a study entitled "The Psycho-Social Needs of Women in Social Housing" (Marshall, 2019).

Infrastrcture Gap

The above process revealed that infrastructure based initiatives can positively contribute to the realization of four strategic goals:

1. **Improve, renew, and maintain the homes LMCH offers**
2. **Engage, support, and empower tenants**
3. **Grow Organizational effectiveness**
4. **Maximize IT for Informed decision making**

Engaging a diverse cross-section of LMCH staff and consulting external third party research revealed that multiple sources identified similar service improvements that can be broadly categorized into five areas. Staff and external third party sources more frequently identified specific service improvements areas over others. In order of most frequently mentioned to least, these service improvement broad categories are:

1. **Security**
2. **General Infrastructure (tied)**
3. **Heath promotion (tied)**

Based on these broad category groupings, projects were evaluated for feasibility, cost, operational impacts, and benefits, with 10 asset-based service improvement projects selected. These are as follows:

Table 38: LMCH Identified Service Improvements

General Category	Specified Service Improvement
General Infrastructure	Kitchen Improvements: upper cabinets (high-rises)
	Kitchen Improvements: Double sinks (families)
I.T.	Fiber Optic Internet Infrastructure
	Printers At All County Sites
Security	Interior Security Cameras
	Security Cameras: Outdoor

Infrastrcture Gap

General Category	Specified Service Improvement
Garbage	Garbage Corrals: Towns
	Secured Overflow Garbage Storage: High Rises
Software	Project Mgmt. Software
	Energy Cap Software

The total estimated capital cost of these projects is $3.61 million and current funding, which includes available program rebates and incentives (e.g. fiber optic internet), is $705,000; therefore, the cumulative infrastructure gap is $2.91 million.

6.2.1 Third-Party Funded Service Improvements

In addition to internally identifying service improvements, there are also opportunities to access third-party funding through government programs like the National Housing Strategy (NHS). The NHS is an ambitious 10-year, $55 billion plan that works towards the realization of the right to adequate housing. Several programs, including the Repair and Renew Co-Investment program focus on improvements to energy and accessibility, and are administered under the NHS. Currently, LMCH is in negotiations with CMHC to secure a Repair and Renew co-investment agreement. Pending successful negotiations, these investments will be a combination of service improvements and lifecycle renewal activities. At the time of writing the AMP, the total estimated investment under a CMHC's National Housing Strategy program to service improvement is $25.875 million distributed over several years, and concluding in 2027.

While a significant portion of this funding would be provided as a forgivable loan, there will also be a non-forgivable loan portion. LMCH's shareholder has committed to funding this cost through their approval of the 2020-2023 Multi-Year Business Case #18: LMCH's Co-Investment with CMHC.

6.2.2 Total Service Improvement Infrastructure Gap

The total cost of LMCH identified and Third-Party Funding Programs that will include service improvement for the period of 2020-2029 is $29.49 million. Over this same period, there are funding commitments of $26.58 million and the resulting total service improvement infrastructure gap is $2.91 million.

Figure 13: Service Improvement Infrastructure Gap

Service Improvement Infastructure Gap

(chart: Est. Cost (CAD $) vs Year, 2020–2029)

Cumulative Infrastructure Gap values: .12 M, .36 M, .76 M, 1.20 M, 1.46 M, 1.85 M, 2.19 M, 2.53 M, 2.72 M, 2.91 M

Legend: Funding | Total Annual Est. Cost | Cumulative Infastructure Gap
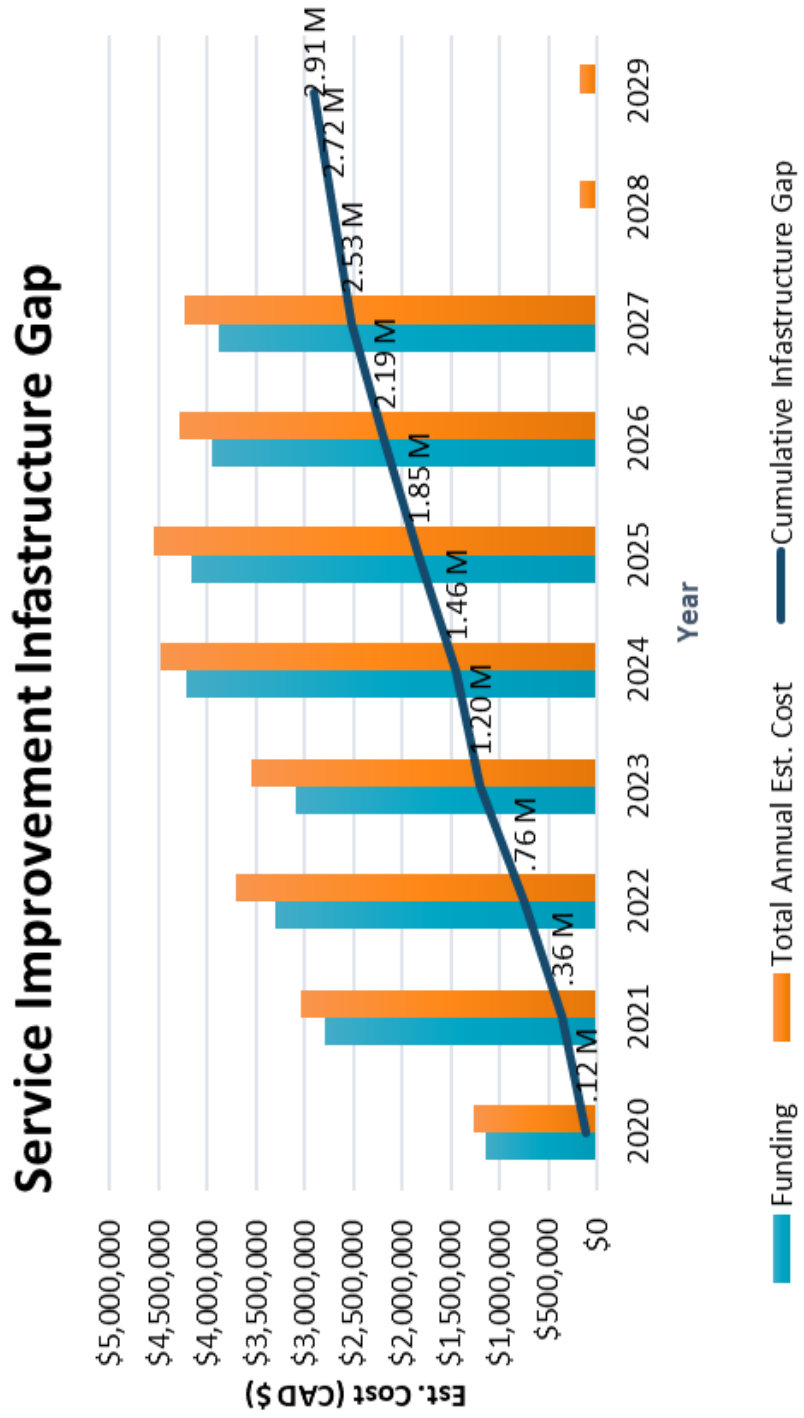
Table 39: Service Improvement Infrastructure Gap Cost Breakdown

Capital Cost: LMCH Identified	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
CMHC Repair & Renew	.44 M	2.79 M	3.31 M	3.10 M	4.22 M	4.16 M	3.95 M	3.89 M			25.88 M
Building Exterior Improvements	.0 M	.19 M	.19 M	.24 M	.10 M	.05 M	.0 M	.0 M	.0 M	.0 M	.78 M
Building Interior Improvements	.05 M	.05 M	.20 M	.20 M	.15 M	.34 M	.34 M	.34 M	.19 M	.19 M	2.08 M
IT Infrastructure Improvements	.71 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.71 M
Building Management Software Improvements	.06 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.06 M
Total Annual Cost	**1.27 M**	**3.04 M**	**3.71 M**	**3.55 M**	**4.48 M**	**4.55 M**	**4.30 M**	**4.23 M**	**.19 M**	**.19 M**	**29.49 M**
Available Funding											
CMHC Co Investment: BC #18	.44 M	2.79 M	3.31 M	3.10 M	4.22 M	4.16 M	3.95 M	3.89 M			25.88 M
Private Sector in Kind Project Completion	.71 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.71 M
Total Available Funding	**1.15 M**	**2.79 M**	**3.31 M**	**3.10 M**	**4.22 M**	**4.16 M**	**3.95 M**	**3.89 M**	**.0 M**	**.0 M**	**26.58 M**
Annual Infrastructure Gap	.12 M	.25 M	.40 M	.44 M	.25 M	.39 M	.34 M	.34 M	.19 M	.19 M	2.91 M

6.3 Growth Infrastructure Gap

Growth is a set of planned activities required to extend services to previously unserved areas or expand services to meet growth demands. As outlined in 6.1.2, The Importance of LMCH's Portfolio Growth, there is a very high need for affordable housing in London and Middlesex County.

Unit growth demands significant resources, many of which are scarce; namely land, capital, and the resources to execute. Thus, LMCH's delivery of unit growth must consider both the demand for units and the feasibility of supplying those units. For the most part, LMCH townhouse sites are underdeveloped and present opportunities for infill development. A small portion of the portfolio provides an opportunity for the creation of ancillary basement units. Multi-residential properties in the City of London are developed to capacity. Some multi-residential properties in the County have the physical space for infill development but lack the demand (e.g. Newbury).

Given the opportunities, LMCH's Growth Infrastructure Gap for the 2020-2029 period focuses on infill development on existing townhouse sites, the conversion of existing semi-detached units, and the acquisition of property with existing units. The growth strategy will seek to fulfill the following objectives:

- Create 20 ancillary basement units in existing LMCH semi-detached housing units

- Build at least 80 units on existing LMCH family townhouse sites

- Acquire an already constructed property

The cost of completing these above projects between 2020 to 2029 is estimated at $32.1 million[19]. In early 2020, LMCH alongside the Housing Development Corporation (HDC) submitted a Regeneration of Public Housing Business Case (#21). This business case sought funding to regenerate deteriorating housing stock and develop new affordable housing stock in the community. By 2023, 50 new units are to be constructed and by 2025 (as per Business Case) an additional 30 units are to be built. Therefore, by 2025-year end 80 new affordable units[20] are projected to be constructed. With the approval of the 2020-2023 Multi-Year budget (MYB) Business Case #21 there are funding commitments of $24 M and the cumulative infrastructure gap is $8.1 million.

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[19] The cost of acquiring an already constructed property can vary widely based on a host of factors like the size of the building and the cost of capital repairs required upon acquisition. Due to the significant level of potential cost variance, estimates assume that acquisition costs of an already constructed property will be equal to the cost of constructing 40 new units.
[20] 2016 Business Case # 21 identified that a 10% increase over current social housing units at each site would be a metric of success. Since there are 804 townhouses overall, this is on average an 80 unit increase overall.

Infrastrcture Gap

Growth: Infastructure Gap

Legend:
- Required Funding
- 20-23 BC #21: Regen of Public Housing
- Cumulative Infastructure Gap

Line values: 8.10 M, 8.10 M, 8.10 M, 6.30 M, 4.50 M, 2.70 M, .90 M, .73 M, .40 M, .06 M

Years: 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029

Y-axis: 0, 2500000, 5000000, 7500000, 10000000
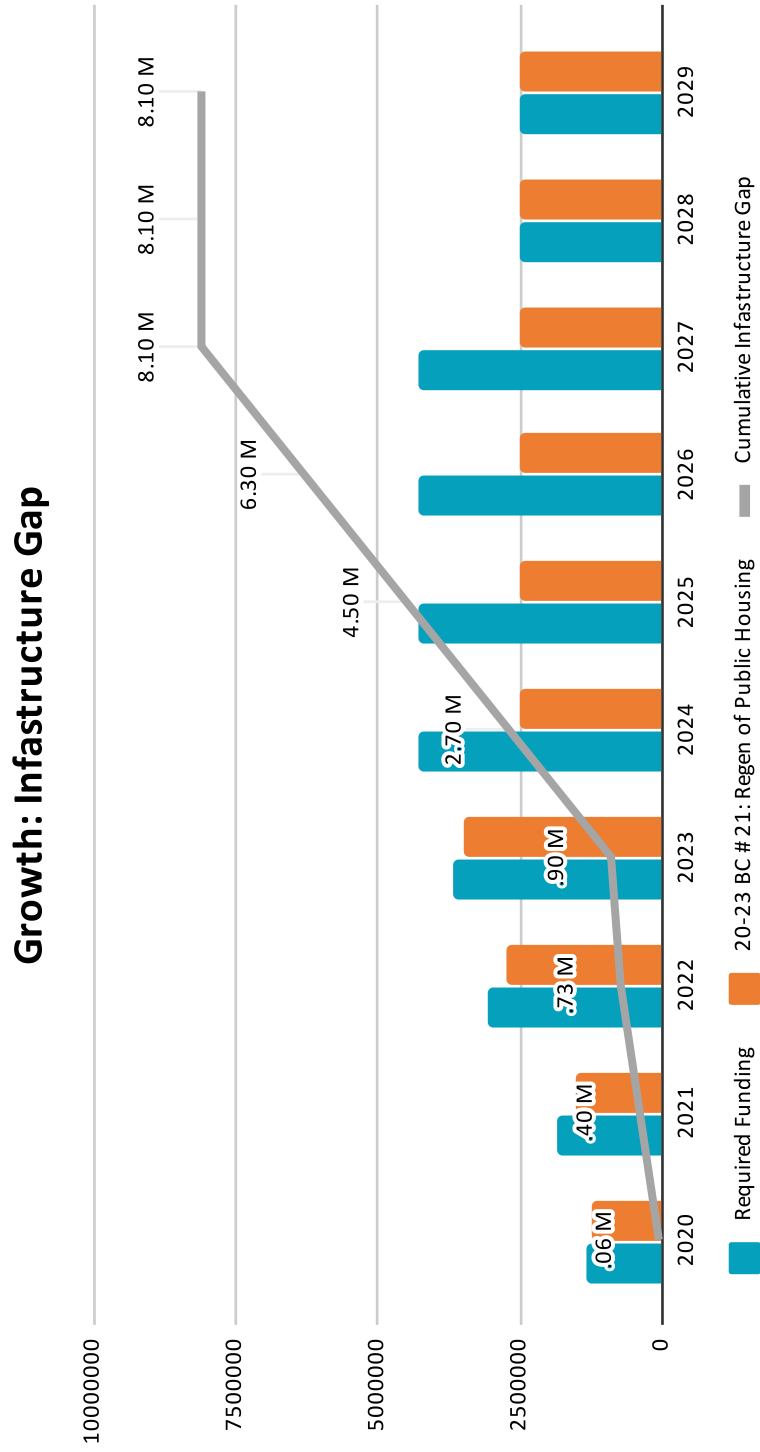
Table 40: Growth Infrastructure Gap Cost Breakdown

Growth: Infrastructure Gap

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Required Funding	1.31 M	1.84 M	3.09 M	3.67 M	4.3 M	4.3 M	4.3 M	4.3 M	2.50 M	2.50 M	32.10 M
Total Committed Funding: BC # 21: Regen of Public Housing	1.25 M	1.50 M	2.75 M	3.50 M	2.50 M	2.50 M	2.50 M	2.50 M	2.50 M	2.50 M	24.0 M
Cumulative Infrastructure Gap	.06 M	.40 M	.73 M	.90 M	2.7 M	4.5 M	6.3 M	8.1 M	8.1 M	8.1 M	8.1M

Section 7.0 Financing Strategy

Ensuring adequate capital funding is available to maintain LMCH's assets as safe, functional homes and communities for our tenants of today and the future is of paramount importance. Despite a significant capital funding increase through the 2020-2023 Multi-Year Budget (MYB), the current capital funding commitments are not sufficient to meet established Levels of Service. This section provides an overview of LMCH revenue and expense sources as well as a brief discussion of relevant financial policies. The lifecycle renewal infrastructure gap is presented and strategies for addressing the gap are identified. This section concludes by recommending a strategy for mitigating the infrastructure gap.

7.1 Financial Overview

LMCH has two primary budgets: operating and capital.

The operating budget funds LMCH's daily operations that enable the provision of services to LMCH tenants. Expenses funded by the operating budget are used for salaries, maintenance materials and services, utilities, property (i.e. taxes, insurance, mortgage), and administration.

The capital budget funds large capital projects that extend asset lifespans and/or replace existing building components to maintain the assets in fair condition.

LMCH predominantly finances the operational and capital budgets through the following funding sources:

- Rental Revenues

- Municipal Capital Budget Funding

- Municipally provided operating subsidy

- Third-party funding sources (i.e. Provincial and Federal Funding programs)

The City of London and County of Middlesex provide municipal funding to LMCH's capital and operational budgets.

7.1.1 Operational Budget Overview

To provide context to the operating budget, 2017-2019 revenue and expense information is provided in Table 41 and Figure 15 below.

Rent charged by LMCH is determined based on a RGI approach where rent is equal to 30% of the household's gross income. For this reason, rental revenue can fluctuate from one-year to the next with changes in the economy (i.e. tenants ability to find and secure work changes with economic conditions), support programs (i.e. Ontario Disability Support Program), or life circumstances. Conversely, housing subsidy is determined through the Multi-Year Budgeting process.

Table 41: LMCH Operating Revenues '17,'18,'19' (Actuals)

LMCH Operating Revenues (Actuals)

	2017	2018	2019
Total Rental Revenue	$11,122,354	$11,460,132	$11,870,011
Total Housing Subsidy	$9,758,730	$10,202,215	$10,698,018
Total Other Revenue	$354,605	$292,406	$340,231
Total Operating Revenues	**$21,235,689**	**$21,954,753**	**$22,908,260**

The operating budget expenditures relate to the following categories:

1. **Salaries, Wages, and Benefits**
2. **Building Maintenance & Repair**
3. **Utilities**
4. **Property Taxes, Insurance & Mortgage**
5. **Administration**
6. **Tenant Programs & Support**

In 2017, 2018, and 2019 the distribution of total expenses amongst these categories was as follows:

Operational Expenditure Breakdown
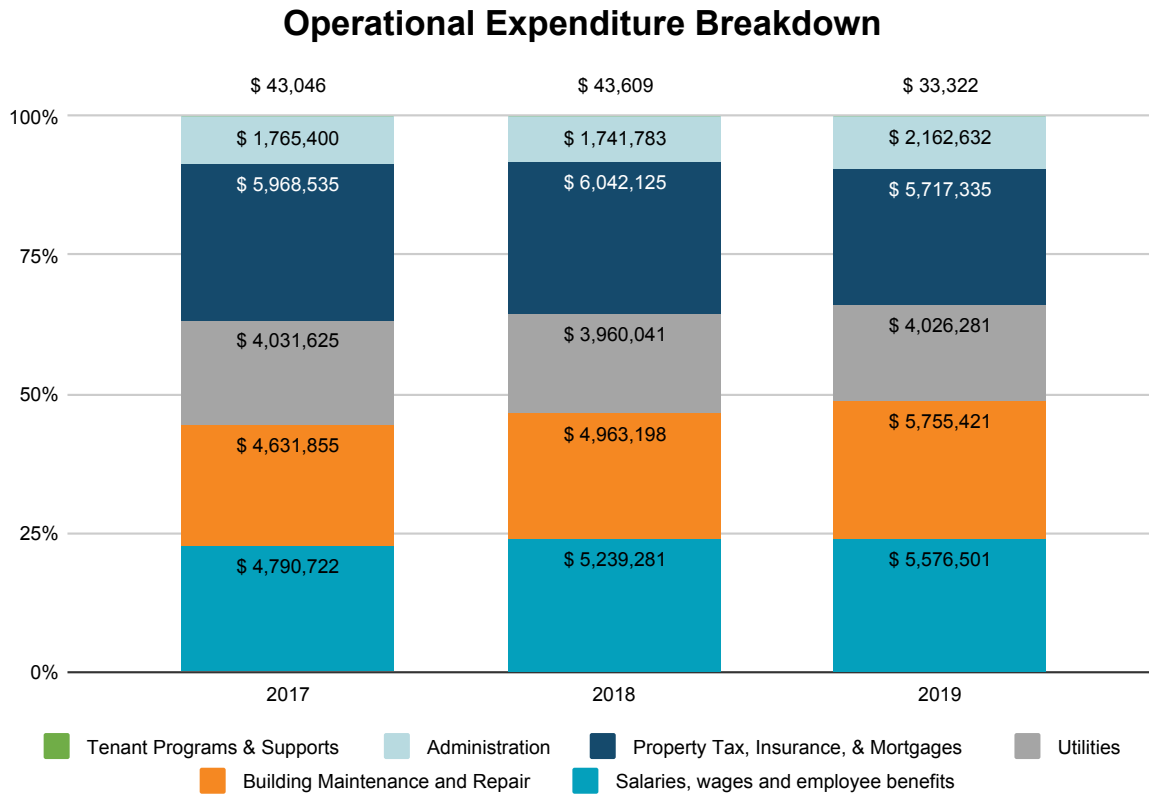
Figure 15: Operating Expenditure Category Breakdown

Operational revenues may not always equal operational expenses. When this is the case, LMCH experiences an operational surplus or deficit.

Council responded to LMCH's need for increased tenant supports and improved building security through the approval of Business Case #19. As a result, LMCH received additional operational funding of $5.675 million for the period of 2020-2023 that will provide for an increase of 25 staff by 2023. The majority of these staff will be frontline with a focus on providing additional tenant supports and improving building security.

Financing Strategy

7.1.2 Capital Budget Overview

The capital budget provides for long-term investment in LMCH's core assets. As discussed in earlier sections, capital investment may be for lifecycle renewal, service improvement, or growth activities. LMCH's capital budget is funded primarily through shareholder contribution and where available and appropriate third party funding (i.e. Provincial and Federal Programs). Investment directly from the shareholder has historically been used for lifecycle renewal projects to rehabilitate or replace existing building components that are no longer reliable, safe, or otherwise functional.

Capital investment obtained through third-party funding such as Social Housing Apartment Improvement Program (SHAIP) has provided for service improvement projects with some lifecycle renewal. For example, in late 2019, solar walls (service improvement) and new Make-up Air units (lifecycle renewal) were installed at several multi-residential buildings. The solar walls improved the asset's capacity to heat fresh air to the building with limited use of fossil fuels, while the new makeup air replaced an existing building component that had met the end of its useful life.

Table 42 provides approved capital funding sources for the 2020-2023 period and approved in principle from 2024 through 2029. Regular capital funding by the shareholder is specific to lifecycle renewal only. Third-party funding is specifically for anticipated funding from CMHC co-investment (as per LMCH 2020-2023 MYB, Business Case 18) and represents estimated allocations to lifecycle renewal only. Tangible capital assets expenditures are funded from LMCH's operational budget but are otherwise considered a capital expenditure.

Table 42: Lifecycle Renewal Capital Funding

Lifecycle Renewal Capital Funding Budgets ($ millions)

Funding Source	2020-2023 Cumulative	2024-2029 Cumulative	Combined Total
Regular Capital (Base Budget)	$8.83	$13.25	$22.08
Infrastructure Gap (Business Case 12)	$15.52	$36.85	$52.37
Third-Party Projected Funding[21] (Business Case 18)	$4.25	$4.25	$8.50
Tangible Capital Assets[22]	$3.13	$4.70	$7.84
Grand Total	$31.73	$59.05	$90.79

7.1.3 LMCH Budgets: A Historical Review

When LMCH was devolved from the province in 2001, the regular capital budget was set at $2.2 million annually and remained unchanged. In 2020, through the 2020-2023 Multi-Year Budget, the City of London and County of Middlesex responded to the needs of LMCH by committing additional funding through the approval of Business Cases 12 and 18. These cases provide $89.34 million in capital funding for lifecycle renewal and service improvements for the period of 2020-2029. Of this total, LMCH estimates that $57.31 million will be allocation to lifecycle renewal.

As a result of the multi-year budget capital investment the size of the infrastructure gap was reduced from $208.68 million to $147.8 million. While the current infrastructure gap of $147.8 million remains significant, it is drastically less than it would have been without the significant funding increase.

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[21] Pending securitization. Quoted amounts represent estimated investment for lifecycle renewal activities only. Excludes investment service improvement.
[22] Please note: this amount is currently funded from LMCH's operational budget, but is otherwise considered a capital expenditure.

Financing Strategy

Infastructure Gap Reduction due to Increased Capital Funding

■ Infastructure Gap without MYB Invesment　　■ Infastructure Gap with MYB Investment

208,680,723

147,805,259

INFASTRUCTURE GAP (CAD $)

YEAR
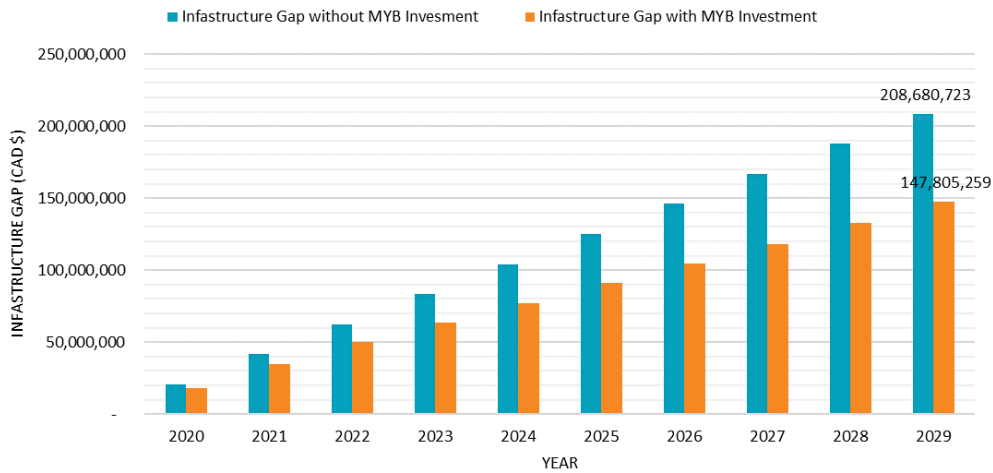
Figure 16: Infrastructure Gap Reduction due to Increased Capital Funding

7.2 Current & Forthcoming Financial Practices

LMCH is committed to strong financial stewardship and accordingly, follows several financial best practices, including:

- Zero Based Budgeting: an annual process that builds each material account from 'zero' to drive cost-efficiencies across the organization

- Departmental Variance Reporting: monthly comparison of actuals vs budgeted amounts

- Seeking and obtaining ancillary income sources (i.e. antenna rentals)

- The pursuit and attainment of other non-shareholder provided capital funding sources and rebates including federal and provincial sources such as Social Housing Apartment Improvement Program (SHAIP)

- Implementation of asset management techniques such as risk evaluation to inform capital investment decisions

LMCH is a separate entity from the City of London and County of Middlesex. However, LMCH must understand and consider its shareholder and funding contributor's financial policies when making financial decisions. Some examples are:

- City of London Capital Budget and Financing Policy
  - Outlines principles of capital investment including funding options and priorities by lifecycle activity. Specific to lifecycle renewal, the priority of funding sources are as follows: (1) non-tax rate supported (i.e. senior government funding), (2) capital levy, (3) eligible reserve funds, (4) debt financing where all other funding options are explored and exhausted.

- City of London Debt Management Policy
  - Establishes objectives for financing that is necessary to meet infrastructure and operating requirements as prescribed by the Municipal Act, 2001, c 25 (the "Act") and presents strategies for managing debt including ensuring that debt levels do not impair the financial position or credit rating of the City. Of particular application to the AMP and associated financial strategy is the Policy section, which outlines the purposes for which debt may be authorized, managing the risk of issuing debt, and minimizing debt-servicing costs.

- City of London Reserve and Reserve Fund Policy
  - Provides an overview of how reserves affect the City's credit rating and the cost of borrowing, and how they are to be managed to preserve the City's financial position while adhering to statutory requirements.

7.3 Infrastructure Gap

LMCH's lifecycle renewal infrastructure gap is the difference between the capital investment required to achieve a portfolio condition of fair by 2029 while addressing 100% of high priority requirements, and the amount of approved capital funding. This is outlined in Table 43, below.

Table 43: Lifecycle Renewal Infrastructure Gap Overview

Activity	Planned Capital Lifecycle Funding (over 10 years)	Required 10 Year Funding	Infrastructure Gap
Lifecycle Renewal	$87.23 M[23]	$235.04 M	$147.8 M
Less: Reserve Fund	$15.65 M		$132.15 M

From 2020 through 2029, LMCH anticipates that there will be a requirement to spend approximately $3.56 million in capital funding for legislatively or otherwise required service improvements. For example, should a tenant require a modification to make their unit more accessible LMCH is required to complete the necessary work (i.e. install a roll in shower in place of a tub). As a result, total capital investment available for lifecycle renewals for the period of 2020 to 2029 is estimated $87.23 million[24] .

During the same period, LMCH's capital needs are $235.04 million and the difference, $147.8 million, is the infrastructure gap. After applying $15.65 million in reserve funds to the infrastructure gap, the total is $132.15 million. It is important to note that the infrastructure gap is specific to established levels of service (LOS) and the associated lifecycle renewal requirements. The infrastructure gap does not consider growth or required service improvement activities and does not account for inflation. Figure 17 and Table 44 below provide an annual overview of the capital funding needs, the planned capital investment, and the resulting cumulative infrastructure gap.

Service Improvement and Growth Infrastructure Gaps:

Growth and service improvements establish important resources and betterments for LMCH tenants and the community. Though the service improvement and growth infrastructure gaps do exist, they are small ($2.91 and $8.1 million respectively) in comparison to the lifecycle renewal gap.

These gaps are relatively small largely because of funding approved through business Cases 18: LMCH Co-Investment with CMHC and 21: Regeneration of Public Housing. Business Case 18 provides funding to improve the advanced portfolios efficiency by 25% and improve the accessible unit rate to 20 %. In most cases, achieving these funding

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[23] This amount excludes investment for required service improvements ($3.56 M).
[24] Please This amount includes investment of $7.84 million between 2020 and 2029 for Tangible Capital Assets (TCA). TCA are currently funded from LMCH's operating budget.

Financing Strategy

requirements is due to service improvement investments. Funding through the Regeneration of Public Housing provides investment to build additional units. These funding commitments are the primary reason for the relatively small service improvement and growth infrastructure gaps.

In keeping with LMCH's mission to provide and maintain homes, the financial strategy of the AMP focuses exclusively on the lifecycle renewal gap.

Lifecycle Renewal: Infastructure Gap
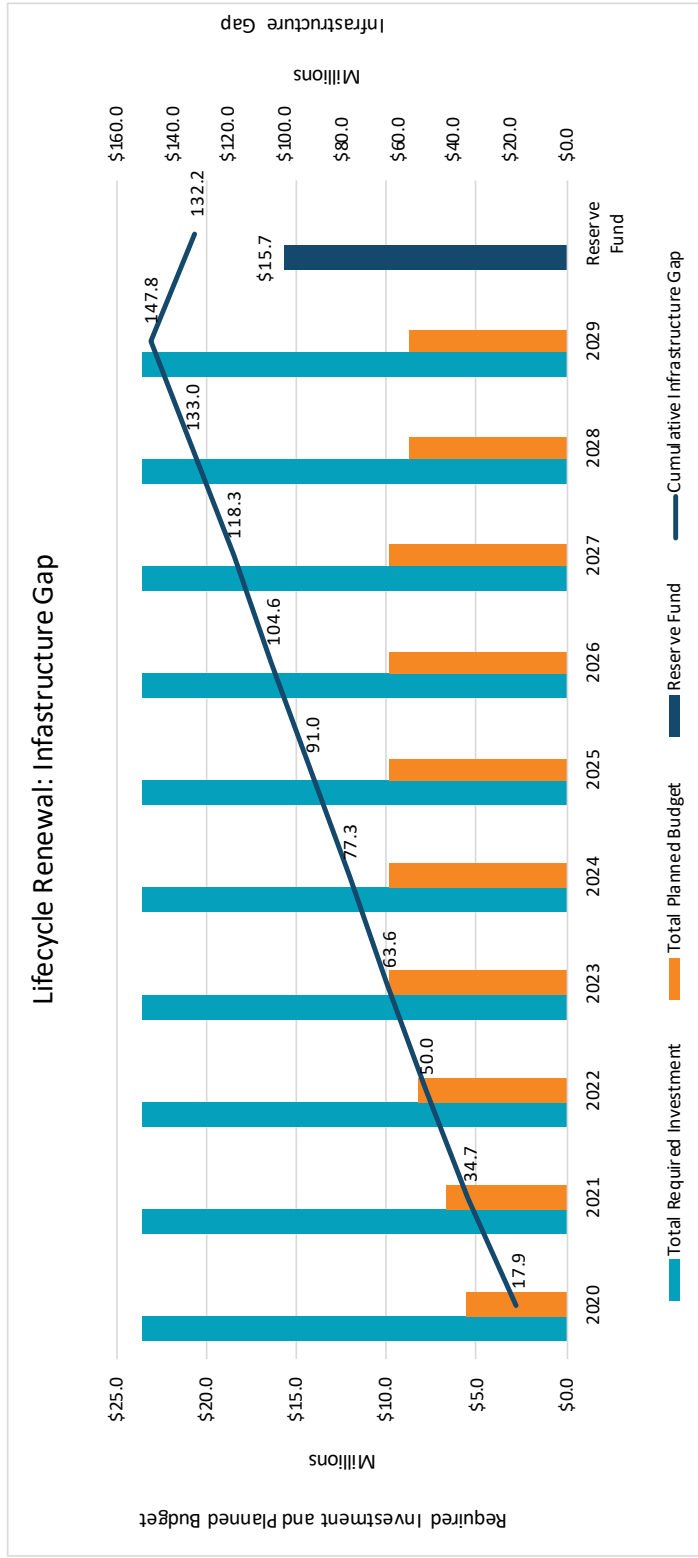
Table 44: Overview of Capital Funding Needs & Sources

Lifecycle Renewal: Infrastructure Gap ("$ millions")											
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
Required Funding	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	235.05
Planned Funding Sources											
Base Capital Budget	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	22.08
Infrastructure Gap Business Case	1.79	3.04	4.54	6.14	6.14	6.14	6.14	6.14	6.14	6.14	52.37
LMCH Co Investment with CMHC *lifecycle renewal only	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06			8.50
Operating Budget for TCA Assets	.784	.784	.784	.784	.784	.784	.784	.784	.784	.784	.784
Less: Required Service Improvements	.275	.410	.325	.350	.350	.350	.350	.350	.400	.400	3.56
Reserve Fund											15.65
Total Lifecycle Renewal Funding	**5.57**	**6.68**	**8.27**	**9.84**	**9.84**	**9.84**	**9.84**	**9.84**	**8.73**	**8.73**	**102.88**
Cumulative Infrastructure Gap[26]	**17.93**	**34.74**	**49.98**	**63.63**	**77.29**	**90.95**	**104.60**	**118.26**	**133.03**	**147.80**	**132.15**

[26] Amounts subject to rounding.

119

7.3.1 Allocation of Committed Capital Funding

The allocation of committed capital funding does not change the amount of the infrastructure gap. However, it is important to understand the intended allocation as a strategic approach to addressing the infrastructure gap.

Between 2020 and 2029, the total requirement cost of replacing every building component that expires is $452 million— distributed into four priority categories as outlined in Table 45 below. For priority category definitions and examples, please refer to section 5.2.

Table 45: Total Requirement Cost Overview

2020-2029 Requirements Summary Statistics	
Total High Priority All Years	$59,941,000
Total Medium Priority All Years	$26,488,000
Total Low Priority All Years	$27,652,000
Total Limited Priority All Years	$338,261,000
Grand Total	**$452,342,000**

VFA funding requirements for LMCH properties excluding some in the county and all scattered properites. All cost estimates quoted in Canadian dollars with no adjustments made for inflation.

If all requirements were remediated, the portfolio's FCI condition would be very good. Since, LMCH's infrastructure gap is premised on achieving a condition of fair, the total investment required is $235.04 million. The allocation of this investment is important as it affects the risks carried. For example, allocating all of the required investment to limited priority would be a poor decision because the criticality of the requirements and their probability and consequence of failure are the lowest of all priority groups.

From 2020 to 2029, there is $79.39 million in committed capital funding available for

lifecycle renewal. Forecasted spending results in remediation of high priority requirements to the greatest extent (61%), followed by medium (43%), low (24%), and limited (7%). Remediation is greatest for high priority requirements because of their criticality and probability and consequence of failure. Conversely, limited priority requirements are remediated the least as they are much less critical and have a lower probability and consequence of failure. This is illustrated in Figure 18 below.

Investment by Priority Grouping
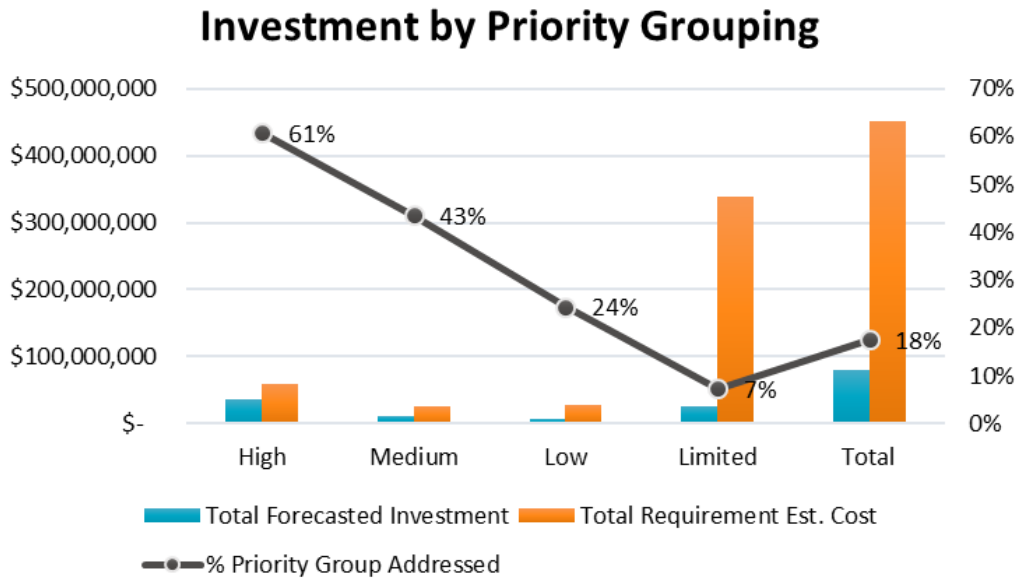
Figure 18: Total Requirement Costs vs. Forecasted Investment Allocation

While limited priority requirements hold the least risk, some investment is still necessary to preserve tenants' dignity in their home, instill tenants' sense of care and pride in their home, and uphold an acceptable appearance to the broader and external community. Further, without any investment to limited priority requirements, LMCH would be non-compliant with Property Standards By-Laws (City of London, 2010).

Based on the forecasted allocation of committed capital funding, each priority group has the following forecasted remaining requirement costs and allocation of committed capital funding:

Table 46: Forecasted Allocation of Committed Capital Funding

Priority Grouping	Original Total Requirement Cost ($ millions)	2020-2029 Forecasted Investment ($ millions)	Priority Group Addressed (%)	Remaining Total Requirement Cost ($ millions)	Allocation of Committed Capital (%)
High	59.9	36.4	61	23.5	44
Medium	26.5	11.5	43	14.9	14
Low	27.6	6.7	24	20.9	8
Limited	338.3	24.7	7	313.5	30
Other	N/A	3.56	N/A	N/A	4
TOTAL	452.34	82.95	18	372.95	100

Since criticality for investment varies by priority group, it is helpful to identify the outstanding capital investment required by each priority category. Then, infrastructure gap investment focuses on requirements that are most critical and that have a high probability and consequence of failure. The following sections discuss various approaches to addressing the infrastructure gap and the allocation of investment by priority grouping.

7.3.2 Approaches for Addressing the Infrastructure Gap

Mitigating the growth of the infrastructure gap requires either an increased level of

investment or a reduction in the available LOS. While both are options, the risks carried vary substantially. Therefore, it is important to understand the risks associated with each approach and LMCH's tolerance to those risks. The following analysis identifies three approaches to mitigate the infrastructure gap and outlines the risks carried by adopting each approach. Given recent LMCH budget increases and existing financial pressures, each approach assumes that additional capital funding is only available from 2024 forward when the next Multi-Year Budget begins.

The risks held without any infrastructure gap mitigation are extensive and significant. They include high potential for forced unit closure, and increasingly high probability and frequency of major building component failures. For these reasons, no mitigation of the infrastructure gap is not considered.

Approach One: Modest Mitigation

An additional lifecycle renewal investment of $57.7 million or $9.61 million annually between 2024 and 2029 is provided and about 40% of the infrastructure gap is addressed. While the assumed risks are less than they would be without any infrastructure gap mitigation, they remain significant. Assumed risks of Modest Mitigation include:

- Inability to reach an average portfolio condition of fair by 2029

- Assets and components deteriorate quickly and fail often

- Work Order and vacancy rate LOS are difficult to achieve and are inconsistently met

- Properties are visibly run down and non-critical but frequently observed building components (i.e. floors, kitchen cabinets) are in obvious need of replacement

- Moderate to severe risk of forced unit closure due to non-compliance with various legislation

- Fewer people are housed

- Some tenants may be exposed to risk and hardship including potential injury

Approach Two: Significant Mitigation

There is an additional lifecycle renewal investment of $115.4 million or $19.23 million annually from 2024 to 2029, which addresses about 80% of the infrastructure gap. Assumed risks are vastly reduced from those assumed under approach one and two. However, some

risks remain which may include:

- LMCH is close but does not achieve the LOS to reach an average portfolio condition of fair by 2029
- Work order and Vacancy Rate LOS are largely met, but are inconsistent
- Limited risk of unit closure due to non-compliance with various legislation
- Limited tenant exposure to risk, hardship or potential injury, and unlikely loss of life

Approach Three: Complete Mitigation

This approach represents the full investment of $147.8 million by 2029 or $24.6 million annually from 2024 until 2029. This approach addresses 100% of the infrastructure gap. It carries the least risk and bestows the greatest benefits, which include:

- Ability to reach an average condition of fair for the core assets by 2029-year-end and resolve 100% of high and medium priority requirements and the vast majority of low priority requirements
- Ability to meet other LOS like work orders and target vacancy rate
- Building components are adequately maintained
- Extremely low risk of unit closure due to non-compliance, and the ability to uphold legislative requirements
- Safe and appropriate housing is provided to the greatest number of households

7.3.3 Time Period for Investment

While the infrastructure gap is specific to a 10-year period, LMCH could consider closing the gap over a 15-year period. Prolonging the period of investment may result in some of the following benefits:

- The continued advancement in building science and construction materials may yield more resilient building material and/or better performing building systems than were previouslyavailable, resulting in prolonged useful life and/or reduced replacement costs.

- Extending the period over which the gap is mitigated improves the affordability of the investment.

- Extending the investment period also improves the likelihood of successful execution from an employee and third party resourcing perspective

As discussed, there are substantial risks in holding any infrastructure gap. The consequences of risks materializing are significant including regulation and legal implications, service delivery, and financial. As the level of investment increases, the risks carried are reduced. Conversely, as the period of investment increases, the risks carried increase too.

Table 47 compares the annual cost, beginning in 2024, of each mitigation approach. As LMCH will be unable to request additional funding until the next Multi-Year Budget (MYB) in 2024, reported amounts for both 10 and 15 years are based on additional funding received beginning in 2024.

Table 47: Mitigation Approaches Over a 10 & 15 Year Period

Approach	Total Cost ($ Millions)	Additional Annual Funding 2024-2029 ($ Millions)	Additional Annual Funding 2024-3034 ($ Millions)
Modest Mitigation	5.57	9.61	5.24
Significant Mitigation	115.4	19.23	10.49
Complete Mitigation	147.8	24.6	13.43

7.3.4 Analysis of Approaches

Each approach addresses different proportions of the infrastructure gap and affords varying levels of investment in high, medium, low, and limited priority groups. In all approaches, the higher the priority group, the greater the percentage addressed through investment. This reflects the criticality of time appropriate investment by priority group balanced against the need for some investment to all priority groups. Figure 19 below demonstrates how each approach addresses work by priority group.

Percentage of Priority Group Addressed by Approach
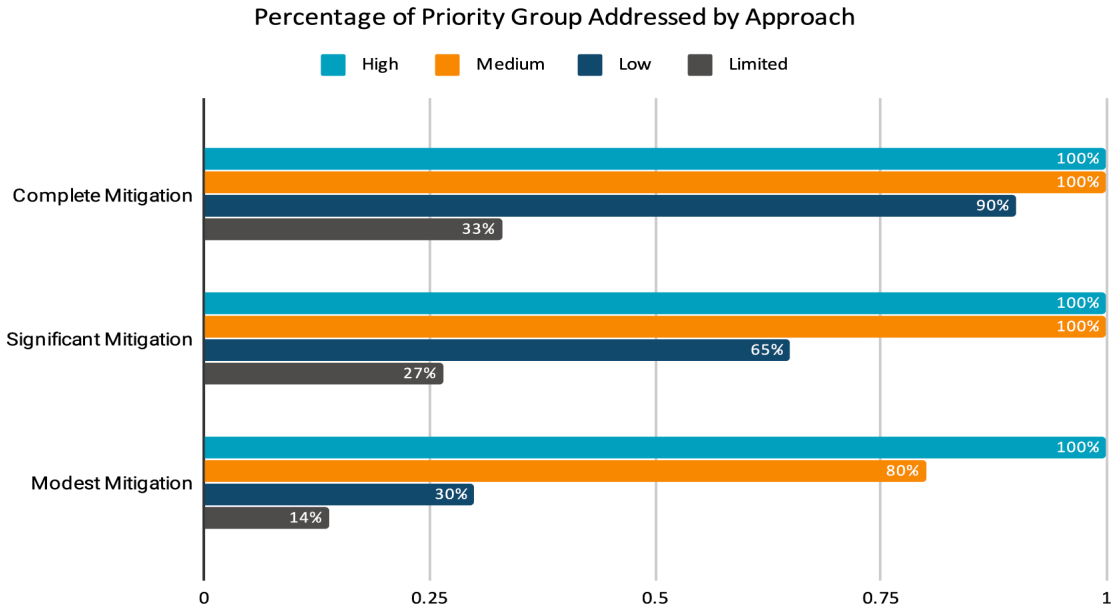
Figure 19: Percentage of Priority Group Addressed by Approach

Each approach may be mitigated over a period of 10 or 15 years. The benefit of extending the period for mitigation includes improved affordability, a greater ability to execute the work, and potential to benefit from advancement in building sciences. The detriments of extending the investment period is that requirements remain in use beyond their anticipated lifespan and therefore the probability of failure tends to increase. A prolonged investment period may be suitable where the level of investment is high enough to reduce risks to an acceptable level.

7.4 Funding Sources

LMCH together with our Shareholder will consider a variety of funding sources as listed and discussed below.

7.4.1 Reserve Funds

The City of London maintains several reserve funds, including the Public Housing Major Upgrades Reserve Fund, held on behalf of LMCH.

The reserve fund provides funding specifically for LMCH and major capital repairs and upgrades to maintain LMCH units. When considering this reserve fund, the Shareholder is responsible for maintaining minimum reserve fund balances and obtaining City Council approval for drawdowns.

As of 2020, an estimated $15.65 million in reserve funds might be available to mitigate the infrastructure gap.

7.4.2 Additional Ancillary Income

Ancillary income is all revenue derived from assets, excluding rental income. For example, LMCH currently derives income from third party companies who have placed antenna on the rooftops of high-rise buildings. This revenue offsets operational expenses.

There may be opportunities to obtain additional or increased levels of ancillary income. Allocating this additional income to the infrastructure gap would provide a modest capital-funding source.

7.4.3 Third-Party Contributions

Third party contributions most often come from other levels of government. For example, LMCH received capital funding through the Social Housing Apartment Improvement Program (SHAIP) provincial program. Generally, eligibility for funding from upper governments requires specific project deliverables such as energy efficiency. To this end, leveraging third party programs will require LMCH to as much as possible identify existing lifecycle renewal requirements that also meet the program eligibility requirements of the portfolio.

When the program requirement is a service improvement (e.g. solar wall funded through the provincial SHAIP) it will be necessary to first consider the impact on maintenance and operations to be sure that proceeding with the capital investment is both fiscally and operationally prudent. However, these programs are extremely beneficial and LMCH will continue to explore and pursue third-party funding opportunities as a mechanism to address the infrastructure gap.

7.4.4 Efficiency Based Incentives

Where LMCH can undertake programs or projects that result in cost efficiencies (e.g. capital projects that reduce utility consumption and cost) there may be opportunity to re-allocate operational dollars to capital funding with the necessary approvals. Any change completed within the four-year budget cycle is permanent within that budget period; therefore, it is important that operational savings are sustainable.

The approval of Business Case 18: CMHC Co-Investment, may provide a good opportunity to find operational utility savings that can be re-allocated to address the infrastructure gap.

7.4.5 Levy (Tax) Supported Contributions

As LMCH is a Board of the City of London and County of Middlesex, another source of funding could be a municipally approved increase to the amount of municipal tax revenue directed to LMCH or by levying an additional tax levy specific to LMCH. In line with the Multi-Year Budget (MYB) cycle, LMCH will assess progress in addressing the infrastructure gap over the course of 2020-2023, and may submit a business case for additional funding in the 2024-2027 MYB period.

As well, since 2018 LMCH's shareholder has provided additional, permanent assessment growth funding to the Public Housing Major Upgrades Reserve Fund. The shareholder's intention is to continue requesting permanent assessment growth funding. If successful, more reserve funds than currently estimated may be available to allocate to the infrastructure gap.

7.5 Infrastructure Gap Recommendations

LMCH is an invaluable resource to the community as it provides housing to nearly 3,300 households and houses close to 5,400 individuals. As the cost of housing continues to increase, LMCH's RGI housing remains a critical resource within the community. To protect and maintain LMCH assets while balancing the affordability of the investment, significant mitigation is required.

Modest mitigation carries unacceptable risks including health and safety, non-compliance with regulations resulting in penalties and financial fines, and financial liabilities. Operationally, risks include an inability to meet important LOS. Complete mitigation is desirable; however, LMCH recognizes the financial strain that this approach would have on its shareholder. Further, due to the unavailability of funding until 2024, a significant volume of work would be required for completion within a short time and this would be a significant resourcing challenge.

LMCH is committed to being part of our shareholder's goal to strengthen the community. Therefore, LMCH recommends significant infrastructure gap mitigation (representing $115.4 million) made over a period of 15 years. This level of investment is more feasible to resource than completing the work over a period of 10 years. It also provides opportunity to benefit from advancements in building sciences. Further, significant mitigation is necessary to ensure that LMCH remains able to house some of our community's most vulnerable individuals and families.

Financing Strategy

Section 8.0 Conclusions & Recommendations

LMCH's **mission** is to provide and maintain **homes in a safe and supportive environment** to meet the needs of the people served in LMCH communities. The 2020 AMP is an integral step in the execution of that mission.

The 2020-2029 AMP provides a robust understanding of LMCH's assets to aid appropriate investment decisions. As assets continue to age and require substantial capital investment, these asset management understandings and practices are increasingly crucial.

LMCH's 2020-2029 Infrastructure gap is significant. Therefore, additional capital investment is needed to mitigate the gap and reduce risks is necessary. The risks and consequences of underinvestment to the infrastructure gap are severe, including the potential for forced unit closure.

The development of the AMP is just as important as its execution. For this reason, the AMP concludes with six (6) next steps and three (3) recommendations relating to data integrity, tenant policies and support services, and capital project funding, selection, and execution.

8.1 Next Steps & Recommendations

The AMP provides a considerable amount of information related to core and other assets. To maintain the portfolio in the best condition possible and realize the greatest benefits from capital investments, **continuous improvement is critical**. The following next steps and recommendations provide specific actions and updates that are integral to realizing these betterments.

Next Steps:

1. Standardized Asset Management practices that **promote prudent decisions and outcomes**. LMCH is committed to the following actions:

   a. Maintain data integrity by completing Building Condition Assessments (BCA) on a 5-year rolling basis for all core assets.
   b. Regularly collect and report on asset LOS information.
   c. Where trending failure occurs, investigate contributing factors and work to mitigate their effects.

2. Transition from the existing non-automated priority group determination and risk score process to an automated process. As necessary, adjust results with LMCH staff's supplemental building knowledge.

3. Selected capital projects based on their risk score and established priority grouping investment allocation.

4. Advance capital projects with appropriate specifications, design and sufficient project management.

   a. Capital projects designed to provide the required service at the lowest lifecycle cost (i.e. select equipment based on lifecycle costs as opposed to acquisition cost only).
   b. Capital projects appropriately specified (i.e. capacity is not too large and not too small).
   c. Construction complete as per project specifications and design (proper construction and installation foster assets designed useful life).

5. Provide **tenants with support to encourage independent, healthy living** (i.e. housekeeping, mental health support) and **reduce property damage**.

   a. Continue fostering healthy relationships with community partners and ensure that their program objectives align with LMCH values and mission, promote housing stability, and appropriate treatment of LMCH assets.

6. Review the AMP each year and fully update the AMP every five (5) years to ensure it remains relevant and compliant with Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure.

Recommendations:
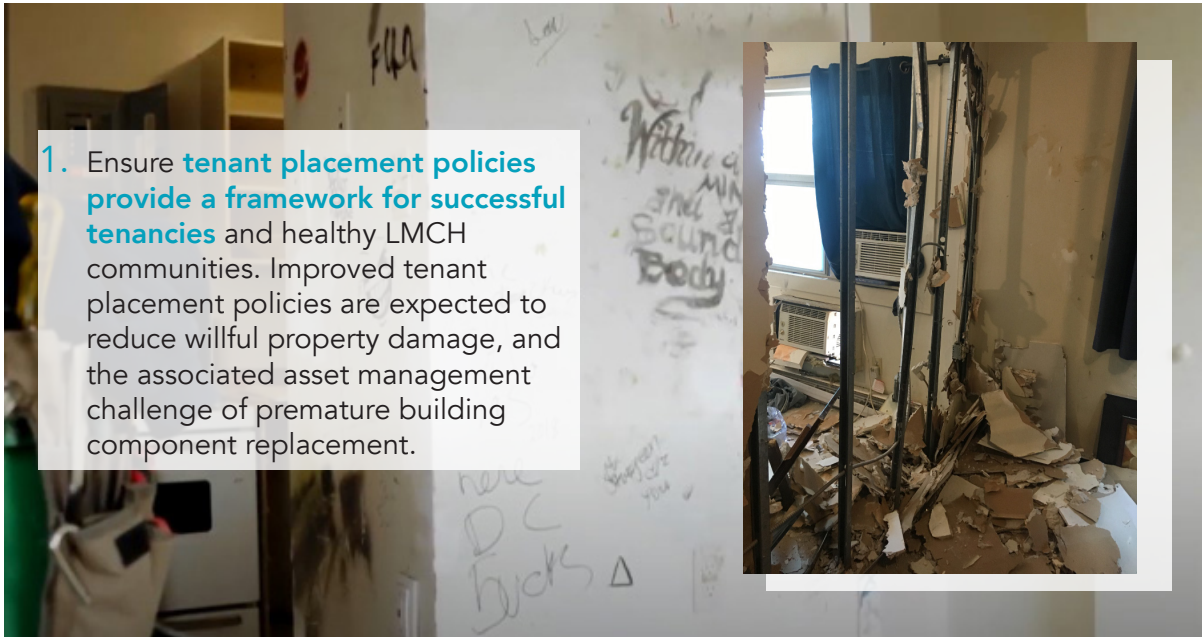
1. Ensure **tenant placement policies provide a framework for successful tenancies** and healthy LMCH communities. Improved tenant placement policies are expected to reduce willful property damage, and the associated asset management challenge of premature building component replacement.

2. **Continued shareholder support for third-party capital** funding programs that are suitable and valuable to LMCH.

   a. Investment prioritized to lifecycle renewal high priority requirements with significant risk scores.

   b. If funding is for service improvements, ensure that investment is fiscally and operationally prudent.

3. By 2034, **invest an additional $115.4 million to the lifecycle renewal infrastructure gap.** As a result, substantially reduce assumed risk and continue providing critical housing services.

Appendices

Appendix 1: Portfolio Map
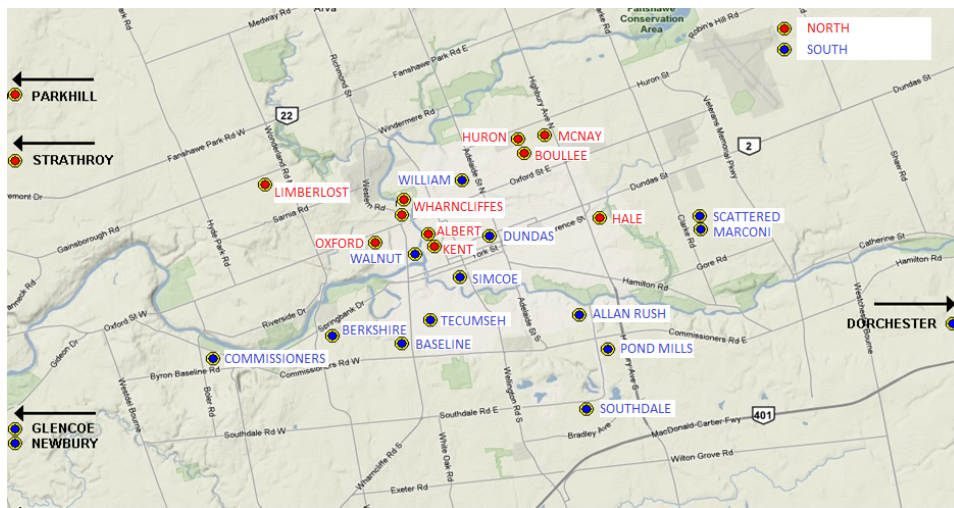
Appendix 2: A Map of the Scattered Properties

Scattered Properties

Address

🏠 Property A
🏠 Property B
🏠 Property C
🏠 Property D
🏠 Property E
🏠 Property F
🏠 Property G
🏠 Property H
🏠 Property I
🏠 Property J
🏠 Property K
🏠 Property L
🏠 Property M
🏠 Property N

Appendix 3: Draft KPI

Appendix 4: Work Order Response Times

The following information are the proposed work order categories, and the associated description and standard response times. At the time of writing, these standards were under active development and are consequently subject to change. They are included in this report to demonstrate LMCH's active commitment to excellence, continual improvement, and customer service.

Work Order Category	Description	Maximum Response Time
After Hours Call	Any calls received after hours that were dispatched, regardless of type.	Response and site visit provided within one hour. Nature of work assessed and where appropriate order created and completed within 48 hours.
Emergency	Life or building safety issues that require immediate response. If not dealt with immediately, the issue will cause damage or deterioration to the structure of the building and/or could be harmful to tenants if not dealt with immediately. Some items may have immediate response for mitigation, while permanent repair follows at a later date.	24 hours
Non- Emergency	Issues that do not harm human life or building structure but may cause an inconvenience to the tenant(s) if not addressed within 5 days.	5 calendar days
Routine	Issues that do not harm human life or building structure and can wait to be addressed in sequence within 30 days.	30 calendar days
Unit Inspections	All work orders (excluding any identified emergency or non-emergency) created during annual unit inspections.	30 calendar days from inspection date

Appendix 5: Vacancy Rate Definitions

Total Vacancy: This includes all units within LMCH portfolio that are not occupied. It is inclusive of Non-Rentable (Units), Active Restoration (Units) and Rent Ready Stock.

Active Rental Stock: These are all units that are rent ready and available to offer. Units leave this category when they are future leased or leased (when the actual lease is signed and keys are handed to the new tenant).

Non-Rentable or in Active Restoration: This category includes all remaining units that have suffered catastrophic loss, i.e. fire, flood or other insurable damage. Construction projects such as portfolio improvements and secondary suites. Units that are in pre-pest clearance as well as any that are pest cleared and are now in active restoration. Affordable

Glossary of Terms

Housing: Residential rents that are maintained at or below 80% of Average Market Rent for at least 20 years. Affordable Housing programs were first established in 2002 and have led to the construction of about 21,800 rental units.

Asset Management: Coordinated activity of an organization to realize value from assets. Realization of value normally involves balancing costs, risk, opportunities and performance benefits (The Institute of Asset Management, 2019)

Asset Management Plan: Documented information that specifies the activities, resources and timescales required for an individual asset, or a grouping of assets, to achieve the organizations asset management objectives (The Institute of Asset Management, 2019).

Asset Management Strategy: A management system for asset management whose function is to establish the asset management policy and asset management objectives. The strategy converts objectives of the organizational strategic plan and the asset management policy into high-level, long-term action plan for the assets and/or asset system (The Institute of Asset Management, 2019)

Bonus Zoning: Under Section 37 of the Planning Act, R.S.O. 1990, Council may pass a by-law, known as a bonus zone, to authorize an increase in height and density of development beyond which is otherwise permitted by the Zoning By-law, in return for the provision of such facilities, services, or matters as are set out in the bonus zone.

Built Form: Includes all elements that make up the physical shape of the city. These include neighborhoods, streets, streetscapes, public spaces, landscapes and buildings. The built form includes things such as the physical size, height, shape, style and architectural elements of a building and its position relative to the lot and surrounding buildings.

Service Manager: Service Managers are responsible for determining a household's eligibility for rent-geared-to-income assistance and priority access to subsidized housing in their service area. Decisions are made following provincial eligibility and priority rules, and local eligibility and priority rules that are set by the Service Manager on specific matters as specified by regulation.

Community Housing: Housing owned and operated by non-profit housing corporations, housing co-operatives, and municipal governments or district social services administration boards. These providers offer subsidized or low-end-of market rents. This form of housing is sometimes referred to as social housing and affordable housing.

Facility Condition Index (FCI): FCI is calculated by dividing the sum of all past, current, and near term (2 years) site and building capital needs by the total replacement value. The FCI score is often used to compare asset conditions across a portfolio.

Housing First: A recovery-oriented approach to ending homelessness, which focuses on moving people experiencing homelessness into independent and permanent housing where there are appropriate supports and services (Housing First, 2019).

Housing Division Notice: Policies, procedures and directives established by the City of London Service Manager. Local Rules are developed to ensure consistent program delivery.

Housing Service Act (HSA): Establishes the legislative framework for the community (formerly called social housing) in Ontario. Rent-geared-to-income assistance is administered locally by 47 Service Managers (municipalities and district social services administration boards) designated under the Housing Services Act, 2011 to manage community housing programs across the province.

Levels of Service (LOS): Parameters, or combinations of parameters, which reflect social, political, environmental and economic outcomes that the organization delivers (The Institute of Asset Management, 2019).

Local Priority Rules

When selecting an applicant from the City of London and Middlesex County waiting list, offers by the Housing Providers should be made in the following order:

1. Applicant households approved under the Special Priority Policy (SPP) for applicants

who are abused;

2. Applicant households deemed to be in an Urgent situation ranked according to the

date the status was assigned;

3. Applicant households in the High Need category by date of application;

4. Applicant households in the rent-geared-to-income category ranked chronologically by date of application (see Placement Ratio below).

Property Assets: This refers to real estate, which is immobile and tangible, such as land and improvements, and real property, which includes all of the rights that can attach to land (i.e. restrictive covenants and easements).

Property/Land Uses: the purpose for which any land, building or structure or premises, or part or combination thereof, is arranged, designed or intended to be used.

Rent-geared-to-income: Rental units where rent charged is equal to 30% of gross income less exclusions and deductions. Household income is verified through income testing by the housing provider or Service Manager

Community housing: Developed through federal or provincial government programs from the 1950s through 1995. Over 250,000 households live in community housing. About 185,000 pay a geared-to-income rent and the rest pay moderate market rent.

Stakeholder: Person or organization that can affect, be affected by, or perceive themselves to be affected by a decision or activity (The Institute of Asset Management, 2019).

Supportive Housing: Supportive housing combines housing assistance with individualized, flexible, and voluntary support services for people with high needs related to physical or mental health, developmental disabilities or substance use (Homeless Hub, 2019).

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2024

London Police Service
Asset Management Plan

City of London

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Acknowledgement

Land Acknowledgment

We acknowledge that the London Police Service resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the London Police Service, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge the efforts of the London Police Service staff (both civilian and sworn officers) for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to the London Police Services Board and City Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

London Police Services Board

Members: Ali Chahbar (Chair), Megan Walker (Vice Chair), Nancy Branscombe (Member), Josh Morgan (Mayor), Steve Lehman (Councillor), Susan Stevenson (Councillor)

Section 1.   Executive Summary

Summary	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$175.5	$175.5
Cumulative 10-Year Infrastructure Gap ($millions)	$94.5	$186.2
Infrastructure Gap as a Percentage of Replacement Value	53.9%	106.1%

1.1: 2024 London Police Service Asset Management Plan Introduction

The London Police Service (LPS) infrastructure systems represent one of the critical backbones of providing municipal services to our community. They support a range of police services that enable the quality of life and feeling of safety experienced by residents, businesses, and other community partners.

This Asset Management Plan (AMP) is designed to enhance the management of LPS's infrastructure assets in a way that connects strategic LPS, City of London, and community objectives to day-to-day and long-term infrastructure investment decisions. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning LPS for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, and replaced).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that maintain current LOS and those that achieve proposed LOS;
- If necessary, establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet

London Police Services Board (LPSB) approved LOS and associated lifecycle activities.

Based on this analysis key findings of the 2024 LPS AMP are:

- There are $175.5 million dollars of infrastructure assets under LPS management;
- Overall, these assets are in Fair condition;
- Cumulative 10-year maintain current LOS and achieve proposed LOS infrastructure gaps of $94.5 million and $186.2 million, respectively, exist; and
- The average planned budget for 2023-2032 (based on the 2023 annual budget update) represents a reinvestment rate of 3.4%, which is less than the recommended average to maintain current LOS and achieve proposed LOS reinvestment rates of 9.6% and 15.1%, respectively.

A summary of these results is presented in the following tables and figures:

- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of LPS's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets between those that are in Very Good to Very Poor condition;
- Figure 1.2 shows the optimal maintain current LOS and achieve proposed LOS expenditures compared to planned budget and additional reserve fund availability, and the resulting infrastructure gaps;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS.

Table 1.1 2024 AMP Summary Information

Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$175.5	$175.5
10-Year Infrastructure Gap ($millions)	$94.5	$186.2
Infrastructure Gap as a Percentage of Replacement Value	53.9%	106.1%

Figure 1.1 Overall Condition

Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps (millions)

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
3.4%	9.6%	15.1%

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.

- **Detailed Asset Management Plan** section summarizes the existing asset inventory, its replacement value, condition, age distribution, and how LPS stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.

- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to LPSB approval.

- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on LPS staff input and asset data, the LPS AMP is a tactical outcome of the City's CAM Program, setting out the details of the current plan for LPS to manage its $175.5 million worth of infrastructure, and the required investments to expand the asset portfolio to meet maintain current LOS and achieve proposed LOS objectives. There are no easy solutions to how the entire infrastructure system works together to achieve an optimal delivery of police services. But this AMP, among other LPS strategic documents, helps to identify the additional efforts required to address the reported infrastructure gaps.

Based on the analysis, the 2023 maintain current LOS infrastructure gap of $5.4 million compared to a $175.5 million asset base is considered a well managed gap. There is no current 2023 achieve proposed LOS gap. This occurs because proposed investments commence in 2024 to align with the City's 2024-2027 Multi-Year Budget (MYB). However, the cumulative 10-year maintain current LOS and achieve proposed LOS gaps of $94.5 million and $186.2 million, respectively, are concerning. This growth in the infrastructure gaps has the potential to escalate beyond LPS's ability to manage services effectively. As there is no intent to allow this to occur, further action is needed

to address both the understanding and forecasted growth of the gaps.

Choices are available as to how LPS manages the infrastructure gaps:

- LPS can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. This funding can come from either tax supported or non-tax supported sources of financing, noting within police services non-tax supported sources of financing are primarily contingent upon other levels of government policies. However, funding sources are limited, thus, LPS must continue to manage its services in an affordable manner with regard to community and staff impacts.
- Paying for the gaps is not the only opportunity. In rare cases, LPS can reduce LOS to match its ability to pay. However, there may be an unwillingness to give up services currently employed and a strong desire to improve services especially when considered in the context of public and staff safety and wellbeing. There is also recognition that some services are legislated and cannot be reduced or eliminated.
- A third opportunity for LPS is to find more efficient and effective ways of delivering services, including changing the asset mix that supports service delivery to the community. When possible, LPS strongly supports this direction and regularly invests in improvements. One element of this third approach is the work underway to enhance asset management practices.

Overall, LPS has a long-standing practice of pursuing all possible means to achieve service delivery goals and has been reasonably successful delivering quality services. In effect LPS adopts a blend of the three approaches outlined and is continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

Based on these objectives the Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against LPS's $175.5 million worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement, and there are no additional funding needs associated with the completion of these administrative projects (i.e., initial projects will be completed leveraging existing staff and other resources).

Section 2. Introduction

2.1: Supporting London Police Service Goals Through the Corporate Asset Management Program

LPS infrastructure systems support a range of police services that enable residents, businesses, LPS staff, and other City of London partners to live, work, and play safely in the City. These service delivery results are based on LPS's strategic community and organizational objectives established through the LPS Strategic Plan, which outlines the mission, vision, and values that guide LPS in a way that aligns with the core values of our community. The 2024-2027 LPS Strategic Plan[1] summarizes these objectives as follows:

Our Mission

To ensure the safety and well-being of London's communities.

Our Vision

To be respectful of, and responsive to, the changing needs of our community and our organization through strategic and collaborative partnerships.

Our Values

- Professionalism
- Excellence
- Inclusiveness
- Transparency
- Accountability
- Integrity
- Diversity
- Trust

The City's CAM Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[2].

This AMP was developed through the City's CAM Program based on an approved Service Level Agreement between LPS and the City. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and LPSB approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of 2023-2032 capital plan (hereon referred to as "planned budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

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[1] https://www.londonpolice.ca/en/about/2024-2027-strategic-plan.aspx

[2] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

2.2: Provincial Asset Management Planning Requirements

This AMP builds upon existing LPS asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, the Province created O. Reg. 588/17 under the Infrastructure for Jobs and Prosperity Act. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the

consolidated financial statements, excluding Joint Water Boards. It is noted LPS financials are consolidated within the City's financial statements. The following dates are provincially required:
  - By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  - By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS and the costs to achieve them, and the financial strategies to fund the expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.
- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across various LPS Divisions who are involved with managing infrastructure assets, including civilian and sworn officer staff involved with finance, technical staff involved with planning and executing the construction and maintenance of infrastructure assets, and on-the-ground staff who operate and maintain infrastructure assets.

Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure
- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?

- Age and expected useful life of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and helps inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects capital financing pressures that go beyond what can be accommodated in the LPS 2023-2032 planned budget.

A sample of the capital financing pressures captured in the AMP are:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,
- Achieve Proposed LOS – meeting the desired LOS may require additional investments in existing or new infrastructure, and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

Additionally, due to evolving legislative changes and ongoing CAM Program development and implementation, the following capital financing pressures have not been fully analyzed, but are summarized here to provide information regarding potential future amendments:

- Growth – as the city expands and develops, additional infrastructure investments will be required to support the increasing population and demands, and
- More Homes Built Faster Act, 2022 – legislative changes may impact the City's funding of growth costs.

By acknowledging capital financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and helps to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with LPS's strategic plans, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other LPSB approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, LPS strives to provide services to the community that are accessible, cost efficient, provide customer satisfaction, demonstrate environmental stewardship, reliable, and safe, with suitable scope. As shown in Figure 2.1, to obtain a desired LOS, LPS faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.

Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budget, the required budget to maintain current LOS, and the required budget to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned budget and capital reserve fund over a 10-year period (2023-2032).

In other words, what LPS plans to spend versus what the asset needs are. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, to minimize the risks associated with failing assets, and to acquire new infrastructure.

Next are the infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community, which is consistent with the outcomes and expected results of the 2024-2027 LPS Strategic Plan and 2023-2027 City of London Strategic Plan.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with addressing infrastructure gaps. This discussion includes opportunities and challenges that are both in and outside of the control of LPS and LPSB. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and
- Growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of LPS infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by LPS as of December 31, 2022, and associated planned budgets approved in the 2023 annual budget update. Thus, timing differences exist between when this AMP was developed versus current 2024-2027 MYB approvals.

Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.

- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in three ways:
  - o Condition may be technically assessed and reported on in a quantifiable technique. This method is the most accurate and most expensive (e.g., facilities condition);
  - o Condition may be assumed based on age and estimated useful life; and
  - o Finally, condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- The planned budget and expected reserve fund availability will occur as planned over the period of analysis.

Section 3.   Detailed Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

LPS owns and operates a broad array of assets with a replacement value of approximately $175.5 million. These assets range from facilities, vehicles, and information technology (IT) to safety/protective equipment and canine gear. Each asset is managed and maintained to meet both legislated and non-legislated service requirements with an aim of providing the highest level of safety possible for both the community and staff.

Table 3.1 summarizes the assets by type, inventory/quantity, and replacement values. The asset replacement values have been identified using different LPS databases including J.D. Edwards, VFA Facilities Management software, and internal expert opinion. These replacement values aim to capture current market prices for the fully replacement of identified assets. For further information regarding costing refer to State of Local Infrastructure.

To further contextualize the complexity and necessity of these assets the following summarizes LPS's organizational and service delivery structures.

LPS is comprised of approximately 650 officers, 250 civilians and 22 cadets who are dedicated to serving the diverse community of London. Working as a team, LPS staff enforce federal statutes including the Criminal Code, provincial offences such as the *Highway Traffic Act*, and municipal by-laws. The operations of LPS are governed by the *Police Services Act*, which grants officers jurisdiction to operate within a mandated geographical area. LPS frontline services are primarily organized between Front Line Patrol, Patrol Support Units, and Criminal Investigation Division.

Front Line Patrol

Front line units positively impact the lives of people every single day. They respond to every type of call from simple advice calls to life saving events, and violent criminal arrests. To effectively delivery these services, officers are provided the best training possible to ensure they have the skills needed to serve the community.

Patrol Support Units

Front Line Patrol officers are supported by numerous units, such as:

- Emergency Response Unit
- Canine Unit
- Traffic Management Unit
- Bike Patrol Unit/Community Foot Patrol Unit
- Public Order Unit
- Community Services UnitI

These support units are critical to both public and officer safety, and without them the delivery of police service would not be possible.

Criminal Investigation Division

The Criminal Investigation Division (CID) is responsible for conducting investigations into criminal activity and for providing investigative support to the Uniformed Division (UD). The overriding priorities are the reduction of crime, addressing the public's fear of crime, enhancing public safety, conducting thorough, detailed investigations and referral to victim support services.

CID is responsible for investigating incidents such as homicides, sudden deaths, robberies, sexual assaults, serious assaults, child abuse, break and enters, stolen vehicles, gun and drug offences, cyber-enabled and complex technological crimes,

frauds, internet child exploitation offences, human trafficking, and other occurrences requiring extensive follow-up investigation. Crime analysis provides a strategic approach through identifying factors contributing to criminal behaviour, as well as, identifying high risk individuals, known offenders, criminal groups, and criminal activity.

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Facilities	Buildings	6	Each	$129,853.6
	Furniture and Tools	Mix	Each	$2,155.8
Information Technology (IT)	IT Infrastructure		Each	$4,207.3
	Applications and Software		Each	$2,153.0
	End User Devices and Applications	Mix	Each	$11,027.6
	Multimedia Devices (cameras, audio video equipment, etc.)		Each	$1,136.1
Fleet	Heavy Equipment	6	Each	$2,880.0
	Vehicles	249	Each	$12,846.0
	Tools	41	Each	$251.9
	Trailer	11	Each	$248.0
	Motorcycles/Bicycles	27	Each	$227.8
	Small/Off Road Equipment	14	Each	$124.6
	Marine	4	Each	$106.5
Other Police Equipment and Assets	Various	Mix	Each	$8,300.0
Total				$175,518.2

Additional details relating to each asset type are provided.

Facilities

With a replacement value of $129 million, the majority of assets in this category are Buildings. There are six distinct facilities, which are inclusive of the headquarters (HQ) administration building, HQ emergency vehicle garage, HQ explosion vehicle and equipment garage, HQ car wash, HQ fueling station, and the LPS communications building (external to HQ campus). Each of these facilities supports service delivery by providing safe and efficient work, meeting, detainment, training, and other spaces/functionality critical to policing and members of the public. The LPS Facilities division manages and maintains these assets, allowing them to meet the functional requirements, and building and safety codes, while operating in a safe and efficient manner.

Information Technology

IT assets have an approximate replacement value of $18 million and without such assets it would not be possible to effectively use and manage all other LPS assets and their associated information. In today's modern era, connectivity, information, and data are strategic business assets. The IT division is responsible for the technology tools used to ensure the safety and protection of LPS data, information, computer systems, and continuity of services. They support all other LPS service areas in delivering their services to the public. IT assets include leased and owned assets, both of which have been included in this report. IT assets include hardware, software, audio-video equipment, information, and data. Like most municipalities and other public service corporations, the value, condition, and infrastructure gaps with respect to IT soft assets of 'data' and 'information' are not currently assessed nor is any methodology readily available to undertake such an assessment. Thus, any such assets are not presented in this AMP.

Fleet

With the third highest replacement value of $16.7 million, LPS Fleet assets are comprised of a variety of frontline vehicles such as cars, trucks, SUVs, bicycles, motorcycles, a boat, light armoured vehicle, explosive disposal truck, command vehicle unmarked vehicles, and more. A safe, reliable, and right sized fleet is a key aspect to delivering police services. Fleet division accomplishes this through various inspection and maintenance programs that meet or exceed the Ministry of Transportation regulatory requirements, and vehicle replacement programs based on cost benefit risk analysis as well as the maintenance of vehicle availability ratios (number of available vehicles per on-duty officers).

Other Police Equipment and Assets

With a replacement value of approximately $8.3 million, the Other Police Equipment and Assets category contains critical infrastructure that supports the safety of Front Line Patrol, Patrol Support Units, Criminal Investigation Division, and administration departments. Much of the equipment and assets contained within the category are confidential/covert in nature due to the policing functions they support. Thus, although further details exist and are used to effectively manage the assets, they are not presented publicly.

3.1.2: Age Summary

Figure 3.1 shows the LPS average asset age as a proportion of the average expected useful life This comparison provides a visual representation of how close assets are to the end of their lifecycle, which demonstrates LPS's ability to replace such assets on-time. Overall, the data affirms that LPS facilities are beginning to age past their expected useful life while primarily all other asset types are well within their expected useful life.

Facilities

The ages of all facilities were calculated using the recorded construction date in the VFA Facilities Management software. Overall facility assets have exceeded their average industry standard expected useful life of 40-years. This leads to an increase in the operation and maintenance cost of these facilities. It is important to note that 40-years was selected as the expected useful life based on the non-structural components of buildings which have the longest expected useful life. In practice the many components that comprise a building are slated for renewal based upon a combination of factors including age, condition, consequence of failure, likelihood of failure, etc., and the practical expected useful life is largely indefinite while the building continues to serve its intended/required purpose in its given geographic location. Nevertheless, the age of LPS facilities and the evolving demands and best practices of police service delivery have given rise to the need for a comprehensive assessment and change management plan to modernize LPS facilities based on current and forecasted requirements. This assessment was completed and reported to the LPSB through the 2019 LPS Long Term Facility Accommodation Plan and 2023 LPS Facility Master Plan. Further details and financial impacts of these plans are provided in Asset Lifecycle Management Strategy – Maintaining Current and Achieving Proposed Levels of Service.

Information Technology

IT asset average age and expected useful life are based upon internal expert opinion. The analysis excludes Applications and Software assets as these are assumed to be operational until replacement needs are identified. This approach is taken as application and software age and expected useful life are impacted by regular upgrades/renewals. Thus, data is not readily available to calculate traditional age and expected useful life assumptions. In absence of age and expected useful life profile predictions for applications and software, operational risks are mitigated by periodically assessing asset condition and forecasting expected capital financing needs. For IT Infrastructure, End User Devices, and Multimedia Devices there are detailed data listings tracking the age of assets, noting for these assets the average age and expected useful life are 5-years and 5 to 7 years, respectively.

Fleet

The age for all Fleet vehicles is calculated using the recorded acquisition date in the J.D. Edwards tangible capital asset databases. All Fleet asset types except for Motorcycles/Bicycles are within their average industry standard expected useful life, noting although some Motorcycles/Bicycles have past their expected useful life these assets have been maintained within established standards and are not in need of immediate replacement.

Figure 3.1 Average Age and Expected Useful Life

3.1.3: Asset Condition

The condition of the assets was determined using one of the three methods below based on data availability and accuracy:

1. Existing condition rating systems (e.g., Facility Condition Index, etc.),
2. Estimated based on age and the remaining expected useful life of the assets, and
3. Estimated based on expert opinion, in the absence of 1 or 2 above, or where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data helps identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.2 presents the condition distribution of all LPS assets. It shows that approximately 98% of the assets are in Very Good to Fair condition. However, the majority of this 98% are in Fair condition (78% Fair), which is cause for concern given the nature of police services and the criticality of the assets to service delivery.

Although pressures exist, assets are overall maintained in safe, serviceable condition, with replacement of non-facility assets occurring for the most part on a planned basis as assets reach their optimum lifecycle stage. When possible retired assets such as vehicles are sold off and the associated proceeds used to offset the purchase of new ones. If resale is not suitable, assets are either maintained as spares or disposed of using appropriate protocols.

Figure 3.3 provides a detailed condition distribution. Findings associate with Facilities, IT, and Fleet are provided by asset. Whereas Other Police Equipment Assets are presented at the asset type level due to their immateriality.
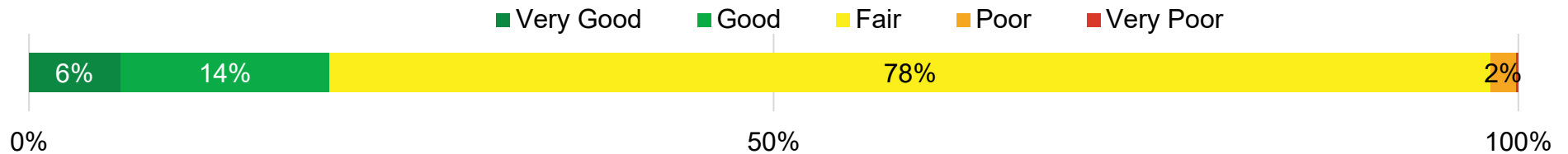
■ Very Good ■ Good ■ Fair ■ Poor ■ Very Poor

| 6% | 14% | 78% | 2% |

0%   50%   100%
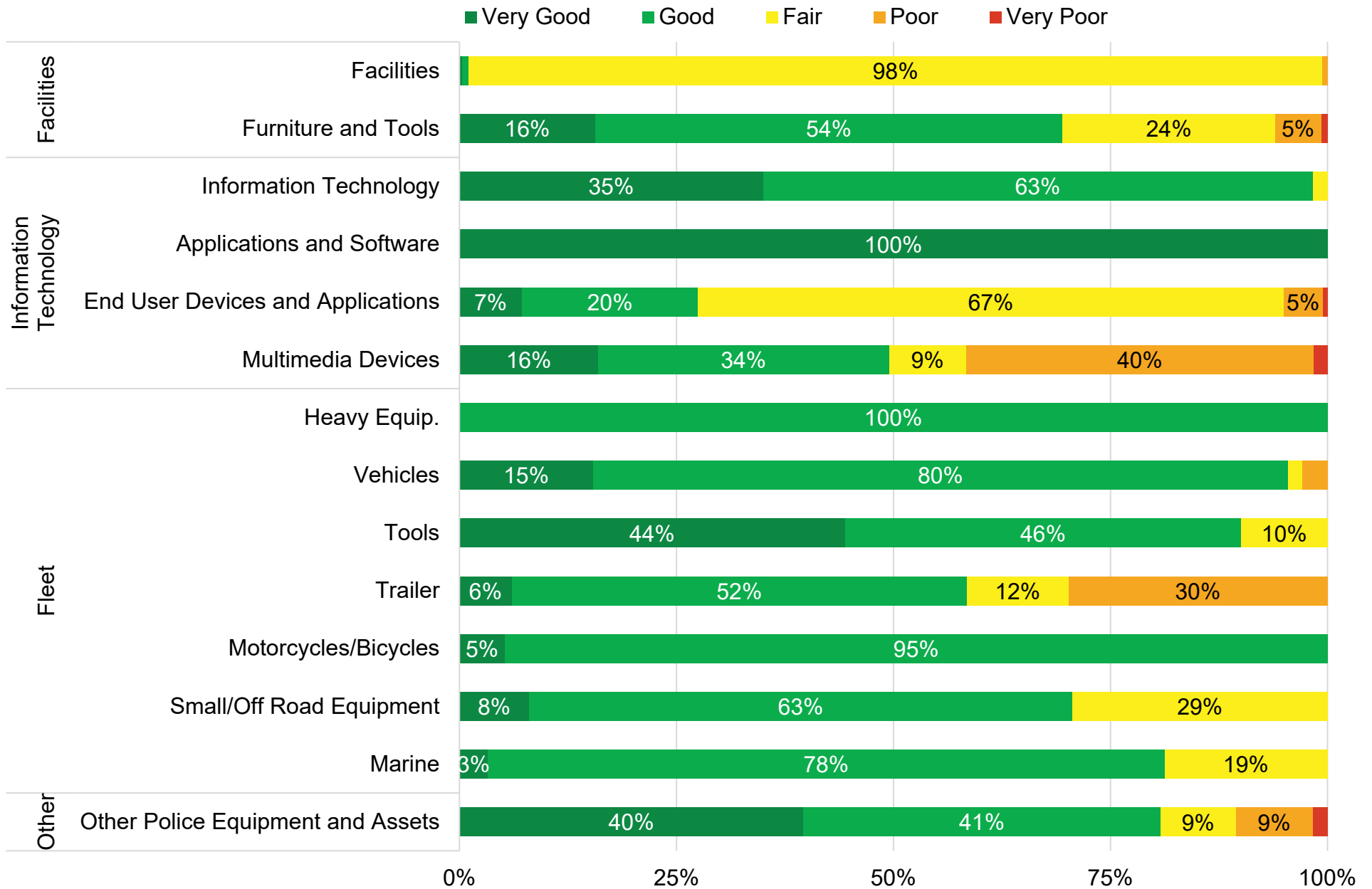
Figure 3.2 Overall Condition

Figure 3.3 Asset Condition Detail

Facilities

The conditions of LPS facilities assets are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facilities and their sub-components (building envelope, mechanical and electrical systems, etc.). These assessments are used as a primary source in identifying the repair, rehabilitation, and/or replacement strategies for each asset. Note, the facilities condition ratings present the physical condition of the buildings and are not a representation of the functionality required to satisfy police service delivery (i.e. size, location, ability to accommodate certain types of functions or equipment, etc.).

The current condition assessment identifies that 98% of facilities assets are in Fair condition. In the context of police service delivery requirements, such as material amount of facilities assets in Fair condition is indicative of a need for lifecycle reinvestment in the short to medium term. Furthermore, specific facility conditions of note are the Emergency Vehicle Garage and Communications Building locations, which are both in Poor condition and require immediate reinvestments.

Information Technology

Overall, approximately 94% of IT assets are in Very Good to Fair condition. IT asset conditions were evaluated based on internal expert opinion and industry standards. Performance and condition concerns of IT assets are captured on a proactive basis through monitoring and alerting applications. It also occurs through routine maintenance programs or problems reported by end users.

Within the overall condition score, 67% of the End User Devices are in Fair condition, and 40% of Multimedia Devices are in Poor condition. The largest component of End User Devices is

radio communications equipment, and Multimedia Devices primarily consist of a varied collection of digital and analog audio video policing equipment. Both observations signal a large portion of these assets are near the end of their expected useful life and will be up for replacement soon.

The Applications and Software condition score of 100% Very Good is based on internal expert opinion. The methodology of this expert opinion considers the functional requirements of applications and software based on LPS needs. If needs are being met, condition is maintained at Very Good until significant software updates or new software needs are deemed necessary.

Fleet

Over 97% of Fleet assets are in Very Good to Fair condition. The condition of these assets is based on age and expected useful life estimates for each unit as well as LPS Fleet division condition assessments and maintenance records.

Of this asset base Vehicles represent the largest value of Fleet assets ($12.8 million of $16.7 million total), and 95% of these assets are in Very Good to Good condition. This condition performance aligns with expectations as vehicle operability is a critical component of service delivery. The realization of this condition level is achieved through a rigorous maintenance program that includes daily, monthly, and more extensive biannual and annual inspections and repairs/replacements.

The next largest Fleet asset base is Heavy Equipment, which consists of LPS's freight trucks. Given their construction and modality of use within LPS's operations, these assets have expected useful life of greater than 15-years and are all presently in Good condition. Other areas of note within Fleet assets are general signs of deterioration of Trailers, Small/Off-Road Equipment, and Marine assets. It is noted that the

percentage of these assets in Fair to Poor condition is within reasonable limits, however, lifecycle renewal/replacements will be required in the near future.

3.2: Levels of Service

Asset management LOS link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- 2024-2027 LPS Strategic Plan,
- 2019 LPS Accommodation Master Plan
- 2023 LPS Facilities Master Plan,
- 2023-2027 City of London Strategic Plan, and
- 2023 Annual Budget Update.

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, LPS and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.3 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 LPS AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future LPS AMP development processes and practices.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Description
Accessible	Service is accessible by the community, not exclusive, it is inclusive to those who wish to/may use the service to the greatest extent possible, regardless of age, ability, etc. Includes metrics related to asset accessibility and legislated requirements. For example, *Accessibility for Ontarians with Disabilities Act* (AODA).
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Customer Satisfaction	Service is satisfactory/meeting expectations from the perspective of a customer or community. Includes a diversity of metrics that cover the performance of a service based on customer experiences. Metrics consist of descriptions from customer surveys and the like. Example includes percentage of customers satisfied with assets or service delivery.
Environmental Stewardship	Service is provided in a means that considers, controls, or reduces impacts to the environment. Includes metrics related to the assessment of service provision based on environmental stewardship and sustainability practices. Examples include annual monitoring of utility usage by square footage of facility space, or fuel consumption-based greenhouse gas emissions.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.
Scope	Service is extended to/covers a defined range, or description of service range provided through municipal infrastructure. LPS future customer value reporting will be related to implemented Facility Master Plan percentage.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can readily determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed. After review with LPS staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented in Table 3.4, and the support related LOS are documented in Table 3.5.

3.2.1: Direct Levels of Service

Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	Overall reinvestment rate	3.4%	9.6%
Environmental Stewardship	Technical	Annual electric energy consumption kilowatt-hour per square foot	18.18 kWH/sf	Positive Downwards
		Annual natural gas consumption cubic meters per square foot	2.88 m3/sf	Positive Downwards
		Annual water consumption cubic meters per square foot	0.06 m3/sf	Positive Downwards
		Fleet Vehicle Average annual greenhouse gas emissions	6.54 tonnes per year per vehicle	Positive Downwards
Reliability	Customer	Percentage of LPS assets in Fair or better condition	98.1%	Maintain current
		Percentage of Fleet assets within optimum service life	93%	Maintain current

3.2.2: Related Levels of Service

Table 3.5 Related Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance
Accessible	Technical	Percentage of public entrances that are FADS compliant	100%
		Percentage of employee entrances that are FADS compliant	80%
		Percentage of public washrooms that are FADS compliant	90%
		Percentage of employee washrooms that are FADS compliant	70%
Cost Efficiency	Technical	Fleet patrol operations (cruisers) cost per km ($/km)	$0.64/km
Reliability	Customer	Percentage of Facilities in Fair or better condition	99.4%
		Percentage of IT Assets in Fair or better condition	94.4%
		Percentage of Fleet assets in Fair or better condition	97.3%
		Percentage of Other Police Equipment and Assets in Fair or better condition	89.5%
		Percentage of Furniture and Tools in Fair or better condition	94.0%
Reliability	Technical	Percentage of Fleet past their optimum service life	7%
		Percentage of Fleet annual preventative maintenance inspections completed	99.6%
		Percentage availability of LPS core computing environment	100%

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.6.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

LPS employs a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, disposal, and regular investments in master planning studies, while continuing to prepare for growth and introduce service improvements.

When feasible, LPS also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets or asset categories, which can result in cost and service efficiencies. Additionally, with significant asset investments, LPS seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Selected lifecycle activities are reviewed and modified based on continual industry benchmarking, staff training, professional networking, online reviews, consultant recommendations, and trial and error through scenarios and pilot programs. LPS also invests in climate change adaptation and mitigation planning through strategic planning exercises, which may trigger asset investment needs.

The current LPS lifecycle management activities (practices and planned actions) are presented as follows:

- Table 3.7, Table 3.8, and Table 3.9 list specific asset management practices or planned actions by lifecycle activity for Facilities, IT, and Fleet assets.
- Table 3.10 lists generic lifecycle activities for all other LPS assets.
- Table 3.11 lists specific risks associated with asset management practices or planned actions by lifecycle activity.

Table 3.7 Facilities Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Facilities are maintained and renewed through a specialized Facilities Team and their use of VFA software (supplied through Gordian) and other facilities management applications, which combined with comprehensive condition assessments and Facilities Team experience, determines the lifecycle management needs of a facility. • Needs include the direct care of the building envelope, mechanical and electrical systems, etc.
Maintenance	• A work order system and online interface exists for LPS Facilities Team employees to generate and document capital works requests and completions.
Renewal/ Rehabilitation	• Facilities are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of renewal requirements.
Replacement/ Construction	• Facilities are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of replacement requirements.
Disposal	• Appropriate and proper disposal occur when assets are replaced or renewed.
Service Improvement	• Strategic plans, and consultation with community partners and users of facilities determines service improvement needs.
Growth	• See Table 3.10.

Table 3.8 Information Technology Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	IT Infrastructure and End User Devices and Applications • Monitor and track age and amount of time the asset considered a priority as to when the asset should be replaced. • Soft strategies (i.e., policies) to mitigate adverse effects of high rises on communication system are continuously updated. Applications and Software • Focus is to ensure that assets are considered 'in support' to mitigate potential malware/cyber-attacks and ensure assets are operating efficiently for individuals using them.
Maintenance	IT Infrastructure, Applications and Software, End User Devices and Applications • Users of LPS hardware and software assets provide asset concerns on proactive basis through alerting applications and preventative maintenance programs. • Concerns are also addressed through routine maintenance programs reported by the user to the IT Team.
Renewal/ Rehabilitation	IT Infrastructure, and Applications and Software, End User Devices and Applications • Generally, not rehabilitated.
Replacement/ Construction	IT Infrastructure • Scheduled replacement programs in place. Applications and Software • When applications and software no longer receive support, they are replaced with new supported applications and software. End User Devices and Applications • Replaced when asset reaches end of useful life or unexpected event occurs with asset.
Disposal	• Assets are disposed of via an electronics recycler once they reach end of life. Hard drives are either wiped or physically destroyed.
Service Improvement	• Strategic plans, and consultation with community partners and users of IT assets determines service improvement needs.
Growth	• See Table 3.10.

Table 3.9 Fleet Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Fleet assets are rigorously maintained to support the reliable delivery of front-line service. They receive monthly and more rigorous biannual and annual inspections. • Ongoing lifecycle management reviews and condition assessments are completed at end of life. • Test extending lifecycle and assess impact on performance, cost, and risks.
Maintenance	• A work order system and online interface exists for LPS Fleet Team employees to generate and document capital works requests and completions. • Vehicles and equipment are monitored, and problems addressed when triggered by staff observations. • Tender and request for proposal specifications are modified based on experience from usage of vehicles and equipment, to minimize recurrence of the issues, where possible. • Carrying out regular preventive maintenance on all vehicles and equipment. Target is to minimize unplanned non-standardized work and asset down time. • Reactive maintenance for circumstances that cannot be easily mitigated (e.g., vehicle accidents requiring immediate repair, faster than anticipated vehicle breakdown, etc.). • Empowering staff to make decisions regarding elective repairs.
Renewal/ Rehabilitation	• Regular preventative maintenance programs assist in determining renewals/rehabilitations required; major overhauls or reconditioning Fleet assets are very costly and generally do not add enough extended life. • Review opportunities to repurpose add on equipment, attachments, and outfitting components. • Equipment is generally not considered a rehabilitation option. The lifecycle activity is regular maintenance and the decision to replace the asset.
Replacement/ Construction	• Optimal asset lifecycle assessed to determine timing of replacement that minimizes maintenance/repair work and maximize salvage value. • Notice to all shop supervisors and managers of end-of-life assets to help with service and repair decisions to mitigate non-value-added expenditures. • Vehicle and equipment assets ideally are used to end of useful life. When unexpected events occurs then the asset would have to be immediately replaced. • Maximize "in warranty" status of asset a consideration of replacement.
Disposal	• Optimal lifecycle analysis results in salvage value. Salvage amount can vary but an average of 15% of replacement value is consistently achieved. • Fleet planning to stagger sales of similar assets at auction to ensure maximum returns and not over flooding resale market. • Fleet labor used to prepare assets for disposal helping maximize return.
Service Improvement	• Extended warranties and enhanced service agreements negotiated when possible. • Request for proposals procurement practices to acquire higher quality assets with longer lifecycles.
Growth	• See Table 3.10.

Table 3.10 Generic Asset Management Practices or Planned Actions (All LPS Assets)

Activity	Generic Asset Management Practices or Planned Actions
Non-infrastructure Solutions	• Continuously improve procedural controls and approvals, computerized maintenance management systems, and financial planning strategies to control costs. • Updating and applying design standards. • Ongoing search for additional funding. • Improvements to employee capabilities, communications, training, etc. • Changes to LOS. • Developing asset management program and staff training for asset knowledge and efficient use. • Leadership networks with peers through conferences and committees to learn from other's experiences.
Maintenance	• Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets.
Renewal/Rehab	• Adopt the latest technology and assets that maintains the current LOS.
Replacement/ Construction	• Adopt the latest technology and assets that maintains the current LOS.
Disposal	• Dispose of assets under the applicable procurement policy for London Police Services Board, aligned with other regulatory and environmental standards.
Service Improvement	• Based on internal committee reviews, implement service deliver changes that improve asset performance, cost, and risk. • Adopt the latest technology that enhances current or achieves proposed LOS.
Growth	• Participate in discussions surrounding or related to the impacts of growth on service delivery and participate in Development Charges Background Studies and Assessment Growth Policy processes to secure appropriate levels of growth funding (subject to provincial legislation requirements and City of London policy).

Table 3.11 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (e.g., the life is not extended or the cost of managing an asset increases rather than decreases). • Need for revised plans, reports, and recommendations. • Asset management plans or proposed network solutions not followed. • Poor quality asset information/planning assumptions incorrect. • Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to assets that were not originally planned. • Growth projections not as planned or service provision changes. • Extending useful life past optimum can increase the risk of critical failure of major components. • Assets beyond expected useful life can have significantly higher maintenance costs and reduced salvage value. • Inability to mitigate malware/cyber-attacks resulting from deteriorated and non-supported asset. • Financial risks – economic fluctuations, inflation, expenditure type changes (e.g. change in IT industry – shift to operating licenses financed through operating budgets versus historical capital expenditure nature), etc.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure. • Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no actual benefits.
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during large, complex design and construction projects. • Lack of knowledge regarding best practices and market offerings (e.g., new offerings and standards). • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. • Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Incorrect growth assessments may result in overabundance or underabundance of assets. • Risk of insufficient or excess funding to construct/acquire or maintain new assets. • Potential insufficient knowledge of and supporting polices for new asset types.

General Approach

The type and frequency of lifecycle management strategies and activities impact both an asset's condition and its ability to enable service delivery. Because of this relationship, the AMP presents three different lifecycle management scenarios and their associated funding requirements. To align with the categories of Asset Lifecycle Management Activities outlined above, each scenario is broken down by the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements. Growth activities and funding requirements are constrained to those identified in the 2021 Development Charges Background Study Update. Thus, no growth infrastructure gaps are presented.

In summary these scenarios are defined as:

1. Planned Funding – This scenario presents the budget constrained to the level of expenditure approved in the 2023 annual budget update.

2. Maintain Current LOS – This scenario forecasts the level of investment required to maintain current LOS. The approach to establishing the maintain current LOS budget is to forecast the lifecycle and service improvement activity expenditures required to maintain the current levels of performance (performance as of December 31, 2022), which is inclusive of new legislated requirements.

3. Achieve Proposed LOS – This scenario forecasts the level of investment required to achieve proposed LOS. The approach to establishing the achieve proposed LOS budget is to consider the desired LOS documented in LPS's strategic plans (e.g., 2024-2027 LPS Strategic Plan, 2023-2027 City of London Strategic Plan, 2019 LPS Long Term Facility Accommodation Plan, 2023 LPS Facility Master Plan, etc.), and forecast the lifecycle and service improvement activity expenditures required to achieve proposed levels of performance.

Each scenario is further explained in the following sections. After each scenario is presented, the Forecasted Infrastructure Gap and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies that will be used to manage the gap and work towards long term service, financial, and infrastructure sustainability.

A. Scenario One: Planned Funding

The LPS average annual activity and planned funding is summarized in Table 3.12. This scenario presents the budget constrained to the current level of planned expenditures. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

For this analysis, average annual activity for operating and capital budgets are presented as the average expenditure budget from the 2021 and 2022 fiscal years. Planned funding operating budget is equal to the 2023 fiscal year budget. Planned funding capital budgets (e.g., renewal, service improvement, and growth) are the annual average of the approved 10-year capital plan for 2023-2032.

Growth activities are analyzed using the 2021 Development Charges Background Study Update. The major ongoing growth project is the expansion of LPS facilities, which stems from the facility needs analysis conducted in 2018. There is one additional growth project related to the significant costs involved in outfitting new officers, noting current costs estimates for non-personal gear and radio is approximately $6.8 thousand per officer.

Table 3.12 Scenario One – Average Annual Planned Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Planned Funding
Operating	132,617	137,311
Renewal, Replacement, Rehabilitation, Disposal	4,534	5,699
Service Improvement	300	None Identified
Growth	10,052	6,031

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.13. The approach to establishing the cost to maintain current LOS is to forecast the lifecycle activities that are required to maintain the current (fiscal year 2022) performance of the direct LOS condition metric, and to account for changes in legislated service requirements outside the control of LPSB. To achieve this, the analysis first considers the current age of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. The variables in the analysis are adjusted until the forecasted condition profile meets the current condition profile of assets. Next, information regarding known changes to legislated service delivery requirements is collected and used to forecast associated infrastructure needs.

For this analysis, planned funding remains the same as in Scenario One. Also, to enhance the accuracy of the maintain current LOS infrastructure gap calculation, available reserve fund drawdowns, if any, are reported and factored into the calculation.

The maintain current LOS analysis forecasts a 10-year average annual infrastructure gap of approximately $9.5 million. LPS facility pressures are the primary contributor to the gap. These needs include a broad mix of rehabilitation and replacement of existing infrastructure systems and service improvements associated with legislated changes.

Rehabilitation and replacement investments are based on VFA Facilities Management software and draft 2024-2027 MYB business case #P-57 – London Police Service Facilities Masterplan and Protective Services Training Campus requirements. Business case requirements reflected in Scenario Two are solely inclusive of 2019 LPS Long Term Facility Accommodation Plan and 2023 LPS Facility Master Plan investments that address facilities lifecycle renewal, noting the service improvement investments of are reflected in Scenario Three costs to achieve proposed LOS.

Facility service improvements in the maintain current LOS needs represent legislated Next Generation 911 (NG911) funding requirements per the draft 2024-2027 MYB business case #P-L8 – Next Generation 911 Centre. The investments in NG911 systems will enhance the capabilities of 911 networks, allowing compatibility with more types of communication, providing greater situational awareness to dispatchers and emergency responders, and establishing a level of resiliency not previously possible[3]. LPS fully supports adoption of NG911 as it

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[3] SafeCom – Transition to Next Generation 911 - https://www.cisa.gov/safecom/transition-next-generation-911#:~:text=NG911%20systems%20enhance%20the%20capabilities,of%20resiliency%20not%20previously%20possible.

will result in improved community and member safety, operational efficiency, and decision making.

Additional Scenario Two pressures of note include:

- Fleet funding gaps related to replacing existing vehicles based on industry best practices as it relates to expected useful life and offsetting salvage values as well as the rightsizing of vehicle complements LPS service areas based on the need to maintain existing service levels. Rightsizing requirements are based on the draft 2024-2027 MYB business case #P-29 - Police Vehicle and Equipment Requirements.
- Response to Active Attacker Incidents Regulation presents a financial pressure to maintaining legislated policing requirements. Specifically, the regulation establishes requirements for the response to, and management of, incidents involving an active attacker. Among others, this represents equipment needs beyond LPS's current service delivery capacity. These needs are based on draft 2024-2027 MYB business case #P-L9 – *Community Safety and Policing Act, 2019* – Response to Active Attacker Incidents Regulation.

LPS departments have been able to mitigate some of the risks associated with these capital financing pressure through enhanced preventative maintenance and inspection programs as well as other procedures and protocols. However, these non-financial measures have reached the point that they are no longer sustainable for both legislated and non-legislated reasons. Thus, long term financing strategies are needed to ensure the ongoing safety and wellbeing of the public and LPS staff.

Aligned with the City's Climate Emergency Action Plan (CEAP), like-for-like lifecycle rehabilitation and renewal activities tied to maintain current LOS will be substituted with green-for-like whenever feasible. This means that instead of simply replacing existing infrastructure with a similar one (like-for-like), there will be an increased focus on incorporating more energy efficient and greenhouse gas (GHG) emissions friendly infrastructure solutions (green-for-like). Such investments will incrementally support long term LPS climate change mitigation targets, which are currently under consideration and development.

Table 3.13 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Operating Budget	137,311	None identified	137,311	None identified
Renewal, Replacement, Rehabilitation, Disposal	5,699	996	16,149[4]	9,454
Service Improvement				
Growth Activities	6,031	None identified	6,031	None identified

C. Scenario Three: Achieve Proposed LOS

The cost to achieve proposed LOS are summarized in Table 3.14. This scenario forecasts the enhanced lifecycle and service improvement activities that are required to achieve the proposed LOS. Investing in the proposed LOS provides benefits related to meeting strategic plan objectives, which go beyond the scope of maintain current LOS condition profiles and legislated changes.

The analysis considers the current age of assets along with the expected useful life triggers for rehabilitation, replacement, and service improvements activities associated strategic plans and the alike to forecast the funding requirements into the future. The variables in the analysis are adjusted until the forecasted condition of existing assets and implementation of new assets meets the expectation of the LPS staff involved with the management of the assets. The future lifecycle and service improvement activities that are required to achieve the desired asset profiles (asset condition and composition) are then used to establish the annual level of investment required to achieve the proposed LOS.

The achieve proposed LOS analysis forecasts a 10-year average annual infrastructure gap of approximately $18.6 million, which is inclusive of the $9.5 million average annual maintain current LOS gap.

Like the maintain current LOS infrastructure gap, the major component to the achieve proposed LOS gap relates to the draft 2024-2027 MYB business case #P-57 – London Police Service Facilities Masterplan and Protective Services Training Campus. This proposed facilities level of investment addresses enhanced lifecycle renewal, service improvement, and growth needs in building infrastructure, equipment, and systems so that LPS's infrastructure fits the evolving community and police service needs, including accessibility.

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[4] Cost to maintain current LOS includes mix of lifecycle rehabilitation, renewal, and service improvements per VFA Facilities Management software and 2024-2027 MYB business cases 29 and 57 as well as legislated service improvements presented in 2024-2027 MYB business cases 8 and 9.

Through this additional investment the three phases of the 2019 LPS Long Term Facility Accommodation Plan and 2023 Facility Master Plan will be fully implemented, noting the phases are:

- Phase 1 – LPS Service and Renovate Additional Property Space,
- Phase 2 – Protective Services Training Campus (LPS and London Fire Department), and
- Phase 3 – London Police Service Headquarters Expansion.

Next, the achieve proposed LOS gap reflects infrastructure needs associated with capital service improvements in draft 2024-2027 MYB business case #P-28 – Public Safety and Infrastructure Modernization. From a capital perspective these investments allow for the modernization of LPS technology and equipment to ensure London area citizens are safe and service to the community is effective, efficient, and transparent. Examples of capital service improvements achieved include:

- Body-worn cameras, in-car cameras, and interview room technology, which support service delivery, trust, transparency, and police legitimacy.

- Modernization of technologies associated with digital and video evidence review and management, human resource information systems as well as budget and business analytics applications, which provide for improved operational and management monitoring, reporting and decision making.

The final component of the achieve proposed LOS infrastructure gap is based on LPS Fleet service improvement objectives. These objectives expand LPS vehicle and equipment (inclusive of conducted energy weapons and training simulator) to complement industry standards and evolving needs. They are also aimed at supporting the development and implementation of an electric vehicle (EV) strategy. Such investments will improve community and member safety, ensure effective police response, enhance community trust during high-risk incidents, and contribute towards GHG reduction targets and other CEAP objectives. These needs represent select items contained in the draft 2024-2027 MYB business case #P-29 - Police Vehicle and Equipment Requirements.

Table 3.14 Scenario Three - Average Annual Cost to Achieve Proposed LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Incremental Cost to Achieve Proposed LOS[5]	Achieve Proposed LOS Infrastructure Gap[6]
Operating Budget	137,311	None identified	137,311	None identified	None identified
Renewal, Replacement, Rehabilitation, Disposal	5,699	996	16,149	9,169	18,624
Service Improvement					
Growth Activities	6,031	None identified	6,031	None identified	None identified

[5]Incremental investment to achieve proposed LOS based on 2024-2027 MYB business cases 28, 29, and 57; noting for cases 29 and 57 AMP assumes 50% relates to achieve proposed LOS requirements.
[6]Infrastructure gap to achieve proposed LOS is inclusive of maintain current LOS infrastructure gap and incremental investment to achieve proposed LOS.

3.4: Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

The infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on LPS assets required to provide services, and
- the amount of funding presently identified in budgets and reserve funds over a 10-year period (2023-2032).

In other words, what LPS plans to spend versus what the assets need. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize the risks associated with failing assets and insufficient asset compliments.

The LPS identified infrastructure gaps are summarized below in Table 3.15 and illustrated in Figure 3.4. Over the 10-year analysis period, the cumulative maintain current LOS and achieve proposed LOS infrastructure gaps are expected to be $94.5 million and $186.2 million, respectively.

The gap to maintain current LOS is 53.9% of LPS's $175 million infrastructure replacement value. This significant gap is influenced by many factors outside the control of LPS. Examples of such influences are legislated changes to 911

operations (NG911) and active attacker incidents as well as facility needs driven by, among others, accessibility, safety, and technology needs. For efficiency and cost effectiveness, these pressures have been historically managed through temporary measures aimed at maintaining compliance and operational capacity until a more material investment is required. As demonstrated in the 2019 LPS Master Accommodation Plan, 2023 LPS Facility Masterplan, and 2024-2027 MYB these pressures have now surpassed LPS's ability to manage through temporary measures and immediate and material investment is required.

The incremental gap to achieve proposed LOS is 52.2% of LPS's infrastructure replacement value (combined gaps represent 106.1% of replacement value). This amount represents facility, IT, fleet, and other police equipment investments aimed at improving community and member safety and wellbeing, ensuring effective police response, enhancing community trust, contributing towards energy efficiency and GHG reduction, and overall technology modernization.

Both gaps were brought forward for funding as part of the 2024-2027 MYB. Thus, future updates to this AMP will present significantly reduced infrastructure gaps.

Table 3.15 Average Annual Budget and Gap Analysis ($Thousands)

Asset Type	Planned Funding	Reserve Fund Availability	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
London Police Service	5,699	996	16,149	9,169	9,454	18,624
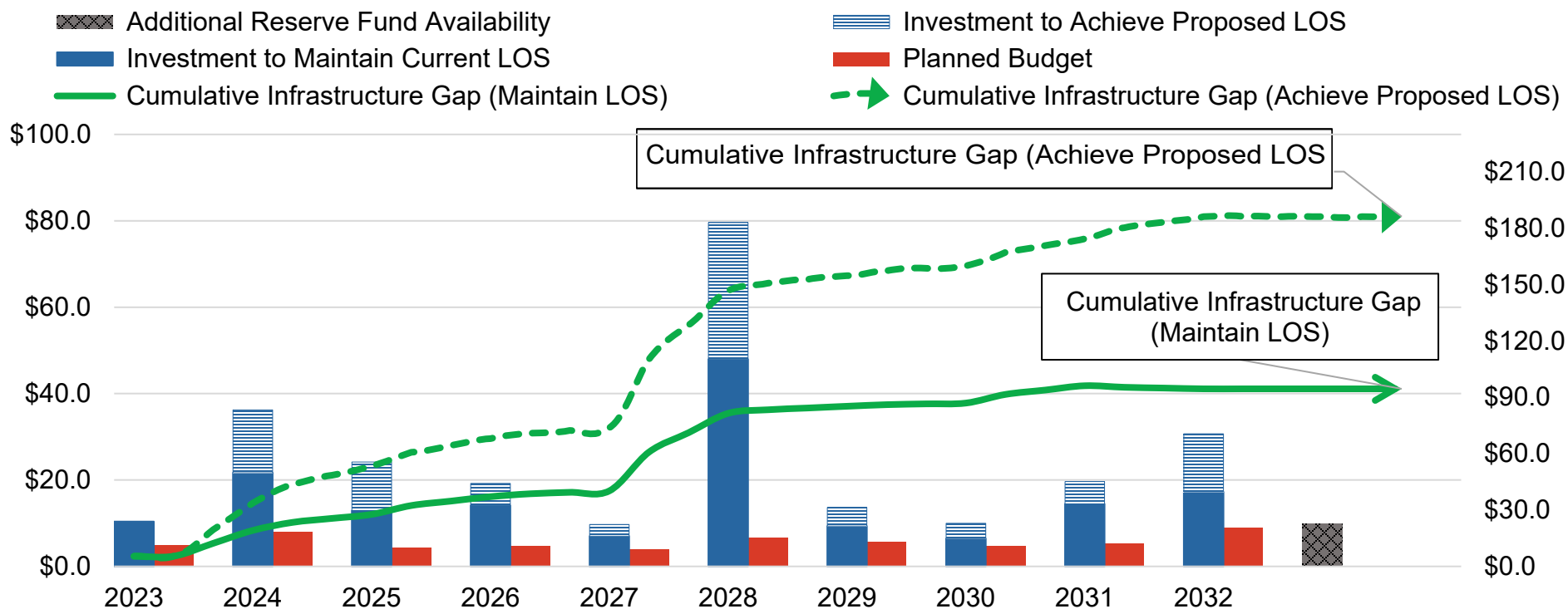
Figure 3.4 Maintain Current and Achieve Proposed LOS Cumulative Infrastructure Gap (Millions)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that LPS actions are collectively (both financial and non-financial) anticipated to tackle the growth in projected infrastructure gaps.

Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing

the AMP well in advance of the multi-year budgeting process so that its results help inform the requested operating and capital budgets. However, due to lagging impacts of the pandemic, the AMPs for all the City's agencies, boards, and commissions were delayed post 2024-2027 MYB development. As such this infrastructure gap financing strategy does not present alternative financing options. In replacement of alternative financing strategies, in 2025, this AMP will be updated and reported to LPSB and Council based on the approved 2024-2027 MYB and 2025 annual budget update.

3.5: Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – planned budget, maintain current LOS, and achieve proposed LOS.

Scenario One planned budget is identified to have constraints on LPS's capacity to effectively maintain infrastructure. This leads to a deterioration in asset condition. This decline might not be immediate but, over time, it becomes more visible to the public and causing operating problems, increasing the operating and maintenance costs, and potentially leading to higher repair or replacement costs in the future.

Scenario Two maintain current LOS funding is greater than what is currently allocated, illustrating the financial strain of maintaining a healthy asset portfolio and police services. This scenario acknowledges the need for continual investment in assets to maintain their current state, eliminating the degradation seen in the first scenario. It prevents further decline and enhances the condition of the assets as well as ensures legislated requirements are met.

Scenario Three achieve proposed LOS represents service improvements inline with strategic plans, evolving industry standards and community needs, plus energy efficiencies and GHG reductions consistent with City CEAP initiatives. This level of funding is greater than both the planned budget and the one needed to maintain current LOS. The advantages of this approach are improved public and staff safety and wellbeing, transparency and community trust in police services, enhancement of asset conditions, climate change mitigation, and potential long term cost savings.

These three scenarios result in different LOS depending on the funding provided for asset lifecycle renewal and service improvement actions. Thus, the choices made will have an implication for public and staff safety and wellbeing, community trust, police legitimacy, asset conditions, operational effectiveness, and climate change (green infrastructure implementation).

3.5.2: Current and Future Challenges

General

Both now and into the future, LPS faces a dynamic collection of opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Political/Legal (e.g., public policy/legislation, oversight, partnerships)
- Economic (e.g., budget pressures/inflation, unemployment)
- Social (e.g., population demographics, police legitimacy, diversity)
- Technology (e.g., innovation, automation, digital strategy, cyber crime)
- Environmental (e.g., sustainability, climate change, urban versus rural development)
- Organizational (e.g., engagement and partnerships, recruitment, and retention)

To help navigate these factors the LPS 2024-2027 Strategic Plan provides a framework for the development of proactive, leading-edge strategies designed to ensure the changing needs of our community, and our members, are supported through meaningful engagement and collaboration, investment in our people and infrastructure, and effective and efficient service delivery.

The following commentary summarizes the main current and future challenges impacting infrastructure needs and costs.

Inflation

As Canada's economy has emerged from the pandemic, inflationary pressures beyond those accounted for within the 2020-2023 MYB and associated 10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 LPS AMP and are a material component of the infrastructure replacement values and 10-year infrastructure gaps reported. These capital financing pressures represent a significant risk to the condition and LOS associated with police infrastructure assets.

Technology

Changes in technology continue to influence how crime is perpetrated, investigated, and criminally prosecuted. From a public safety perspective, the use of technology in all forms of crime has created significant challenges for law enforcement. On the other hand, technology advancements have also gone a long way in helping police to detect, detain, and prosecute crime. These increasingly complex characteristics of crime and policing highlight opportunities and challenges associated with staff recruitment and training, technology infrastructure needs, organizational and public safety, and personal privacy and ethics.

Climate Change

In 2019, London City Council declared a climate emergency at the urgence of the community. As it relates to LPS's impact on climate, there are current and future challenges that must be contended with. It is important to address these challenges thoroughly and promptly if we are to leave a positive legacy for future generations. This AMP incorporates preliminary facilities and fleet energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs) consistent with those presented in the 2024-2027 MYB.

Aging Infrastructure

Like most Canadian municipalities, City of London and LPS own and maintain aging infrastructure. In the case of LPS, this is most materially representative in the headquarters facility which is approximately 48-years old. Facilities at this age often need substantial capital investments to maintain their condition and operational functionality. For example, this could include replacing many building elements such as the roof, and repairing and updating mechanical, electrical, and plumbing systems. Additionally, facilities at this age contain outdated designs and features that are not barrier-free or able to meet modern service delivery needs.

Growth

London is experiencing steady to above average population and employment growth. This growth triggers a surge of service and asset capacity needs, resulting in a proportional boom in new and/or enhanced infrastructure construction and acquisition. As the asset portfolio increases due to growth, ongoing renewal of these new assets require more resources. To accommodate the tax-supported financing pressures Council approved the Assessment Growth Policy to ensure new property tax dollars attributable to growth are used to fund the long-term operating and capital financing needs of applicable City services and assets.

Additionally, this growth may correspond to increased demand on existing assets, such as increasing 'wear and tear' due to volume. As a result, maintaining existing infrastructure capacity and quality, especially with climate change impacts as well, poses continuous challenges as intensification occurs and as additional urban and rural development continues.

3.6: Conclusion

Valued at over $175 million, the LPS assets are overall in Fair condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain the current LOS. However, to maintain current LOS and achieve proposed LOS additional investments are required, with preliminary calculations at approximately $94.5 million and incremental $91.7 million, respectively, over 10-years (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of LPS assets will be in jeopardy and could result in degradation of the services ultimately delivered. Table 3.16 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for LPS assets.

Table 3.16 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Millions)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS [7]	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [8]
London Police Service	$175.5	Fair	$94.5	$186.2	3.4%	9.6% to 15.1%

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[7] This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.
[8] Source: Reinvestment rates based on investment to maintain current LOS and achieve proposed LOS (net of select assets funded from operating budget).

Reliability and Accuracy Commentary

To facilitate interpretation of the AMP results Figure 3.5 visually presents LPS and CAM staff assessment of AMP data reliability and accuracy with supporting commentary following. This assessment rates data reliability as moderate and data accuracy as moderate to low.

Figure 3.5 Accuracy Reliability Scale

Based on the materiality of assets, key rating considerations and conclusions are:

- Facilities valuation and needs is based on VFA information and corroborated with Altus standard costing. However, full implementation of VFA Facilities Management software within Facilities division operations is undergoing a phased approach, which was not complete at the point of AMP completion.
- IT, Other Police Equipment, and Furniture and Tools asset inventories are an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

These ratings are consistent with many City of London service areas. To improve these ratings, a review of systems and processes that support LPS asset registries is recommended over the 2024-2027 MYB and beyond. Such investments will raise the reliability and accuracy of the data, noting the long-term goal is to have all asset registries within advanced asset management focused software applications.

Section 4.   Conclusion and Recommendations

4.1: Conclusions

4.1.1: Key Findings

LPS infrastructure systems are an integral piece of police services and play a key role in achieving LPS 2024-2027 Strategic Plan objectives and goals.

This AMP is a strategic document that describes the state of LPS's infrastructure and the approach to managing assets over their lifecycle to maintain current LOS and achieve approved LOS at the lowest lifecycle cost possible. It was produced through extensive efforts of LPS and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 AMPs. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:

- There is $175.5 million worth of infrastructure under the direct ownership and control of LPS. This infrastructure represents a diverse array of assets including facilities, IT equipment, vehicles, and other specialized policing equipment.
- The overall condition of LPS assets is rated as Fair.
- Fair condition indicates that the infrastructure shows general signs of deterioration and requires attention, some elements exhibit significant deficiencies.
- Based on the existing LPS planned funding, the annual average of the 10-year maintain current LOS infrastructure gap is approximately $9.5 million and the annual average of the 10-year achieve proposed LOS infrastructure gap is approximately $18.6 million.
- Through the 2024-2027 MYB a significant portion of this gap has been approved for funding by the LPSB and at the

time of writing this AMP, the budget is currently being deliberated by City of London Council.

- Future AMPs will be brought forward to align with the development of MYBs and will present financing strategies to mitigate remaining infrastructure gaps annual growth while balancing the impact of taxation affordability on the community.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024 timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024 deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025 O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help LPS manage its $175.5 million asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall LPS strategic objectives and goals. Short term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement, and within existing staff, other resources, and budgets.

Table 4.1 2024 LPS AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across LPS assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, thereby aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision Making	Develop and implement investment strategies for LPS infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into LPS strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
Risk Management	Enhance LPS asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or LPS software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each LPS service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually assess the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing LPS public engagement practices.	• Enhanced adaptability to changing operational environments and stakeholder needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.1 O.Reg.588/17 July 1, 2024 Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[9]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1 every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[9] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.2 O.Reg.588/17 July 1, 2025 Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g. measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. i.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
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Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the LPS, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with LPS, and
- The asset is utilized to achieve LPS plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: The LPS Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life-cycle of infrastructure assets to provide a specific level of service in the most cost effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of

wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost LPS would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

DC: Development Charges

FCI: Facilities Condition Index

GHG: Green House Gases

IT: Information Technology

kWH/sf: Kilowatt hours per square foot

LCR: Lifecycle Renewal

LPS: London Police Service

LPSB: London Police Services Board

LOS: Levels of Service

MESL: Maintain Existing Service Levels

m3/sf: Cubic Meters per Square Foot

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RF: Reserve Fund

RV: Replacement Value

TCA: Tangible Capital Asset

VFA: Facilities Management Software

London
CANADA

2024

London Public Library
Asset Management Plan

City of London

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London CANADA

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Acknowledgement

Land Acknowledgment

We acknowledge that the London Public Library resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis, and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the London Public Library, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge the London Public Library staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to the London Public Library Board and City of London Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

London Public Library Board

Members: Brian Gibson (Chair), Jeremy McCall (Vice Chair), Heather Jack (Member), Beth Allison (Member), Zeba Hashmi (Member), Sharon Desserud (Member), Scott Collyer (Member), Sam Trosow (Councillor), and Peter Cuddy (Councillor)

Section 1.   Executive Summary

Summary	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$206.2	$206.2
Cumulative 10-Year Infrastructure Gap ($millions)	$24.6	$36.4
Infrastructure Gap as a Percentage of Replacement Value	11.9%	17.7%

1.1: 2024 London Public Library Asset Management Plan Introduction

The London Public Library (LPL) is a deeply embedded, essential community infrastructure that supports and connects Londoners and those new to London and to Canada with the resources they need to belong and thrive today and into the future. LPL's 16 branch libraries are rooted deeply in London's neighbourhoods, acting as hubs for literacy and learning at all stages of life, nurturing community partnerships, ensuring the sharing and distribution of resources including City of London information and resources, offering free cultural and educational programming and much needed access to technology and support for using technology.

This Asset Management Plan (AMP) is designed to enhance the management of LPL's infrastructure assets in a way that connects strategic LPL, City of London, and community objectives to day-to-day and long-term infrastructure investment decisions. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning LPL for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, replaced, etc.).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that

maintain current LOS and those that achieve proposed LOS;
- Establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet London Public Library Board (LPLB) approved LOS and associated lifecycle activities.

Based on this analysis key findings of the 2024 LPL AMP are:
- There are $206.2 million dollars of infrastructure assets under LPL management;
- Overall, these assets are in Fair condition;
- Cumulative 10-year maintain current LOS and achieve proposed LOS infrastructure gaps of $24.6 million and $36.4 million, respectively, exist, noting these gaps exclude consideration of additional investments associated with the 2023 cyberattack; and
- The average planned budget for 2023-2032 (based on the 2023 annual budget update) represents a reinvestment rate of 0.7%, which is less than the recommended average to maintain current LOS and achieve proposed LOS reinvestment rates of 2.1% and 2.8%, respectively.

A summary of these results is presented in the following tables and figures:
- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of LPL's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets between those that are in Very Good to Very Poor condition;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS; and
- Figure 1.2 shows the optimal maintain current LOS and achieve proposed LOS expenditures compared to planned

budget and additional reserve fund availability, and the resulting infrastructure gaps.

Table 1.1 2024 AMP Summary Information

Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$206.2	$206.2
10-Year Infrastructure Gap ($millions)	$24.6	$36.4
Infrastructure Gap as a Percentage of Replacement Value	14.0%	20.7%
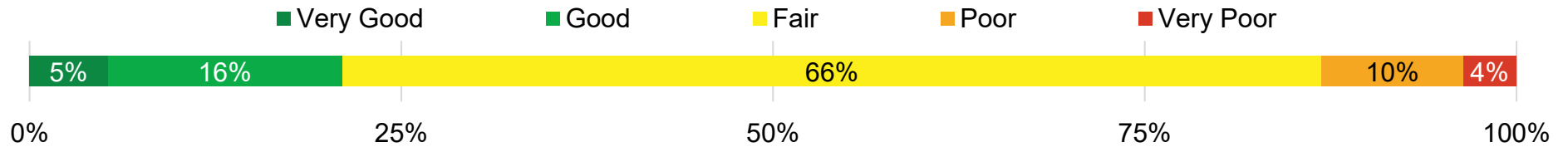
Figure 1.1 Overall Condition

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
0.7%	2.1%	2.8%

Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps (millions)

1.2:   Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.

- **Detailed Asset Management Plan** section summarizes the existing asset inventory, its replacement value, condition, age distribution, and how LPL stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies, and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.

- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to LPLB approval.
- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on LPL staff input and asset data, the LPL AMP is a tactical outcome of the City's CAM Program, setting out the details of the current plan for LPL to manage its $206.2 million worth of infrastructure, and the required investments to expand the asset portfolio to meet maintain current LOS and achieve proposed LOS objectives. There are no easy solutions to how the entire infrastructure system works together to achieve an optimal delivery of library services. But this AMP, among other LPL strategic documents, helps to identify the additional efforts required to address the reported infrastructure gaps.

Based on the analysis, the 2023 maintain current LOS and achieve proposed LOS infrastructure gaps of $3.0 million and $5.0 million, respectively, compared to a $206.2 million asset base are considered well managed gaps. However, the cumulative 10-year maintain current LOS and achieve proposed LOS gaps of $24.6 million and $36.4 million, respectively, are concerning. This growth in the infrastructure gaps has the potential to escalate beyond LPL's ability to manage services effectively. As there is no intent to allow this to occur, further

action is needed to address both the understanding and forecasted growth of the gaps.

Choices are available as to how LPL manages the infrastructure gaps:

- LPL can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. This funding can come from either tax supported or non-tax supported sources of financing, but funding sources are limited. Thus, LPL must continue to manage its services in an affordable manner with due regard to community and staff impacts.
- Paying for the gaps is not the only opportunity. In rare cases, LPL can reduce LOS to match its ability to pay. However, there may be an unwillingness to give up services currently enjoyed and a strong desire to improve services especially when considered in the context of public learning and safe community gathering spaces.
- A third opportunity for LPL is to find more efficient and effective ways of delivering services, including changing the asset mix that supports service delivery to the community. When possible, LPL strongly supports this direction and regularly invests in improvements. One element of this third approach is the work underway to enhance asset management practices.

Overall, LPL has a long-standing practice of pursuing all possible means to achieve service delivery goals and has been reasonably successful delivering quality services. In effect LPL adopts a blend of the three approaches outlined and is continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

Based on these objectives the Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against LPL's $206.2 million worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement, and there are no additional funding needs associated with the completion of these administrative projects (i.e., initial projects will be completed leveraging existing staff and other resources).

Section 2.   Introduction

2.1: Supporting London Public Library Goals Through the Corporate Asset Management Program

London Public Library (LPL) infrastructure systems support a range of services that connect Londoners and those new to London and to Canada with the resources they need to belong and thrive today and into the future. These service delivery results are based on LPL's strategic community and organizational objectives established through the LPL Strategic Plan, which outlines the strategic priorities, and values that guide LPL in a way that aligns with the core values of our community. The 2022-2026 LPL Strategic Plan summarizes these objectives as follows:

Strategic Priority 1: Spaces That Inspire

Physical and virtual spaces will be welcoming, enterprising, and compassionate in meeting and anticipating the needs of Londoners. Spaces will be optimized using an evidence-based approach that ensure environmental sustainability and designed to support and promote our commitment to 21st Century literacy skills.

Strategic Priority 2: Creating Possibilities

With a focus on youth and marginalized communities, to help Londoners succeed, library services will actively engage patrons to understand their unique needs and work to identify and overcome barriers. State-of-the-art technology will be used to support patrons' creative aspirations, skill building, and entrepreneurial spirit.

Strategic Priority 3: Exceptional Experiences

Based on the needs and values of our community, Library's service delivery model will provide patrons meaningful, thought-provoking, enriching, entertaining, and/or educational experiences. This service delivery model will be established

through transparent policies and procedures that seek input and feedback from the community before, during, and after the implementation of initiatives, programs, and ongoing services.

Strategic Priority 4: Community Engagement

Through direct partnerships and outreach activities, library services will foster modern in-person and virtual connections that will encourage an environment of collaboration and community discourse among Londoners. Library will create or curate events that rally the community around literacy and will continue to provide the collections the community wants and needs. To demonstrate return on investment and value to the community, LPL will hold itself to the highest level of accountability, in terms of financial stewardship, outcome measures, and sustainable practices.

These strategic priorities are realized using the following values that guide LPL's engagement with every patron, and partner or member of our community, and are reflected in our spaces, our policies, our technology, and the removal of service delivery barriers.

Our Values

- Exceptional Customer Service
- Anti-Racism and Anti-Oppression
- Strong Relationships
- Digital Empowerment
- Accountability and Responsibility
- Foundational Literacies

The City's CAM Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. Like the strategic planning and budgeting processes,

this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[1].

This AMP was developed through the City's CAM Program based on an approved Service Level Agreement between LPL and the City. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and LPLB approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of 2023-2032 capital plan (hereon referred to as "planned budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2: Provincial Asset Management Planning Requirements

This AMP builds upon existing LPL asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice

tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, the Province created O. Reg. 588/17 under the Infrastructure for Jobs and Prosperity Act. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted LPL financial statements are consolidated within the City's financial statements. The following AMP dates are provincially required:

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[1] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

o By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.

o By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS, and the costs to achieve them, and the financial strategies to fund the expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.

• That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across LPL who are involved with managing infrastructure assets, inclusive of staff involved with finance, technical staff involved with planning and executing the construction and maintenance of infrastructure assets, and on-the-ground staff who operate and maintain infrastructure assets.

Through this collaborative development process the AMP addresses the following questions:

• What do we own and why?
• What is it worth?
• What condition is it in?
• What are its current and proposed service levels?
• What activities do we employ to manage the assets?

• What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

• State of Local Infrastructure
• Levels of Service
• Asset Lifecycle Management Strategy
• Forecasted Infrastructure Gaps and Financing Strategies
• Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

• Inventory of assets – What do we own?
• Valuation of assets (replacement value) – What is it worth?
• Age and expected useful life of assets – How old is it and when does it need to be replaced?
• Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and helps inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects capital financing pressures that go beyond what can be accommodated in the LPL 2023-2032 planned budget.

A sample of the capital financing pressures captured in the AMP are:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS;
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources;
- Achieve Proposed LOS – meeting the desired LOS may require additional investments in existing or new infrastructure; and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

Additionally, due to evolving legislative changes and ongoing CAM Program development and implementation, the following capital financing pressures have not been fully analyzed, but are summarized here to provide information regarding potential future amendments:

- Growth – as the City expands and develops, additional infrastructure investments will be required to support the increasing population and demands, and
- More Homes Built Faster Act, 2022 – legislative changes may impact the City's funding of growth costs.

By acknowledging capital financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and helps to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with LPL's strategic plans, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other LPLB approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to

determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, LPL strives to provide services to the community that are accessible, cost efficient, provide customer satisfaction, demonstrate environmental stewardship, reliability, and safety, with suitable scope. As shown in Figure 2.1, to obtain a desired LOS, LPL faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.

Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budget, the required budget to maintain current LOS, and the required budget to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned budget and capital reserve fund over a 10-year period (2023-2032).

In other words, what LPL plans to spend versus what the asset needs are. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, to minimize the risks associated with failing assets, and to acquire new infrastructure.

Next are the infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community, which is consistent with the outcomes and expected results of the 2022-2026 LPL Strategic Plan and 2023-2027 City of London Strategic Plan.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with addressing infrastructure gaps. This discussion includes opportunities and challenges that are both in and outside of the control of LPL and LPLB. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and
- Growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of LPL infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by LPL as of December 31, 2022, and associated planned budgets approved in the 2023 annual budget update. Thus, timing differences exist between when this AMP was developed versus current 2024-2027 MYB approvals.

Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.

- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in three ways:
  - o Condition may be technically assessed and reported on in a quantifiable technique. This method is the most accurate and most expensive (e.g., facilities condition);
  - o Condition may be assumed based on age and estimated useful life; and
  - o Finally, condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- The planned budget and expected reserve fund availability will occur as planned over the period of analysis.

Section 3.   Detailed Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

London Public Library (LPL) owns and operates a broad array of assets with a replacement value of approximately $206.2 million. These assets range from facilities, collections, furniture and equipment, and information technology (IT). Each asset is managed and maintained to meet both legislated and non-legislated service requirements with an aim of providing the highest level of customer service, 21st century literacy skills, state-of-the-art technology, and diverse community engagement opportunities.

Table 3.1 summarizes the assets by type, inventory/quantity, and replacement values. The asset replacement values have been identified using different LPL databases including financial systems, VFA Facilities Management software, and internal expert opinion. These replacement values aim to capture current market prices for the fully replacement of identified assets. For further information regarding costing refer to State of Local Infrastructure.

To further contextualize the complexity and necessity of these assets the following summarizes LPL's organizational and service delivery structures.

Who We Are:

LPL is a deeply embedded, essential community infrastructure that supports and connects Londoners and those new to London and to Canada with the resources they need to belong and thrive today and into the future. LPL's 16 branches are rooted deeply in London's neighbourhoods, acting as hubs for literacy and learning at all stages of life, nurturing community partnerships, ensuring the sharing and distribution of resources including City of London information and resources, offering free cultural and education programming and much need access to

technology and support for using technology. In addition, LPL provides digital resources available from home that include ebooks, audiobooks, digital newspapers from around the work, research databases, instructional tools for language learning, building job technology skills, standardized test practice and do-it-yourself projects. All at no cost to members of the community with a library card.

What We Do:

We provide essential services to Londoners, including, but not limited to the following:

- Through our network of 16 branch libraries located strategically in London neighbourhoods, we provide community space to gather that is free, safe, accessible, and open to the public, a distribution network of pertinent information for the City of London and other partners, and a recognizable community cornerstone for partner service such as the Library Settlement Partnership program serving newcomers to London;
- Through our extensive partnership network that includes the City of London and many non-profits and businesses, we create an environment of collaboration and coordination that provides mutually beneficial enhancements to services for Londoners;
- Through our collections of books, media, magazines, and digital resources including ebooks, online learning tools and digital newspapers that are provided to the public free of charge, we deliver high quality, accessible, current, and relevant materials to all Londoners.
- Through our programs and events, we provide education, cultural and informational opportunities for all Londoners;

- Through our literacy support services, we create a love of reading, a comfort with technology, and access to information on almost any topic; and
- Through our technology services, we provide computers, free wi-fi, wi-fi hotspots, labs offering state of the art equipment, and other service that help bridge the digital divide.

Why We Do It:

The Public Libraries Act does not require a municipality to establish a public library but all municipalities of similar size and most in the Province have a long tradition of operating public libraries with multiple branches. LPL has provided public library service to Londoners since 1895.

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Facilities	Buildings	16	Each	$165,066
	Site Work	9	Each	$6,314
Collections	Non-Tangible/Digital Media	43,131	Each	$2,149
	Tangible/Print Media	683,880	Each	$20,158
Furniture and Equipment	Audio Video (AV) Equipment	205	Each	$333
	Furniture	8,272	Each	$8,001
	Laboratory Equipment	18	Each	$24
	Theatre and Stage Equipment	159	Each	$476
	Other	46	Each	$35
Information Technology (IT) Equipment and Software	IT Equipment	3,944	Each	$3,546
	Software	1	Each	$99
Total				$206,201.5

To provide additional context to the assets under management, the following details regarding each asset type are provided.

Facilities

Valued at over $171 million, from a replacement value perspective LPL's facilities represent 83.1% of assets under management. There are 16 branch libraries and for 9 of these locations LPL is responsible for exterior site work. Site work consists of infrastructure assets related to exterior parking, driveways, landscaping, and other areas of the exterior property serving the buildings (libraries). In alphabetical order the 16 branches and 9 site works are:

- Beacock Library and Site Work
- Bostwick Library at Startech.com Community Centre
- Byron Library and Site Work
- Carson Library and Site Work
- Central Library and Site Work
- Cherryhill Library
- Crouch Library and Site Work
- East London Library and Site Work
- Glanworth Library and Site Work
- Jalna Library at South London Community Centre
- Lambeth Library at Lambeth Community Centre
- Landon Library and Site Work
- Masonville Library and Site Work
- Pond Mills Library
- Sherwood Forest Library
- Stoney Creek Library at Stoney Creek Community Centre

These facilities are located within strategic cross sections of the City with an aim of providing accessible, educational, and safe library services to all Londoners.

Valued at approximately $99.8 million, the Central Library represents 58% of the total facilities replacement value. This library is located in the historic Hudson Bay building and boasts the Wolf Performance Hall in which visitors can enjoy concerts, theatre performances, dance recitals, films, lectures, and much more.

Collections

Collection assets have an approximate replacement value of $22 million and represent 10.8% of assets under management. The majority of Collection assets pertain to the quantity and replacement value of tangible/print media. However, demand for non-tangible/digital media is growing rapidly, thus, the balance between each is expected to significantly change in the future.

Examples of tangible/print media include fiction and non-fiction literature, picture books, DVDs, audiobooks in CD format, large print books, and music CDs. Examples of non-tangible/digital media include digital audiobooks, ebooks, and digital subscriptions such as emagazines.

Furniture and Equipment

Valued at approximately $9 million or 4.3% of total replacement value the Furniture and Equipment asset type constitutes a vital array of less financially material assets. These assets complement the aesthetic and functional requirements of various library spaces. Additionally, they provide interactive displays and information provision to visitors and facilitate the administrative tasks that support LPL's educational and cultural programs. Although less financially material, the strategic management and maintenance of these assets are critical to library's success and its service to the public.

This category includes various assets such as:

- Furniture inclusive of a large quantity of tables, desks, chairs, shelving (bookshelves and administrative filing cabinets), etc.
- AV Equipment inclusive of musical instruments, audio amplifiers and receivers, projectors, microphones, etc.
- Laboratory Equipment inclusive of design station computers, sewing machines, digital scanning equipment, etc. Heavy Equipment
- Theatre and Stage Equipment inclusive of Wolf Performance Hall assets such as lighting, grand piano, stage furniture, drapes, etc.

IT Equipment and Software

Valued at approximately $4 million or 1.8% of replacement value, IT Equipment and Software represents the least financially material asset base under management. However, without such assets it would not be possible to effectively deliver modern library services. In today's modern era, connectivity, information, and data are strategic business assets used to streamline, advance, and provide continuity to all aspects of operations.

Client facing IT assets include various types of personal computer devices (desktops, laptops, handheld devices, etc.), software, voice-over-internet phones, printers, wireless access points, etc. Non-client facing IT assets include servers, switches/routers, security cameras and supporting devices, as well as administrative computers, printers, and software. Like most municipalities and other public service corporations, the value, condition, and infrastructure gaps with respect to IT soft assets of 'data' and 'information' are not currently assessed nor is any methodology readily available to undertake such an assessment.

3.1.2: Age Summary

Figure 3.1 shows the LPL average asset age as a proportion of the average expected useful life. This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates LPL's ability to replace such assets on-time. Overall, the data affirms that most assets are within their expected useful life, noting that lifecycle activities must continue over a 10-year period to ensure the age distribution would remain under expected useful life or be enhanced.

Facilities

The ages of all facilities were calculated using the recorded construction date in the VFA Facilities Management software. Overall facility assets are approximately three quarters through the standard expected useful life of 40-years. This leads to an increase in the operation and maintenance cost of the facilities. It is important to note that 40-years was selected as the expected useful life based on the non-structural components of buildings which have the longest expected useful life. In practice the many components that comprise a building are slated for renewal based upon a combination of factors including age, condition, consequence of failure, likelihood of failure, etc., and the practical expected useful life is largely indefinite while the building continues to serve its intended/required purpose in its given geographic location.

Nevertheless, the age of LPL facilities and the evolving demands and best practices of library service delivery have given rise to the need for comprehensive facility assessments and asset management industry best practices. The first facility assessment was completed in 2022 and resulted in the establishment of a facilities asset registry using VFA Facility Management software. This assessment along with internal LPL

staff professional knowledge helped form the basis for the 2024-2027 MYB business case #P-58 – Library Facilities Capital Assets Management. Further details and financial impacts of the VFA facilities assessment and industry best practices are provided in Asset Lifecycle Management Strategy – Maintaining Current and Achieving Proposed Levels of Service.

Collections

Collections assets ages are informed by LPL's collection management software and expected useful life by internal expert opinion based on historical performance. Expected useful life estimates are continuously assessed to ensure the best possible product offering and lifecycle replacement management. As demonstrated in Figure 3.1, on average Library is able to replace these assets on time. All tangible assets have an expected useful life of 7-years except for magazines, which have a useful life of 2-years. All non-tangible assets have an expected useful life of 7-years except for digital subscriptions, which have a useful life of 1-year.

Furniture and Equipment

The average age of the Furniture and Equipment assets is determined through the acquisition year recorded in LPL's financial systems. The estimation of each asset's average

expected useful life is based on internal expert opinion and an assessment of historical data. This category includes various assets, each possessing its own acquisition date and expected useful life. On average all asset ages, except for Laboratory Equipment, are well within the expected useful life estimates. Laboratory Equipment assets past their expected useful lives include computer design stations, sewing machines, and digital scanning equipment. Over the near team these assets will be prioritized for replacement.

Information Technology

IT asset average age and expected useful life are based upon internal expert opinion. The analysis excludes Software assets as these are assumed to be operational until replacement needs are identified. This approach is taken as software age and expected useful life are impacted by regular upgrades/renewals. Thus, data is not readily available to calculate traditional age and expected useful life assumptions. In absence of age and expected useful life profile predictions for software, operational risks are mitigated by periodically assessing asset condition and forecasting expected capital financing needs. For all other IT Equipment there are detailed data listings tracking the age of assets, noting for these assets the average age, and expected useful life are 7-years and 9-years, respectively.

Figure 3.1 Average Age and Expected Useful Life

3.1.3: Asset Condition

The condition of the assets was determined using one of the three methods below based on data availability and accuracy:

1. Existing condition rating systems (e.g., Facility Condition Index, etc.),
2. Estimated based on age and the remaining expected useful life of the assets, and
3. Estimated based on expert opinion, in the absence of 1 or 2 above, or where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data helps identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.2 presents the condition distribution of all LPL assets. It shows that approximately 87% of the assets are in Very Good to Fair condition. However, the majority of this 87% are in Fair condition (66% Fair), and another 10% and 4% of assets are in Poor and Very Poor condition, respectively. This indicates a large portion of assets will require lifecycle rehabilitation and/or replacement in the near term to maintain existing service delivery standards.

Although pressures exist, assets are overall maintained in safe, serviceable condition, with replacement of non-facility assets occurring for the most part on a planned basis as assets reach their optimum lifecycle stage. When possible retired assets such as Collections and IT Equipment are sold off and the associated proceeds used to offset the purchase of new ones. If resale is not suitable, assets are either maintained as spares, donated to support those in need, or disposed of using appropriate protocols.

Figure 3.3 provides a detailed condition distribution for each asset type. As presented most assets are in Fair or better condition, which is consistent with Figure 3.2 and reflective of LPL's strong asset management practices. However, there are areas of concern which are described below. Generally, it is noted that in the lifecycle management of an asset inventory, the presence of some assets categorized as 'Poor' condition is a typical phase, indicating these assets are scheduled for replacement. But assets categorized as "Very Poor" is not typical, and indicative of immediate lifecycle management needs.
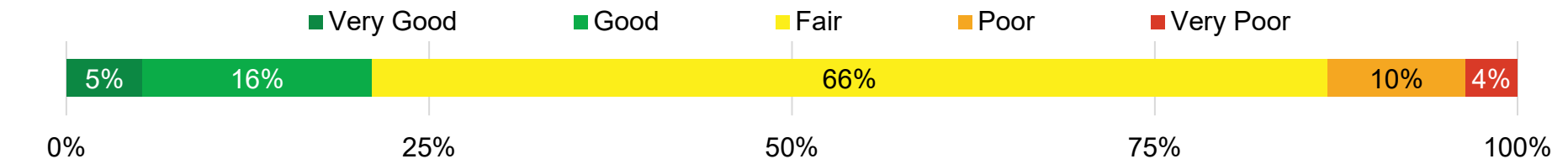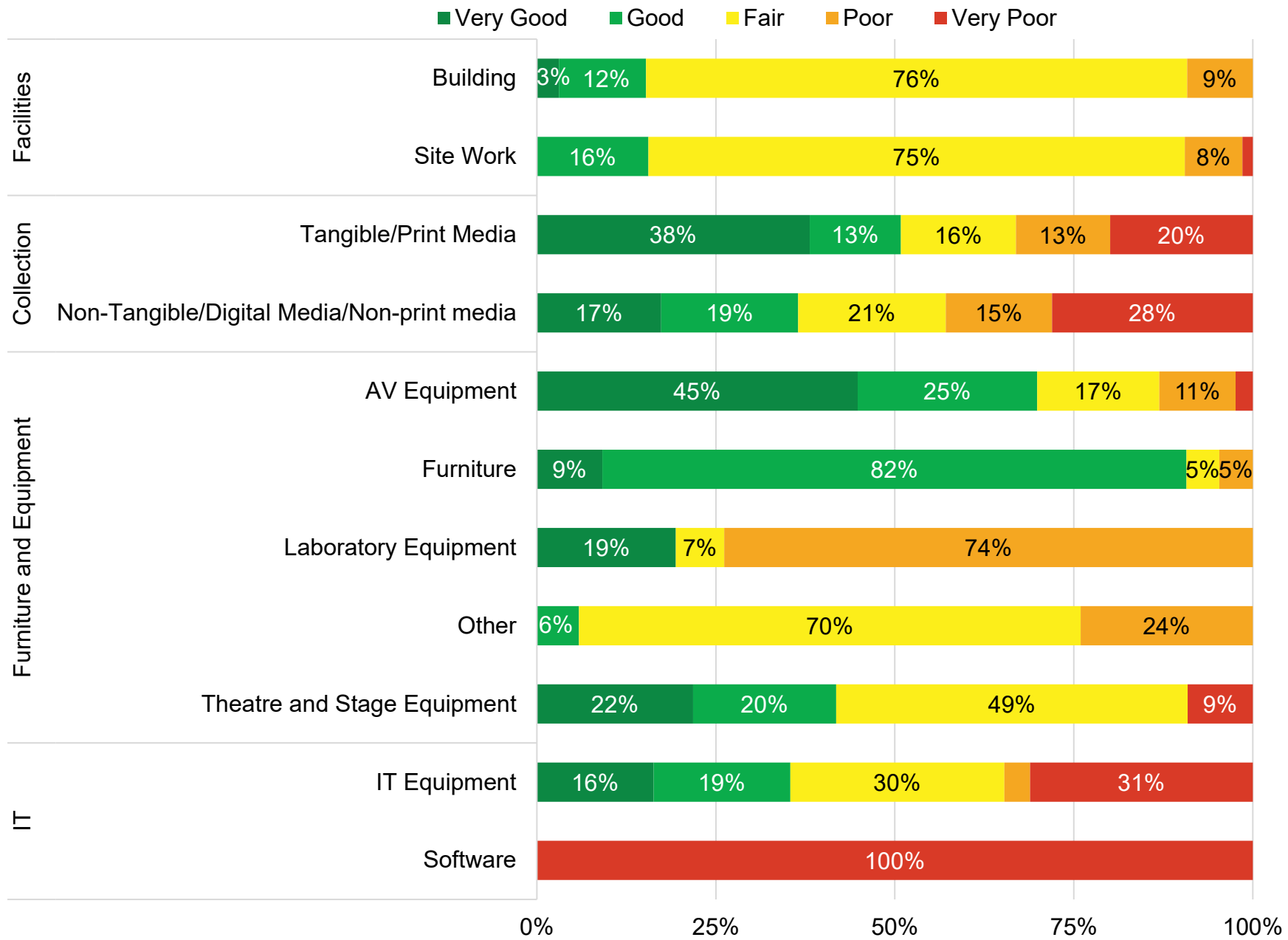

Figure 3.2 Overall Condition

Figure 3.3 Asset Condition Detail

Facilities

The conditions of LPL facilities and associated assets have been recently evaluated through a comprehensive condition assessment. This assessment establishes and provides capacity to update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facilities and their sub-components (building envelope, mechanical and electrical systems, etc.). The facilities condition ratings present the physical condition of the buildings and are not a representation of the functionality required to satisfy library service delivery (i.e. size, location, ability to accommodate certain types of functions or equipment, etc.). Still this assessment provides a valuable source of information that is used in conjunction with other inputs to help identify the repair, rehabilitation, and/or replacement strategies for each facilities asset.

The current condition assessment identifies that 85% of buildings (16 locations) and 83% of site works (9 locations) assets are in Fair or worse condition. In the context of library service delivery requirements, such a material amount of facilities assets in Fair or worse condition is indicative of a need for further lifecycle reinvestment in the short to medium term. However, further analysis such as those completed through a facilities master plan are needed to refine these results into a strategic plan based on LPL's unique objectives and goals, and taxpayer and non-taxpayer (library-generated revenue) affordability. This approach is consistent with the basis of the 2024-2027 MYB business case #P-58 – Library Facilities Capital Assets Management.

Collection

Looking into the condition distribution of the Collection asset type, 67% of tangible/print media and 57% of non-tangible/digital media are in Fair or better condition. The

condition of these assets is based on either asset age or internal expert opinion.

The area requiring attention within this asset type are the assets in Poor or Very Poor condition. Here, the tangible/print media percent of assets in Poor and Very Poor condition are 13% and 20%, respectively. This result is primarily attributable to portions of non-fiction, fiction, DVDs, and picture books remaining in circulation beyond the 7-years expected useful life. Next, the non-tangible/digital media percent of assets in Poor and Very Poor condition are 15% and 28%, respectively. This result is primarily attributable to portions of audiobooks and ebooks remaining in circulation beyond the 7-years expected useful life.

The presence of these Poor and Very Poor assets suggest it is critical to replace these assets promptly in order to preserve the asset portfolio within an acceptable state of repair.

Furniture and Equipment

Based on replacement value 94% of all Furniture and Equipment assets are Fair or better condition. This demonstrates that for this asset type LPL is able to maintain assets in safe, serviceable condition, with replacement occurring for the most part on a planned basis as assets reach their optimum lifecycle stage. However, an area of note pertains to Laboroatory Equipment, which has 74% of assets in Poor condition. As previously stated, this suggests a large portion of these assets require reinvestment in the short to medium term, it being further noted assets in most need of replacements are the computer design stations and 3D printer.

Information Technology

Based on replacement value 91% of all IT Equipment and Software are in Fair or better condition. IT asset conditions were evaluated based on internal expert opinion and industry standards. Performance and condition concerns of IT assets are

captured on a proactive basis through monitoring and alerting applications. It also occurs through routine maintenance programs or problems reported by end users.

As it specifically relates to IT Equipment assets, 65% of these assets are in Fair or better condition, which reinforces an overall strong capacity to achieve lifecycle renewal and replacement targets. The 31% of assets in Very Poor condition primarily relates to computer switches at or near the end of their expected useful life and the dynamics of a rapidly changing IT landscape.

The Software category excludes all applications for which LPL leases and pays monthly/annual licencing fees for through the operating budget. Such assets are excluded as LPL does not own the infrastructure and is not responsible or its lifecycle needs. Thus, the LPL Software category consists of one asset, the Cisco Phone System. For this asset the condition score of 100% Very Poor represents this asset is at the end of its useful life and LPL will be assessing replacement options within the short term. The methodology of this expert opinion considers the functional requirements of applications and software based on LPL needs. If needs are being met, condition is maintained at Very Good until significant software updates or new software needs are deemed necessary.

3.2: Levels of Service

Asset management LOS link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

*   2022-2026 LPL Strategic Plan,
*   2023-2027 City of London Strategic Plan, and
*   2023 Annual Budget Update.

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, LPL and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.3 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to many aspects of asset management decision making and cost requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 LPL AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future LPL AMP development processes and practices and these planned efforts are outlined in the Conclusion and Recommendations section of the AMP.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Description
Accessible	Service is accessible by the community, not exclusive, it is inclusive to those who wish to/may use the service to the greatest extent possible, regardless of age, ability, etc. Includes metrics related to asset accessibility and legislated requirements. For example, *Accessibility for Ontarians with Disabilities Act* (AODA).
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Customer Satisfaction	Service is satisfactory/meeting expectations from the perspective of a customer or community. Includes a diversity of metrics that cover the performance of a service based on customer experiences. Metrics consist of descriptions from customer surveys and the like. Example includes percentage of customers satisfied with assets or service delivery.
Environmental Stewardship	Service is provided in a means that considers, controls, or reduces impacts to the environment. Includes metrics related to the assessment of service provision based on environmental stewardship and sustainability practices. Examples include annual monitoring of utility usage by square footage of facility spare, or fuel consumption-based greenhouse gas emissions.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.
Scope	Service is extended to/covers a defined range, or description of service range provided through municipal infrastructure. LPL future customer value reporting will be related to implemented Facility Master Plan percentage.
Safety	As best as possible, the service safeguards against known dangers and risks. Covers performance assessments of services related to various forms of safety and compliancy with legislation, codes, and/or internal policies/practices.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can readily determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed. After review with LPL staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.4, and the support related LOS are documented in Table 3.5.

3.2.1: Direct Levels of Service
Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	Overall capital reinvestment rate	0.73%	2.13%[2]
Environmental Stewardship	Technical	Annual electric energy consumption kilowatt-hour per square foot	11.37 kWH/sf	Positive Downwards
		Annual natural gas consumption cubic meters per square foot	0.57 m^3/sf	Positive Downwards
		Annual water consumption cubic meters per square foot	0.003 m^3/sf	Positive Downwards
		Annual green energy, electricity, created per square foot (Microfit at Landon Library)	0.46 kWH/sf	Positive Upwards
Reliability	Customer	Percentage of LPL assets in Fair or better condition	87%	Maintain current

3.2.2: Related Levels of Service
Table 3.5 Related Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance
Accessible	Technical	Percentage of entrances that are FADS compliant	100%
		Percentage of washrooms that are FADS compliant	90%
Customer Satisfaction	Customer	Percentage of patrons satisfied with the LPL and its services	95%
Reliability	Customer	Percentage of Facilities assets in Fair or better condition	91%
		Percentage of Collections assets in Fair or better condition	58%
		Percentage of Furniture and Equipment assets in Fair or better condition	94%
		Percentage of IT Equipment and Software assets in Fair or better condition	64%
Safety	Technical	Percentage of Facilities that meet security standards	90%
Scope	Customer	Map presenting the geographic distribution of LPL 16 locations within City boundary	See Figure 3.4

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[2] The reinvestment rate proposed target is equal to the costs of maintaining current LOS.
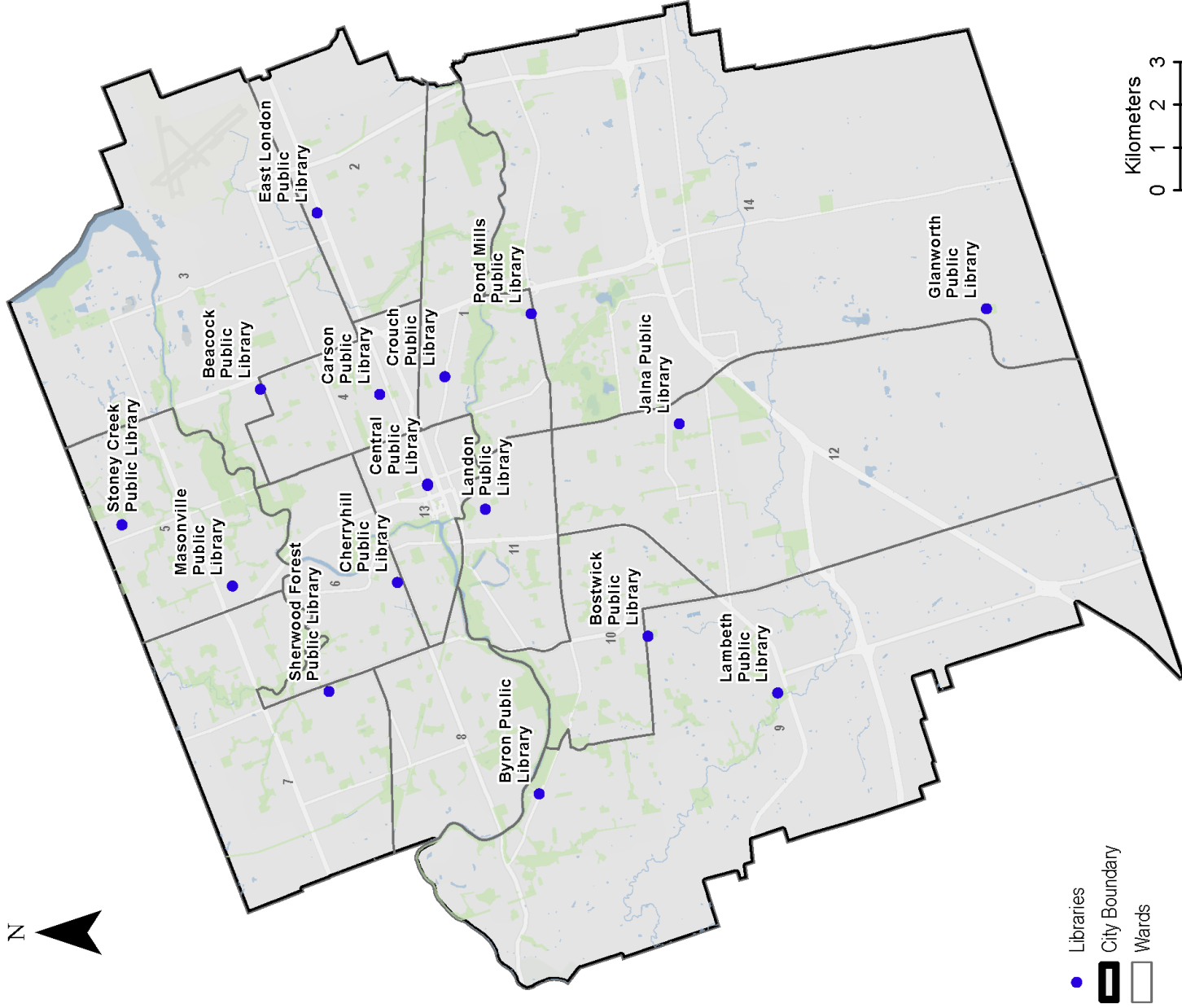
Figure 3.4 Geographic distribution of library locations

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.6.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

LPL employs a combination of lifecycle management activities to maintain current levels of service (LOS) while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, disposal, and regular investments in master planning studies, while continuing to prepare for growth and introduce service improvements.

When feasible, LPL also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets or asset categories, which can result in cost and service efficiencies. Additionally, with significant asset investments, LPL seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Lifecycle activities LPL chooses to apply to assets are selected, reviewed, and modified based on continual industry benchmarking, staff training, professional networking, online reviews, consultant recommendations, and trial and error through scenarios and pilot programs. LPL also invests in climate change adaptation and mitigation planning through a Board approved Environmental Policy, which may trigger asset investment needs.

The current LPL lifecycle management activities (practices and planned actions) are presented as follows:

- Table 3.7 and Table 3.8 list specific asset management practices or planned actions by lifecycle activity for Facilities and IT assets.
- Table 3.9 lists generic lifecycle activities for all other LPL assets.
- Table 3.10 lists specific risks associated with asset management practices or planned actions by lifecycle activity.

Table 3.7 Facilities Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Facilities are maintained and renewed through a specialized Facilities Team and their use of VFA software (supplied through Gordian) and other facilities management applications, which combined with comprehensive condition assessments and Facilities Team experience, determines the lifecycle management needs of a facility. • Needs include the direct care of the building envelope, mechanical and electrical systems, etc.
Maintenance	• Business practices and processes exists for LPL Facilities Team employees to generate and document capital works requests and completions.
Renewal/ Rehabilitation	• Facilities are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of renewal requirements.
Replacement/ Construction	• Facilities are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of replacement requirements.
Disposal	• Appropriate and proper disposal occur when assets are replaced or renewed.
Service Improvement	• Consultation with community partners and users of facilities determines service improvement needs.
Growth	• See Table 3.10.

Table 3.8 Information Technology Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Monitor and track age and utilization to help prioritize when assets should be replaced. • Soft strategies (i.e., policies) to mitigate adverse effects of high rises on communication system are continuously updated. • For software assets the focus is to ensure that assets are considered 'in support' to mitigate potential malware/cyber-attacks and ensure assets are operating efficiently for individuals using them.
Maintenance	• Users of LPL hardware and software assets provide asset concerns on proactive basis through alerting applications and preventative maintenance programs. • Concerns are also addressed through routine maintenance programs reported by the user to the IT Team.
Renewal/ Rehabilitation	• Rehabilitation programs exist for LPL directly owned cable and telecommunication networks. Proactive rehabilitation of LPL software programs exists for both directly and third-party support software.
Replacement/ Construction	• When applications and software no longer receive support, they are replaced with new supported applications and software. • IT Equipment replaced when asset reaches end of useful life or unexpected event occurs with asset.
Disposal	• Laptops hard drives are wiped of data using appropriate procedures and are typically sent to an ethical recycler or sanitized and donated.
Service Improvement	• Service improvements projects are identified and financed by service areas using IT assets. IT Team would then be responsible for acquisition and maintenance of the service improvement asset.
Growth	• See Table 3.10.

Table 3.9 Generic Asset Management Practices or Planned Actions (All LPL Assets)

Activity	Generic Asset Management Practices or Planned Actions
Non-infrastructure Solutions	• Development controls and approvals. • Financial planning strategies to control costs, and ongoing search for additional funding. • Developing computerized maintenance management system. • Updating and applying design standards. • Operational continuous improvements e.g., developing asset management program. • Improvements to employee capabilities, communications, training, etc. • Public involvement practices including awareness training, posters, and website. • Changes to LOS. • Leadership networks with peers through conferences and committees to learn from other's experiences.
Maintenance	• Maintenance also triggered by the public 'inspection' through phone, email, and web interface available for public reports/complaints.

Activity	Generic Asset Management Practices or Planned Actions
	• Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets.
Renewal/Rehab	• Adopt the latest technology that maintains the current LOS.
Replacement/ Construction	• Adopt the latest technology that maintains the current LOS.
Disposal	• Dispose of assets under the applicable regulation and environmental standards.
Service Improvement	• Based on strategic service review results, implement service delivery changes that improve asset performance, cost, and risk. • Adopt the latest technology that enhances current or achieves proposed LOS.
Growth	• Participate in discussions surrounding or related to the impacts of growth on service delivery and participate in Development Charges Background Studies and Assessment Growth Policy processes to secure appropriate levels of growth funding (subject to provincial legislation requirements and City of London policy).

Table 3.10 Risk Associated with Asset Management Practices or Planned Actions (All LPL Assets)

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (i.e., the life is not extended or the cost of managing an asset increases rather than decreases). • Need for revised plans, reports, and recommendations. • Asset management plans or proposed network solutions not followed. • Inadequate funding, economic fluctuations (inflation, downturns, etc.), and use reduction/increases. • Poor quality asset information, planning assumptions incorrect. • Regulatory requirements/standards criteria change or do not exist. • Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to assets that were not originally planned. • Growth projections not as planned or service provision changes. • Extending useful life past optimum can increase the risk of critical failure of major components. • Assets beyond optimum life have reduced salvage and remarketing value and can have significantly higher maintenance costs. • Inability to mitigate malware/cyber-attacks resulting from deteriorated and non-supported asset. • IT industry shift to relying on operating licenses financed through operating budgets versus historical capital expenditure nature.

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure. • Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no actual benefits.
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during large, complex design and construction projects. • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. • Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Incorrect growth assessments may result in overabundance or underabundance of assets. • Risk of insufficient funding to maintain new asset.

3.3.3: Lifecycle Management Scenario Forecasts – Planned Budget, Maintain Current LOS, and Achieve Proposed LOS

General Approach

The type and frequency of lifecycle management strategies and activities impact both an asset's condition and its ability to enable service delivery. Because of this relationship, the AMP presents three different lifecycle management scenarios and their associated funding requirements. To align with the categories of Asset Lifecycle Management Activities outline above, each scenario is broken down by the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements. Growth activities and funding requirements are constrained to those

identified in the 2021 Development Charges Background Study Update. Thus, no growth infrastructure gaps are presented.

In summary these scenarios are defined as:
1. Planned Funding – This scenario presents the budget constrained to the level of expenditure approved in the 2023 annual budget update.
2. Maintain Current LOS – This scenario forecasts the level of investment required to maintain current LOS. The approach to establishing the maintain current LOS budget is to forecast the lifecycle activity expenditures required to ensure that the proportion of assets in Poor or Very Poor condition remains relatively stable in comparison to 2022 performance.

3. Achieve Proposed LOS – This scenario forecasts the level of investment required to achieve proposed LOS. The approach to establishing the achieve proposed LOS targets is to consider the desired LOS documented in LPL's strategic plans (e.g., 2022-2026 LPL Strategic Plan, and 2023-2027 City of London Strategic Plan). Next, the analysis considers the current condition of assets, the rate that the condition is expected to degrade, and appropriate condition triggers for rehabilitation/replacement activities to forecast the condition profile and lifecycle expenditures into the future.

Figure 3.5 shows the projected condition of Facilities assets, and Figure 3.6 shows the projected condition of the Collections,

Furniture and Equipment, and IT Equipment and Software assets based on the three scenarios (planned budget, maintain current LOS, and achieve proposed LOS). The figures also show the amount of planned budget, and the investments required to maintain current LOS and achieve proposed LOS.

Each scenario is further explained in the following sections. After each scenario is presented, the Forecasted Infrastructure Gap and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies that will be used to manage the gap and work towards long term service, financial, and infrastructure sustainability.

Figure 3.5 Facilities Projected Service State of Three Funding Scenarios
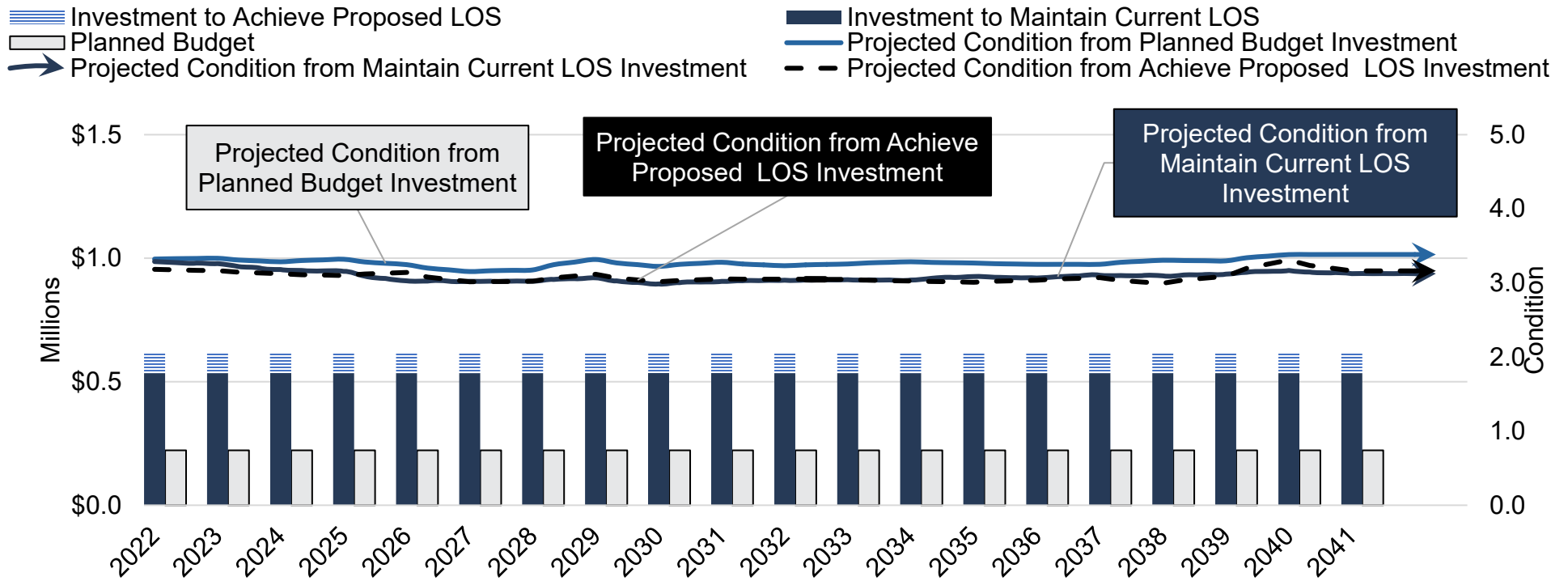
Figure 3.6 Non-Facilities Projected Service State of Three Funding Scenarios

A. Scenario One: Planned Funding

The LPL average annual activity and planned funding is summarized in Table 3.11. This scenario presents the budget constrained to the current level of planned expenditures. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its expected useful life age or condition trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

For this analysis, average annual activity for operating and capital budgets are presented as the average expenditure budget from the 2021 and 2022 fiscal years. Planned funding operating budget is equal to the 2023 fiscal year budget. Planned funding capital budgets (e.g., renewal, service improvement, and growth) are the annual average of the approved 10-year capital plan for 2023-2032. Growth activities are analyzed using the 2021 Development Charges Background Study Update for which LPL has no identified capital projects.

present the expected condition profiles for the next 20-years based on the planned budget for Facilities and Non-Facilities assets, respectively.

Table 3.11 Scenario One – Average Annual Planned Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Planned Funding
Operating	21,567	22,129
Renewal, Replacement, Rehabilitation, Disposal	720	1,275
Service Improvement	None Identified	None Identified
Growth	None Identified	None Identified
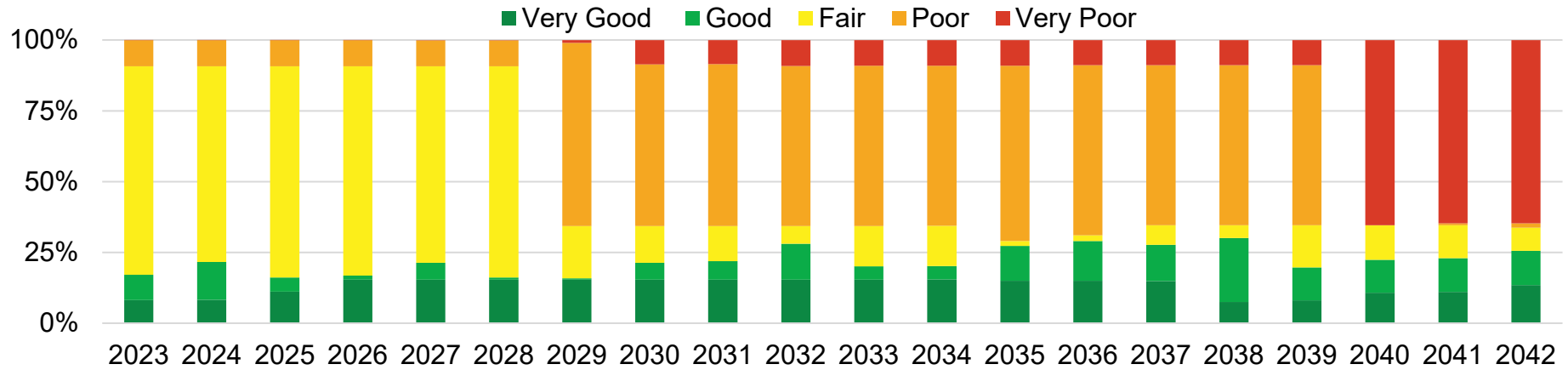
Figure 3.7 Facilities Projected 20-Year Planned Budget Condition Profile
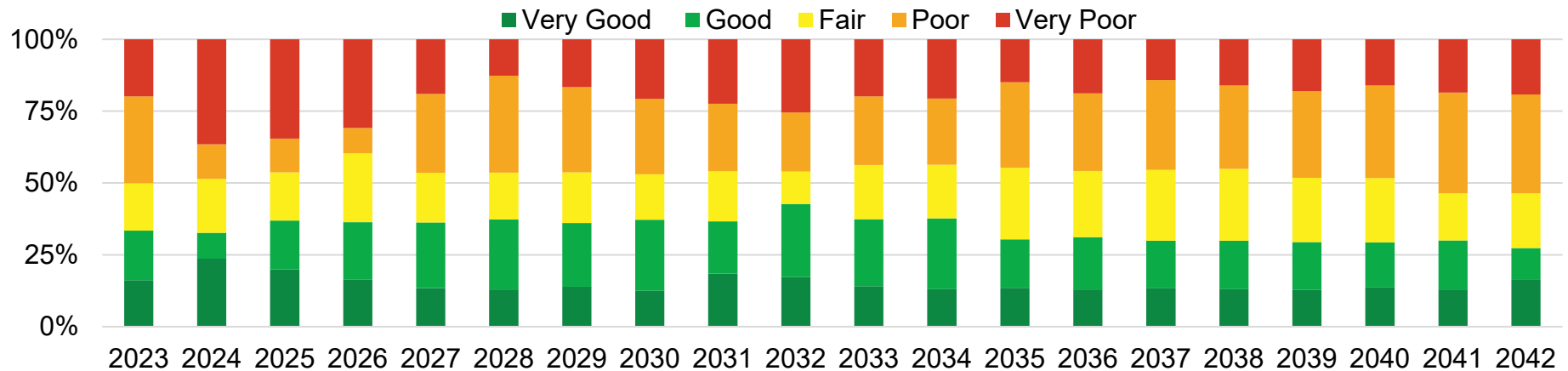
Figure 3.8 Non-Facilities Projected 20-Year Planned Budget Condition Profile

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.12. The approach to establishing the cost to maintain current LOS is to forecast the lifecycle activities that are required to maintain the current performance (fiscal year 2022) of the direct LOS condition metric, expected useful life age triggers, and to account for changes in legislated service requirements, if any. To achieve this, the analysis first considers the current age of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. The variables in the analysis are adjusted until the forecasted condition profile meets the current condition profile of assets. Next, information regarding known changes to legislated service delivery requirements with a capital impact are collected and used to forecast associated infrastructure needs.

For this analysis, planned funding remains the same as in Scenario One. Also, to enhance the accuracy of the maintain current LOS infrastructure gap calculation, available reserve fund drawdowns, if any, are reported and factored into the calculation.

The maintain current LOS analysis forecasts a 10-year average annual infrastructure gap of approximately $2.5 million. Average annual facilities pressures of $2.15 million per year are the primary contributor to the gap. Consist with the 2024-2027 MYB business case #P-58 – Library Facilities Capital Assets Management funding request, these needs include a broad mix of rehabilitation and replacement of existing facilities infrastructure systems based on the 2022 Facilities Condition Assessment (FCA). It is important to note the recommended investment to maintain current LOS does not reflect all lifecycle activities identified in the FCA as such a level of investment

goes beyond maintaining the current condition profile of facilities and may also be greater than LPLB approved achieve proposed LOS targets.

The remainder of the average annual infrastructure gap is attributable to cost pressures associated with a broad mix of Furniture and Equipment, and IT Equipment assets. No infrastructure gap has been identified for the Collections assets.

Figure 3.9 and Figure 3.10 present the expected condition profiles for facilities assets and non-facilities assets, respectively, over the next 20-years based on investments required for maintain current LOS. This scenario indicates the condition profile for most facilities and non-facilities assets is trending between Good to Poor condition, which is consistent with the 2022 performance of assets.

To date LPL has been able to mitigate some of the risks associated with these capital financing pressure through enhanced preventative maintenance and inspection programs as well as other procedures and protocols. However, these non-financial measures are not sustainable in the long term. Thus, through the establishment of a facilities master plan, AMP continuous improvement projects, and future multi-year budget processes, LPL will seek to refine long term asset financing strategies that balance community affordability and asset needs.

Also, aligned with the City's Climate Emergency Action Plan (CEAP), like-for-like lifecycle rehabilitation and renewal activities tied to maintain current LOS will be substituted with green-for-like whenever feasible. This means that instead of simply replacing existing infrastructure with a similar one (like-for-like), there will be an increased focus on incorporating more energy efficient and greenhouse gas (GHG) emissions friendly infrastructure solutions (green-for-like). Such investments will incrementally support long term net zero targets.

Table 3.12 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

| Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Operating Budget	22,129	None identified	22,129	None identified
Renewal, Replacement, Rehabilitation, Disposal	1,275	996	3,735	2,460
Service Improvement	None identified	None identified	None identified	None identified
Growth Activities	None identified	None identified	None identified	None identified
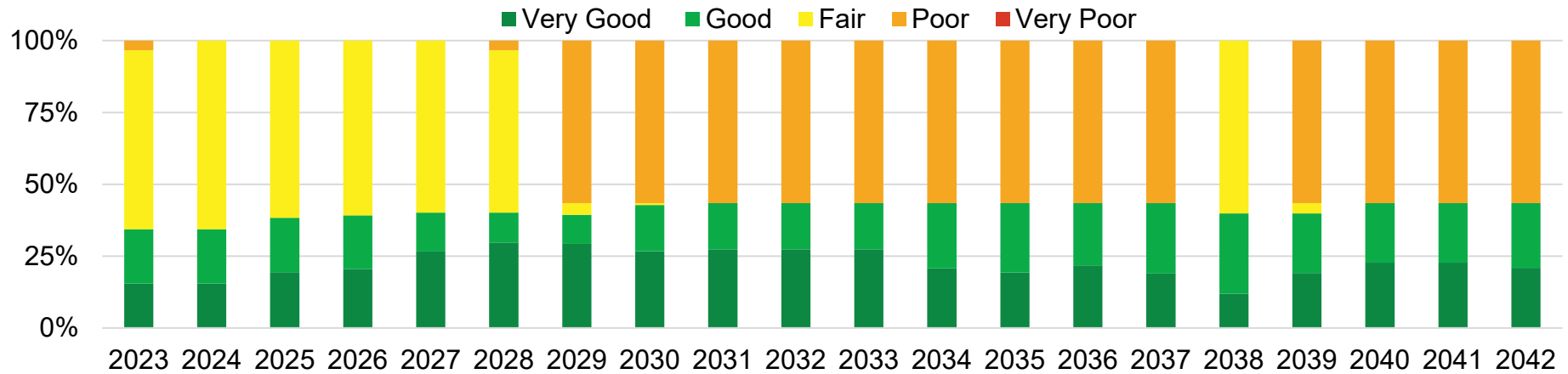
Figure 3.9 Facilities Projected 20-Year Maintain Current LOS Condition Profile

Figure 3.10 Non-Facilities Projected 20-Year Maintain Current LOS Condition Profile

C. Scenario Three: Achieve Proposed LOS

The cost to achieve proposed LOS are summarized in Table 3.13. This scenario forecasts the enhanced lifecycle activities that are required to achieve the proposed LOS. Investing in the proposed LOS provides benefits related to meeting strategic plan objectives, which go beyond the scope of maintain current LOS condition profiles and legislated changes.

The analysis considers the current condition of assets, the rate that the condition is expected to degrade, and appropriate condition triggers for rehabilitation and replacement activities to forecast the condition profile into the future. The variables in the analysis are adjusted until the forecasted condition profile and implementation of new assets meets the expectation of LPL staff involved with the management of the assets. The future lifecycle and/or service improvement activities that are required to achieve the desired condition profile (asset condition and composition) are then used to establish the average annual investment to achieve proposed LOS.

The achieve proposed LOS analysis forecasts a 10-year average annual infrastructure gap of approximately $3.6 million, which is inclusive of the $2.5 million average annual maintain current LOS gap. The average annual infrastructure gap increase of $1.1 million ($3.6 million less $2.5 million) primarily relates to additional investments in facilities, noting the facilities achieve proposed LOS 10-year (2022-2032) capital budget is

equal to $32.5 million or $3.25 million per year. This level of investment would improve the condition for the facilities portfolio and allow for new investments such as those contained in the 2024-2027 MYB business cases #P-59 – Library Security Systems Updates and #P-30 – Enhancing Digital Divide Support Service – London Public Library.

Figure 3.11 and Figure 3.12 present the expected condition profiles for facilities assets and non-facilities assets, respectively, over the next 20-years based on investments required for achieve proposed LOS. For facilities assets, this scenario indicates the achieve proposed LOS condition profile is improving with the trend now solely between Very Good to Fair condition versus the maintain current LOS trend of Good to Poor condition. For non-facilities assets, this scenario indicates the achieve proposed LOS condition profile is relatively unchanged from the maintain current LOS condition profile i.e., trend is that non-facilities assets are in Good to Poor condition. This non-facilities outcome is consistent with the minimal amount of additional investments identified to achieve proposed LOS.

Like any additional investments to maintain current LOS, achieve proposed LOS investments will seek to leverage green-for-like lifecycle activities aligned with the City's CEAP targets and any future climate change targets established by LPLB.

Table 3.13 Scenario Three - Average Annual Cost to Achieve Proposed LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Incremental Cost to Achieve Proposed LOS	Achieve Proposed LOS Infrastructure Gap[3]
Operating Budget	22,129	None identified	22,129	None identified	None identified
Renewal, Replacement, Rehabilitation, Disposal	1,275	None identified	3,735	1,180	3,640
Service Improvement					
Growth Activities	None identified	None identified	None identified	None identified	None identified

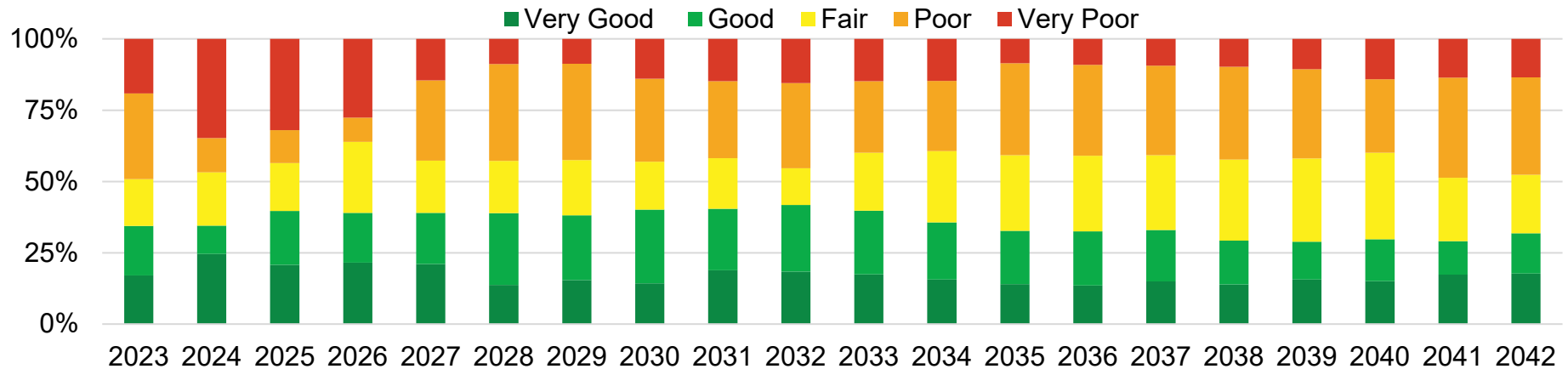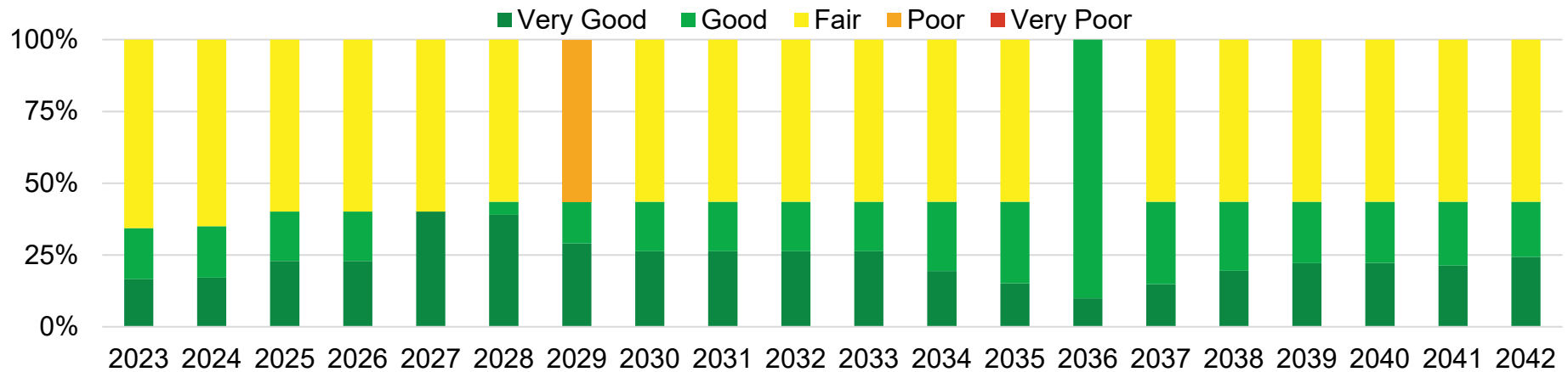Figure 3.11 Facilities Projected 20-Year Achieve Proposed LOS Condition Profile

[3]Infrastructure gap to achieve proposed LOS is inclusive of maintain current LOS infrastructure gap and incremental investment to achieve proposed LOS.
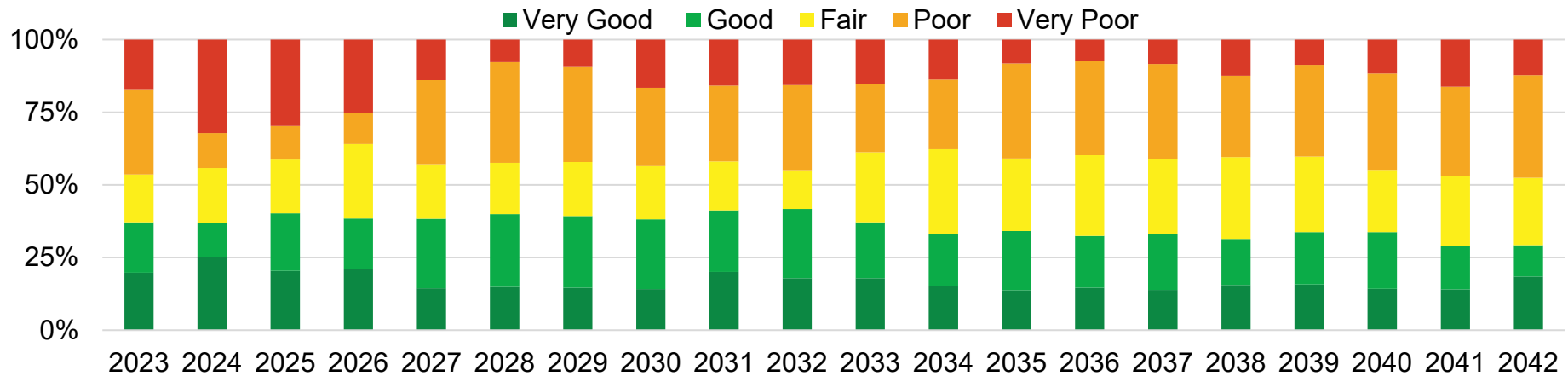
Figure 3.12 Non-Facilities Projected 20-Year Achieve Proposed LOS Condition Profile

3.4:   Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

The infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on LPL assets required to provide services, and
- the amount of funding presently identified in budgets and reserve funds over a 10-year period (2023-2032).

In other words, what London plans to spend versus what the assets need. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize the risks associated with failing assets and insufficient asset compliments.

The LPL identified infrastructure gaps are summarized below in Table 3.14 and illustrated in Figure 3.13. Over the 10-year analysis period, the cumulative maintain current LOS and achieve proposed LOS infrastructure gaps are expected to be $24.6 million and $36.4 million, respectively.

The gap to maintain current LOS is 11.9% of LPL's $206 million infrastructure replacement value. LPL facility pressures are the primary contributor to the gap. These needs include rehabilitation and replacement of existing infrastructure systems. Rehabilitation and replacement investments are based on needs identified in the VFA Facilities Management software, critiquing of consultant FCA results, and considering industry best practices to maintain the facilities current condition profile. Additional maintain current LOS pressures of note include further investment in Furniture and Equipment, and IT Equipment assets to ensure LPL can continue providing exceptional literacy, community meeting spaces, and cultural opportunities to Londoners.

The incremental gap to achieve proposed LOS is 5.7% of LPL's infrastructure replacement value (combined gaps represent 17.7% of replacement value). This amount primarily represents further facilities investments aimed at improving asset

conditions, noting such investments would significantly contribute to towards energy efficiency and GHG reduction in support of climate change mitigation.

Various components of the maintain current LOS and achieve proposed LOS gaps were brought forward for funding as part of the 2024-2027 MYB. Thus, future updates to this AMP will most likely present reductions to the infrastructure gaps, but not elimination.

Table 3.14 Average Annual Budget and Gap Analysis ($Thousands)

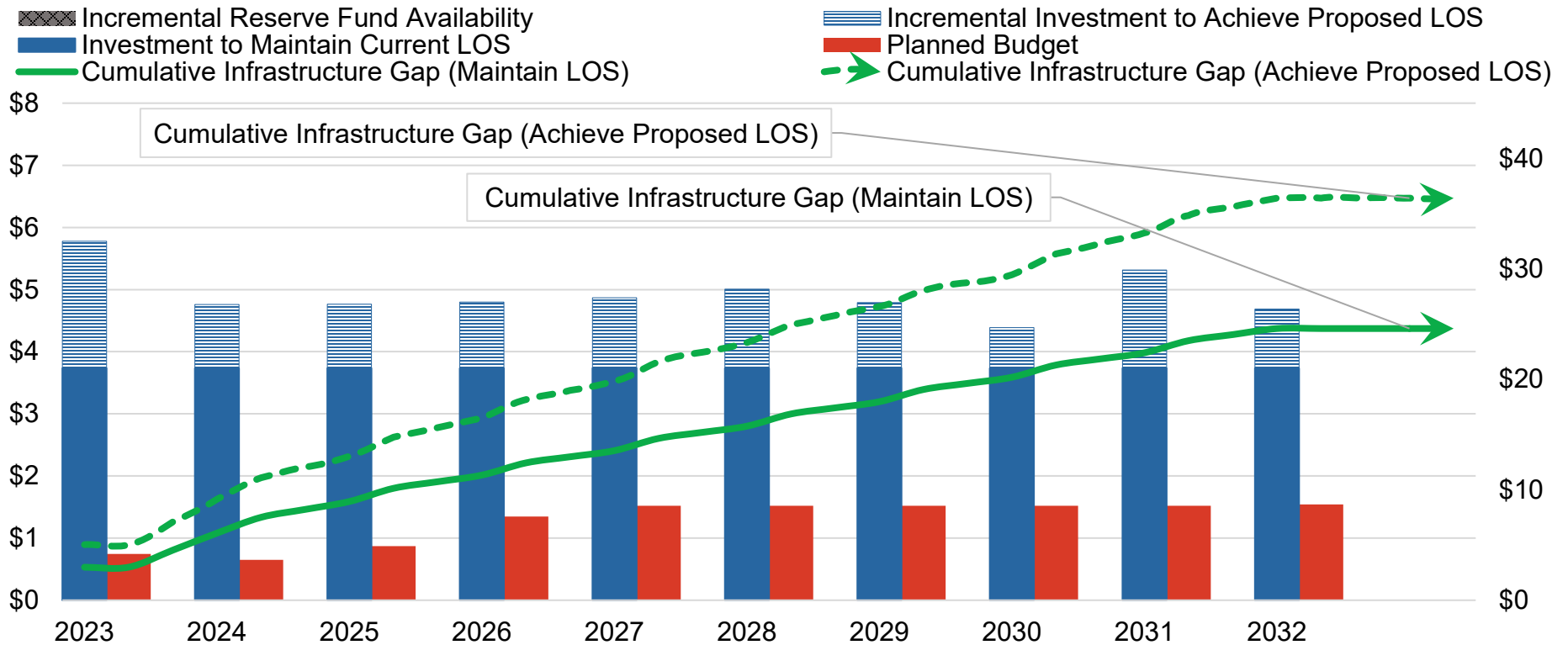| Asset Type	Planned Funding	Reserve Fund Availability	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
London Public Library	1,275	None identified	3,735	1,180	2,460	3,640

Figure 3.13 Maintain Current and Achieve Proposed LOS Cumulative Infrastructure Gap (Millions)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that LPL actions are collectively (both financial and non-financial) are anticipated to tackle the growth in projected infrastructure gaps.

Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing the AMP well in advance of the multi-year budgeting process so that its results help inform the requested operating and capital budgets. However, due to lagging impacts of the pandemic, the AMPs for all the City's agencies, boards, and commissions were delayed post 2024-2027 MYB development. As such this infrastructure gap financing strategy does not present alternative financing options. In replacement of alternative financing strategies, in 2025, this AMP will be updated and reported to LPLB and Council based on the approved 2024-2027 MYB and 2025 annual budget update.

3.5:   Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – planned budget, maintain current LOS, and achieve proposed LOS.

Scenario One planned budget is identified to have constraints on LPL's capacity to effectively maintain infrastructure. This leads to a deterioration in asset condition. This decline might not be immediate but, over time, it becomes more visible to the public and has the potential to cause operating problems, increasing the operating and maintenance costs, and potentially leading to higher repair or replacement costs in the future.

Scenario Two maintain current LOS funding is greater than what is currently allocated, illustrating the financial strain of maintaining a healthy asset portfolio and library services. This scenario acknowledges the need for continual investment in assets to maintain their current condition state, eliminating the degradation seen in the first scenario. It prevents further decline and enhances the condition of the assets as well as ensures legislated requirements are met.

Scenario Three achieve proposed LOS represents service improvements inline with strategic plans, evolving industry standards and community needs, plus energy efficiencies and GHG reductions consistent with City CEAP initiatives. This level of funding is greater than both the planned budget and the one needed to maintain current LOS. The advantages of this approach are improved public access to educational materials (both digital and non-digital), enhanced community and cultural engagement, physically safe and appealing facilities, more environmentally friendly infrastructure, and potential long term cost savings.

These three scenarios result in different LOS depending on the funding provided for asset lifecycle activities. Thus, the choices made will have an implication on LPL assets and staff ability to deliver the desired LOS and resulting customer satisfaction.

3.5.2: Current and Future Challenges

General

Both now and into the future, LPL faces a dynamic combination of opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, unemployment)

- Social (e.g., population demographics, cultural needs)
- Technology (e.g., service delivery and literacy innovation, digital strategy, cyber crime)
- Environmental (e.g., sustainability, climate change, urban versus rural development)
- Organizational (e.g., engagement and partnerships, recruitment, and retention)

To help navigate and prioritize these factors the LPL 2022-2026 Strategic Plan provides direction regarding Library's primary and secondary priorities as it relates to service delivery, facilities, technology, and staff development.

The following commentary summarizes the main current and future challenges impacting infrastructure needs and costs.

Inflation

As Canada's economy has emerged from the pandemic, inflationary pressures beyond those accounted for within the 2020-2023 MYB and associated 10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 LPL AMP and are a material component of the infrastructure replacement values and 10-year infrastructure gaps reported. These capital financing pressures represent a significant risk to the condition and LOS associated with infrastructure assets.

Technology

Changes in technology continue to influence how library service are delivered. From a service delivery perspective, especially public literacy, access to information, and engagement, the use of technology in all forms of services has created significant opportunities to enhance service offerings and quality. These

increasingly complex characteristics highlight opportunities and challenges associated with staff recruitment and training, technology infrastructure needs, organizational and public safety, and personal privacy and ethics.

Climate Change

In 2019, London City Council declared a climate emergency at the urgence of the community. As it relates to LPL's impact on climate, there are current and future challenges that must be contended with. It is important to address these challenges thoroughly and promptly if we are to leave a positive legacy for future generations. This AMP incorporates preliminary facilities energy efficiency and GHG reduction investments (i.e., green for like lifecycle activity costs) consistent with the infrastructure needs stemming from the FCA and those presented in the 2024-2027 MYB.

Aging Infrastructure

Like most Canadian municipalities, City of London and LPL owns and maintains aging infrastructure. In the case of LPL, this is most materially representative in the 16 buildings and 9 site works which are, on average, approximately 32-years old and 27-years old, respectively. Facilities this age often need substantial capital investments to maintain their condition and operational functionality. For example, this could include replacing many building elements such as the roof, and repairing and updating mechanical, electrical, and plumbing systems. Additionally, facilities at this age contain outdated designs and features that are not barrier-free or able to meet modern service delivery needs.

Growth

London is experiencing steady to above average population and employment growth. This growth triggers a surge of service and asset capacity needs, resulting in a proportional boom in new

and/or enhanced infrastructure construction and acquisition. As the asset portfolio increases due to growth, ongoing renewal of these new assets require more resources. To accommodate the tax-supported financing pressures Council approved the Assessment Growth Policy to ensure new property tax dollars attributable to growth are used to fund the long-term operating and capital financing needs of applicable City services and assets.

Additionally, this growth may correspond to increased demand on existing assets, such as increasing 'wear and tear' due to volume. As a result, maintaining existing infrastructure capacity and quality, especially with climate change impacts as well, poses continuous challenges as intensification occurs and as additional urban and rural development continues.

3.6: Conclusion

Valued at over $206 million, the LPL assets are overall in Fair condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain the current LOS. However, to maintain current LOS and achieve proposed LOS additional investments are required, with preliminary calculations at approximately $24.6 million and incremental $11 million, respectively, over 10-years (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of LPL assets will be in jeopardy and could result in degradation of the services ultimately delivered. Table 3.15 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for LPL assets.

Table 3.15 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Millions)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate
London Public Library	$206.2	Fair	$24.6	$36.4	0.73%	2.13% to 2.8%

Reliability and Accuracy Commentary

To facilitate interpretation of the AMP results Figure 3.14 visually presents LPL and CAM staff assessment of AMP data reliability and accuracy with supporting commentary following. This assessment rates data reliability as moderate and data accuracy as moderate to low.

Figure 3.14 Accuracy Reliability Scale

Based on the materiality of assets, key rating considerations and conclusions are:

- Facilities valuation and needs is based on VFA information and corroborated with Altus standard costing. However, full implementation of VFA Facilities Management software within operations is undergoing a phased approach, which was not complete at the point of AMP completion.
- Collections, Furniture and Equipment, and IT Equipment and Software asset inventories are an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

These ratings are consistent with many City of London service areas. To improve these ratings, a review of systems and processes that support LPL asset registries is recommended over the 2024-2027 MYB and beyond. Such investments will raise the reliability and accuracy of the data, noting the long-term goal is to have all asset registries within advanced asset management focused software applications.

Section 4.   Conclusion and Recommendations

4.1: Conclusions

4.1.1: Key Findings

London Public Library (LPL) infrastructure systems are an integral piece of library services and play a key role in achieving LPL 2022-2026 Strategic Plan objectives and goals.

This AMP is a strategic document that describes the state of LPL's infrastructure and the approach to managing assets over their lifecycle to maintain current LOS and achieve approved LOS at the lowest lifecycle cost possible. It was produced through extensive efforts of LPL and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 AMPs. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:
- There is $206.2 million worth of infrastructure under the direct ownership and control of LPL. This infrastructure represents a diverse array of assets including facilities, tangible and non-tangible collections, furniture and equipment, and IT equipment.
- The overall condition of LPL assets is rated as Fair.
- Fair condition indicates that the infrastructure shows general signs of deterioration and requires attention, some elements exhibit significant deficiencies.
- Based on the existing LPL planned funding, the annual average of the 10-year maintain current LOS infrastructure gap is approximately $2.5 million and the annual average of the 10-year achieve proposed LOS infrastructure gap is approximately $3.6 million.
- Through the 2024-2027 MYB a portion of this gap has been approved for funding by the LPLB and this budget is currently being deliberated by City of London Council.

- Future AMPs will be brought forward to align with the development of MYBs and will present financing strategies to mitigate remaining infrastructure gaps annual growth while balancing the impact of taxation affordability on the community.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024, timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024, deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025, O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help LPL manage its $206.2 million asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall LPL strategic objectives and goals. Short term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement.

Table 4.1 2024 LPL AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across LPL assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, thereby aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision Making	Develop and implement investment strategies for LPL infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into LPL strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
Risk Management	Enhance LPL asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or LPL software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each LPL service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually review the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing LPL public engagement practices.	• Enhanced adaptability to changing operational environments and community needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.1 O.Reg.588/17 July 1, 2024, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[4]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital, and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1, every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[4] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.2 O.Reg.588/17 July 1, 2025, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g., measures for energy usage, operating efficiency, etc.)	Sections - #3.2
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6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital, and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
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Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance, or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the LPL, capital assets have the following characteristics:

- Beneficial ownership and control clearly rest with LPL, and
- The asset is utilized to achieve LPL plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: The LPL Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost-effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of

wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality, or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost LPL would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

DC: Development Charges

FCA: Facility Condition Assessment

FCI: Facilities Condition Index

GHG: Green House Gases

IT: Information Technology

kWH/sf: Kilowatt hours per square foot

LCR: Lifecycle Renewal

LPL: London Public Library

LPLB: London Public Library Board

LOS: Levels of Service

MESL: Maintain Existing Service Levels

m3/sf: Cubic Meters per Square Foot

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RF: Reserve Fund

RV: Replacement Value

TCA: Tangible Capital Asset

VFA: Facilities Management Software

For more information vist **london.ca/CAM** or contact
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London
CANADA

2024

London Transit Commission (LTC) Asset Management Plan

City of London

london.ca/CAM

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Acknowledgement

Land Acknowledgment

We acknowledge that London Transit Commission resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the London Transit Commission, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge the efforts of the London Transit Commission staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to the London Transit Commission and City Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

London Transit Commission's Members

Members: Stephanie Marentette (Chair), Scott Collyer (Vice Chair), David Ferreira (Councillor), Jerry Pribil (Councillor), David Little, Jaqueline Madden, Sheryl Rooth

Section 1.   Executive Summary

1.1: 2024 LTC Asset Management Plan Introduction

The London Transit Commission (LTC) infrastructure systems represent one of the critical backbones of providing the City of London a range of conventional and specialized transit services. Being the valued and trusted mobility choice for Londoners comprises London Transit Commission's strategic vision.

This Asset Management Plan (AMP) is designed to enhance the management of LTC's infrastructure assets in a way that connects strategic LTC, City of London, and community economic and social objectives to day-to-day and long-term infrastructure investment decisions. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning LTC for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, and replaced).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that maintain current LOS and those that achieve proposed LOS;
- If necessary, establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet London Transit Commission's approved LOS and associated lifecycle activities.

Key findings of the 2024 LTC AMP are:

- There are $510.3 million dollars of infrastructure assets under LTC management;
- Overall, these assets are in Good condition;
- The cumulative 10-year maintain current LOS gap is approximately $80 million and there is no identified achieve proposed LOS infrastructure gap; and
- The average planned budgets for 2023-2032 (based on the 2023 annual budget update) to maintain current and achieve proposed LOS represents a reinvestment rate of 9.0% and 9.5% respectively. This is less than the recommended average to maintain current LOS and achieve proposed LOS reinvestment rates of 10.9% and 11.4% respectively.

A summary of these results is presented in the following tables and figures:

- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of LTC's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets between those that are in Very Good to Very Poor condition;
- Figure 1.2 shows the optimal maintain current LOS and achieve proposed LOS expenditures compared to planned budget and additional reserve fund availability, and the resulting infrastructure gaps;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS.

Table 1.1 2024 AMP Summary Information

Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$510.3	$510.3
10-Year Infrastructure Gap ($millions)	$80.0	None Identified
Infrastructure Gap as a Percentage of Replacement Value	15.7%	None Identified
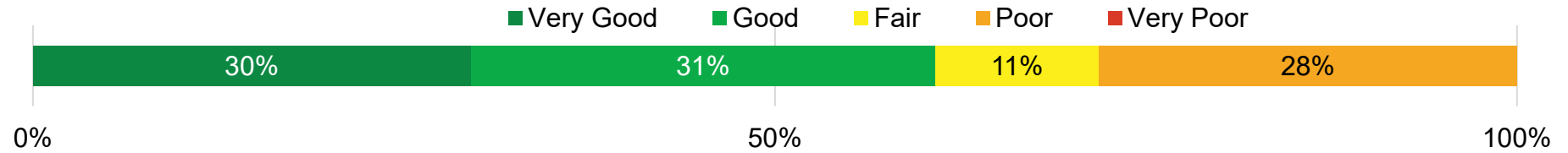
Figure 1.1 Overall Condition
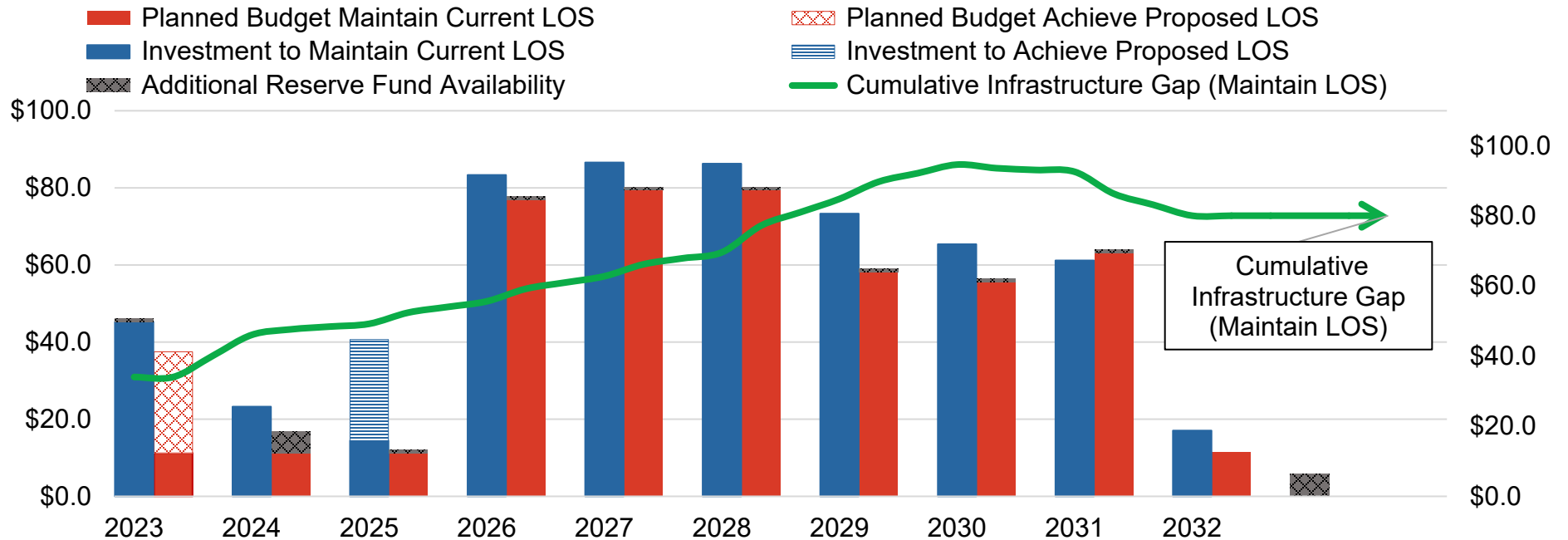
Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps (millions)

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget to Maintain Current LOS)	Current Annual Reinvestment Rate (Planned Budget to Achieve Proposed LOS)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
9.0%	9.5%	10.9%	11.4%

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.
- **Detailed Asset Management Plan** section summarizes the existing asset inventory, its replacement value, condition, age distribution, and how LTC stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies, and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.
- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to Commission approval.
- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping

of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on LTC staff input and asset data, the LTC AMP is a tactical outcome of the City's CAM Program, outlining LTC's plan to manage its $510.3 million worth of infrastructure, and the required investments in existing infrastructure to meet maintain current LOS and achieve proposed LOS objectives. There are no easy solutions to how the entire infrastructure system works together to achieve an optimal delivery of transit services. But this AMP, among other LTC strategic documents, helps to identify the additional efforts required to address the reported infrastructure gaps.

The 2023 maintain current LOS infrastructure gap of $34.0 million compared to a $510.3 million asset base is considered a well managed gap. There is no current 2023 achieve proposed LOS gap as such proposed investments commence in 2024 to align with the City's 2024-2027 Multi-Year Budget (MYB) and Phase 2 Facility Expansion. However, the cumulative 10-year maintain current LOS gap of $80.0 million requires monitoring. This growth in the infrastructure gaps has the potential to escalate beyond LTC's ability to manage services effectively. As there is no intent to allow this to occur, further action is needed to address both the understanding and forecasted growth of the gaps.

Choices are available as to how LTC manages the infrastructure gaps:

- LTC can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. This funding can come from either tax supported or non-tax supported sources of financing. However, funding sources are limited, thus, LTC must continue to manage its services in an affordable manner with due regard to market prices and staff impacts.
- Paying for the gaps is not the only opportunity. In rare cases, LTC can reduce LOS to match its ability to pay. However, there may be an unwillingness to give up services currently enjoyed and a strong desire to improve services especially given a current service deficit when compared to expectations of residents of the City of London.
- A third opportunity for LTC is to find more efficient and effective ways of delivering services, including changing the asset mix that supports service delivery. When possible, LTC strongly supports this direction and regularly invests in improvements. One element of this third approach is the work underway to enhance asset management practices.

Overall, LTC has a long-standing practice of pursuing all possible means to achieve service delivery goals and has been reasonably successful delivering quality services. In effect LTC adopts a blend of the three approaches outlined and is continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

The Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against LTC's $510.3 million worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement. There are no additional funding needs associated with the completion of these administrative projects (i.e., initial projects will be completed leveraging existing staff and other resources).

Section 2.   Introduction

2.1: Supporting LTC Goals Through the Corporate Asset Management Program

London Transit Commission (LTC) infrastructure systems support a range of conventional and specialized transit services. LTC is responsible for the operation, repair, control, and management of the local transportation system of the municipality on behalf of the City of London. These service delivery results are based on LTC's strategic community and organizational objectives established through the LTC 2019-2023 Business Plan Strategic Plan (noting it is being updated to present to the Commission June 2024), which outlines the mission, vision, values, and strategic outcomes that guide LTC in a way that aligns with the core values of London community. These objectives are[1]:

Our Mission

- Moving Londoners – progressively, reliably, and affordably.

Our Vision

- The valued and trusted mobility choice for Londoners.

Values and Guiding Principles

- Fiscal Accountability – ensuring efficient and effective use of investment – supporting sustainable growth while providing positive social, economic and environmental benefits;
- Valued and Respected Community Partner – working collaboratively on a shared vision, effort and success with all community partners;
- Open and Transparent – participating in open and honest communication with all community partners in a clear and timely manner;

- Engaged and Diverse Workplace – attracting, developing, supporting and retaining exceptional individuals resulting in a dynamic and diverse workplace;
- Innovative – fostering a culture of continuous improvement through effective use of resources and technology;
- Customer Focused – striving every day to improve the customer experience;
- Reliable Infrastructure – acquiring and effectively maintaining environmentally friendly infrastructure in support of the consistent delivery of a quality service.

Strategic Outcomes

- An integrated, affordable and valued mobility choice;
- An engaged, diverse and respectful workplace;
- Demonstrated fiscal accountability;
- Being open, transparent and understood;
- Effective utilization of infrastructure.

The City's CAM Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[2].

This AMP was developed through the City's CAM Program based on an approved Service Level Agreement between LTC and the City. By following this development process the AMP achieves the following:

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[1] https://www.londontransit.ca/wp-content/uploads/2023/05/2019-2022-Business-Plan-Final.pdf

[2] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and Commission approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of 2023-2032 capital plan (hereon referred to as "planned budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2: Provincial Asset Management Planning Requirements

In 2016, Ontario introduced a requirement for municipalities to complete an asset management plan that includes all categories covered by Ontario provincial Gas Tax Fund. This resulted in LTC completing its inaugural AMP noting it predated O. Reg 588/17 requirements. Thus, this second AMP is a continuation and expansion of LTC work which began in 2016.

This AMP builds upon existing LTC asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program and LTC's initial AMP. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province

then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, the Province created O. Reg. 588/17 under the *Infrastructure for Jobs and Prosperity Act*. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted LTC financial are consolidated within the City's financial statements. The following dates are provincially required:
  - By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  - By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS and the

costs to achieve them, and the financial strategies to fund the expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.

- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across the LTC who are involved with managing infrastructure assets, including finance staff, technical staff involved with planning and executing the construction and maintenance of infrastructure assets, and on-the-ground staff who operate and maintain infrastructure assets. Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure
- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?
- Age and expected useful life of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and LTC inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects capital financing pressures that go beyond what can be accommodated in the LTC 2023-2032 planned budget.

A sample of the capital financing pressures captured in the AMP are:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,
- Achieve Proposed LOS – meeting the desired LOS may require additional investments in existing or new modernized infrastructure, and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

Additionally, due to evolving legislative changes and ongoing CAM Program development and implementation, the following capital financing pressures have not been fully analyzed, but are summarized here to provide information regarding potential future amendments:

- Growth – as the city expands and develops, additional infrastructure investments will be required to support the increasing population and demands, and
- More Homes Built Faster Act, 2022 – legislative changes may impact the City's funding of growth costs.

By acknowledging capital financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and LTC to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with LTC's strategic plans, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other Commission approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily

formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, LTC strives to provide services to the community that are accessible, cost efficient, provide customer satisfaction, demonstrate environmental stewardship, reliable, and safe, with suitable scope. As shown in Figure 2.1, to obtain a desired LOS, LTC faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.

Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset

portfolio based on planned budget, the required budget to maintain current LOS, and the required budget to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned budget and capital reserve fund over a 10-year period (2023-2032).

In other words, what LTC plans to spend versus what the asset needs are. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, to minimize the risks associated with failing assets, and to acquire new infrastructure.

Next are the infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community, which is consistent with the outcomes and expected results of the 2019-2023 LTC Business Plan and 2023-2027 City of London Strategic Plan.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with addressing infrastructure gaps. This discussion includes opportunities and challenges that are both in and outside of the control of the Commission. Among others, this includes consideration of service delivery characteristics, cost pressures, and growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of LTC infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- AMP scope covers directly owned LTC assets as of December 31, 2022, and associated planned budgets approved in the 2023 annual budget update. Thus, timing differences exist between when this AMP was developed versus current 2024-2027 MYB approvals. Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.

- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in three ways:
  - Condition may be technically assessed and reported on in a quantifiable technique. This method is the most accurate and most expensive (e.g., facilities condition);
  - Condition may be assumed based on age and estimated useful life; and
  - Finally, condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, pandemics, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- The planned budget and expected reserve fund availability, will occur as planned over the 10-year period of analysis. This assumes the Highbury facility expansion is fully funded. It also assumed that Zero Emission Bus (ZEB) Pilot Program needs are fully funded.
- LTC is listed within the current City 2021 Development Charges Background Study and growth budgets as listed are deemed sufficient to meet growth needs.
- Although final direction has not been provided by Council, this AMP assumes that LTC will operate the new bus rapid transit (BRT) service once the project is completed, noting construction is ongoing at time of AMP.
- ZEB Implementation Strategy is not Council approved at time of writing thus any preliminary costing is not reflected in this AMP.

Section 3.   Detailed Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

The London Transit Commission (LTC) is a corporate body with the powers, rights and privileges vested in it by the City of London Act (Bylaw A-6377-206). Through this policy, LTC is responsible for the operation, repair, control, and management of the local transportation system of the municipality. This includes conventional transit and transportation for the physically disabled. LTC and City Council consults regularly on local transportation system policy and on the general administration and affairs of LTC in relation to general municipal policy and the administration and affairs of the City of London.

London Transit Commission has a rich history in its 149 years of existence. This is reflected in the asset base, which started with approximately 20 years of horse drawn cars, to electric powered cars introduced in 1914. The entity which became LTC had its own generating plant until 1923. The City of London purchased the LTC forerunner in 1951 and named it London Transportation Commission. LTC moved to its current Highbury Avenue location in 1972. Provincial and municipal subsidization allowed a major fleet route and service expansion in 1972, and the first accessible buses began in 1998. Finally, the provincial and federal governments commit to gas tax funding for public transit in 2005[3]. These themes of electrification, multilevel government support, accessibility, and service expansion are relevant to LTC operations today and are reflected in the current facility and fleet asset base, and the expected facility expansions in the next 10 years, with complementary potential fleet electrification.

Current estimates are 19 million passengers use LTC services each year. 231 buses, with 2,200 bus stops, 104 garage and maintenance employees, 482 operators, inspectors, and dispatchers, and 681 bus shelters are required to maintain current service levels.

The assets required to allow these services have an approximate replacement value of $510.3 million. This primarily relates to the LTC Land, Facilities, and Fleet, but also includes a variety of Information Technology, and Other Facilities Assets.

Table 3.1 summarizes the assets by type, inventory, quantity, and replacement values. The asset replacement values have been identified using different LTC databases including LTC's accounting software system SAGE – Platinum for Windows, underlying work in considering a transition to Facilities-specific Management software (such as VFA), and internal expert opinion. These replacement values aim to capture current market prices for the full replacement of identified assets. For further information regarding costing refer to Section 2 Introduction.

Figure 3.1 provides an outline of LTC routes based on data from LTC website. It is intended to give an 'at a glance' sense of the scope of LTC's routes[4]. It is noted the map is effective as of April 2024 but also service routes are reviewed and potentially updated September of each calendar year.

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[3] https://www.londontransit.ca/ltc-history/

[4] https://www.londontransit.ca/open-data/

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Land	450 Highbury Ave N and 3508 Wonderland Road N	10.8455	Hectares	$5,414[5]
Facilities	Transit Facilities, Administration offices, Storage and Maintenance, etc.	13	Each	$261,621
Fleet	Rolling Stock (40 Foot Diesel Bus, 40 Foot Hybrid Bus, 60 Foot Articulated Diesel Bus)	231	Each	$205,678
	Service Fleet (Inspector Vans, Pickup trucks, Cargo, and Transit Vans)	11	Each	$730
	Other Fleet Assets (Tools, Lifts, Compressors, Skids, Hydraulic Presses, Bus Washes, etc.)	Mix	Each	$6,999
Information Technology	Computer Hardware	Mix	Each	$1,322
	Computer Software	5	Each	$1,277
	Fare Equipment	237	Each	$8,095
	Data Collection Equipment	Mix	Each	$1,054
	Radio/Communication Equipment	Mix	Each	$13,039
Other Facilities	Shelters	681	Each	$3,299
	Pads	2,001	Each	$966
	Terminals and Signs (6 Terminals with 10 Wayside Signs)	16	Each	$800
Total				$510,294

Additional details relating to each asset type are provided.

Land

LTC's original asset management plan for provincial gas tax requirements listed land, thus it is listed using historic cost and adjusted for inflation.

Facilities

Valued at over $261 million, from a replacement value perspective LTC's building and sitework represent over half of assets under management. LTC has two locations – Highbury and Wonderland. Both locations include a mix of maintenance garages, storage facilities, Fleet body shops, administrative offices, and salt sheds, noting Highbury is the significantly larger location.

LTC has relied on Highbury headquarters for over 52 years, noting that facility rehabilitations and renewals indicate an effective age of 43 years. While the facilities are considered functional, they are not meeting a modern level of service that incorporates an electrified fleet and associated infrastructure (charging stations, appropriate personnel to maintain specialized fleet assets, etc.). As will be explained and referenced throughout Section 3, particularly Lifecycle Management Scenario Forecasts – Planned Budget, Maintain

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[5] Land replacement value based on historic cost inflated by Statistics Canada Consumer Price Index.

Current LOS, and Achieve Proposed LOS, Highbury location is undergoing a two-phase approach to rebuild and modernize its location to increase the facility square footage and have modernized infrastructure. Regardless if the facility will support a Fleet that has Zero Emission Buses (ZEB) the facility expansion is required.

Fleet

Fleet is comprised of three asset categories – Rolling Stock, Service Fleet, and Other Fleet Assets. Rolling Stock approximates $206 million and has 209 40-foot diesel buses, 8 40 foot hybrid buses, and 14 60 foot articulated diesel buses.

Service Fleet is primarily vans for inspection or maintenance, and trucks for LTC on-site use.

Other Fleet Assets are a range of assets to maintain Fleet, ranging from annual small tool purchases, bus platforms, floor scrubbers, lifts, hydraulic hoists, compressors, hoist rebuild, safety stands, work well saddles. Given the high volume of small tools that are purchased en-bloc, the asset count is identified as mixed. While these assets may be a relatively small percentage of total replacement value, they are critical to having safe and functional Fleet assets needed by LTC users.

Information Technology

Information Technology approximates $24.8 million in replacement value and is split between Computer Hardware, Computer Software, Fare Equipment, Data Collection Equipment, and Radio/Communication Equipment.

Computer Hardware and Software represent en-bloc listings of monitors, computers, servers, laptops, etc. used by LTC staff. Software represents LTC website, Routematch transit scheduling software, operator timekeeping software, payroll software, and Kronos software to support timekeeping system.

Fare Equipment relates to Fareboxes, smart card systems for users to pay entry into Rolling Stock, while Data Collection equipment relates to Automatic People Counter to track as riders leave a Rolling Stock asset.

Radio and Communication Equipment relates to vehicle tracking systems and equipment, cameras, and communications systems.

Other Facilities Assets

Approximating $5.0 million, shelters, pads, and terminals relate to shelters while transit riders await the arrival of Rolling Stock, larger Terminals to support dropoff of riders at larger locations (including Fanshawe College, Argyle Mall, White Oaks Mall, Westmount Mall, Masonville Mall, and Western University, with 8-Line signs required) or concrete pads required at various locations throughout the City.
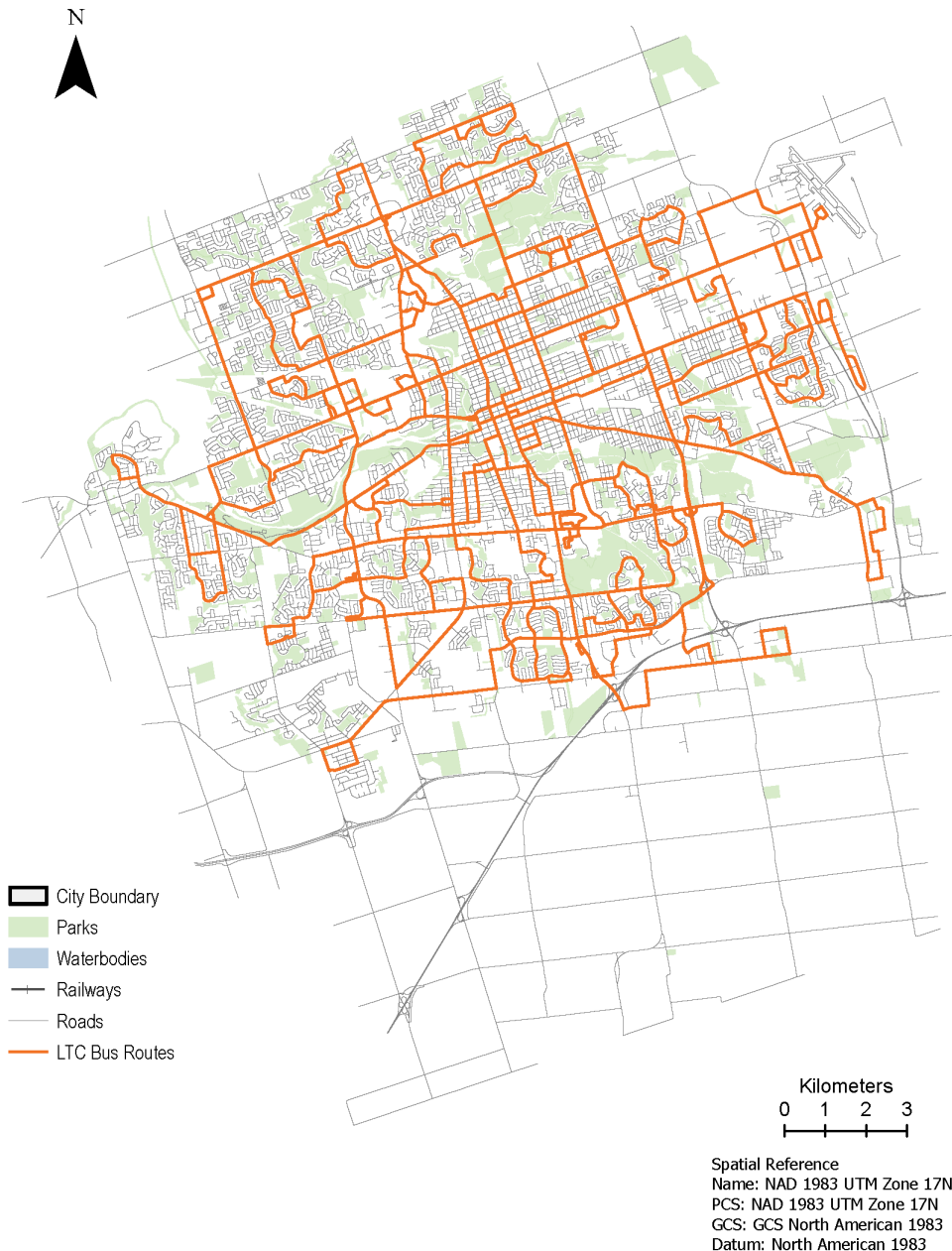
Figure 3.1 London Transit Commission Bus Routes and Stops

Legend:
- City Boundary
- Parks
- Waterbodies
- Railways
- Roads
- LTC Bus Routes

Kilometers
0 1 2 3

Spatial Reference
Name: NAD 1983 UTM Zone 17N
PCS: NAD 1983 UTM Zone 17N
GCS: GCS North American 1983
Datum: North American 1983

3.1.2: Age Summary

Figure 3.2 shows the LTC average asset age as a proportion of the average expected useful life. This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates LTC's ability to replace such assets on-time. Overall, the data affirms that, excluding facilities and certain IT assets, LTC assets are within their expected useful life. It is noted that lifecycle activities must continue over a 10-year period to ensure the age distribution would remain under expected useful life targets, or be enhanced.

Land age is unknown and thus not listed.

Facilities

The age of the facility was calculated using historic records and internal expert opinion, which will inform a potential transition to a facilities asset management software such as VFA. Overall facility assets average age is three years older than the standard expected useful life of 40-years. This leads to an increase in the operation and maintenance cost of the facility. It is important to note that 40-years was selected as the expected useful life based on the non-structural components of buildings which have the longest expected useful life. In practice the many components that comprise a building are slated for renewal based upon a combination of factors including age, condition, consequence of failure, likelihood of failure, etc., and the practical expected useful life is largely indefinite while the building continues to serve its intended/required purpose in its given geographic location.

Nevertheless, the age of LTC facility assets and the evolving demands and best practices of service delivery have given rise to the need for comprehensive facility assessments and asset management industry best practices. Facility assessments at LTC have been ongoing with a study performed in 2006 which

resulted in the completion of the satellite facility on Wonderland Road. A study for the Highbury facility was undertaken in 2019 that was subsequently updated in 2023 and now forms the basis of the 2024-2027 MYB business case #P-60 – London Transit Commission Project 2 Highbury Facility. Further details and financial impacts of these assessments and industry best practices are provided in Section 3.3 Asset Lifecycle Management.

Fleet

Rolling Stock is halfway between the average expected useful life of 12 years. This is consistent with the expectation that newer purchases would average out against assets nearing end of useful life and the strategy employed by LTC to purchase new Rolling Stock, compared to other transit commissions potentially relying on purchasing used stock. Section 3.3 lifecycle management strategies further expands on LTC Fleet strategies.

Service Fleet is two-thirds through their expected useful life of 6 years, noting these are support vehicles used by LTC staff to support public assets.

Other Fleet Assets are approximately two-thirds through their expected useful life. Longer lasting assets like winches and hydraulic presses on a weighted average basis account for the longer asset life expectancy, noting items such as small tools are shorter lasting with approximately 5 years EUL.

Information Technology

IT hardware and software, fare equipment, data collection equipment, and radio and communication equipment are based upon internal expert opinion corroborated with review of data tracked within LTC's accounting systems. Computer hardware and software are at or near the end of their expected useful life. Fare equipment and radio equipment are approximately two thirds through their expected useful life. Data collection equipment is approximately one third through its expected useful life. As expanded upon in the lifecycle management section, this indicates needs within the medium term (i.e. within three to five years of the total projected 10-year period of analysis).

Other Facilities Assets

Shelters, Pads, and Terminals are approximately halfway through their expected useful life, which suggests investment will be required in the short to medium term.
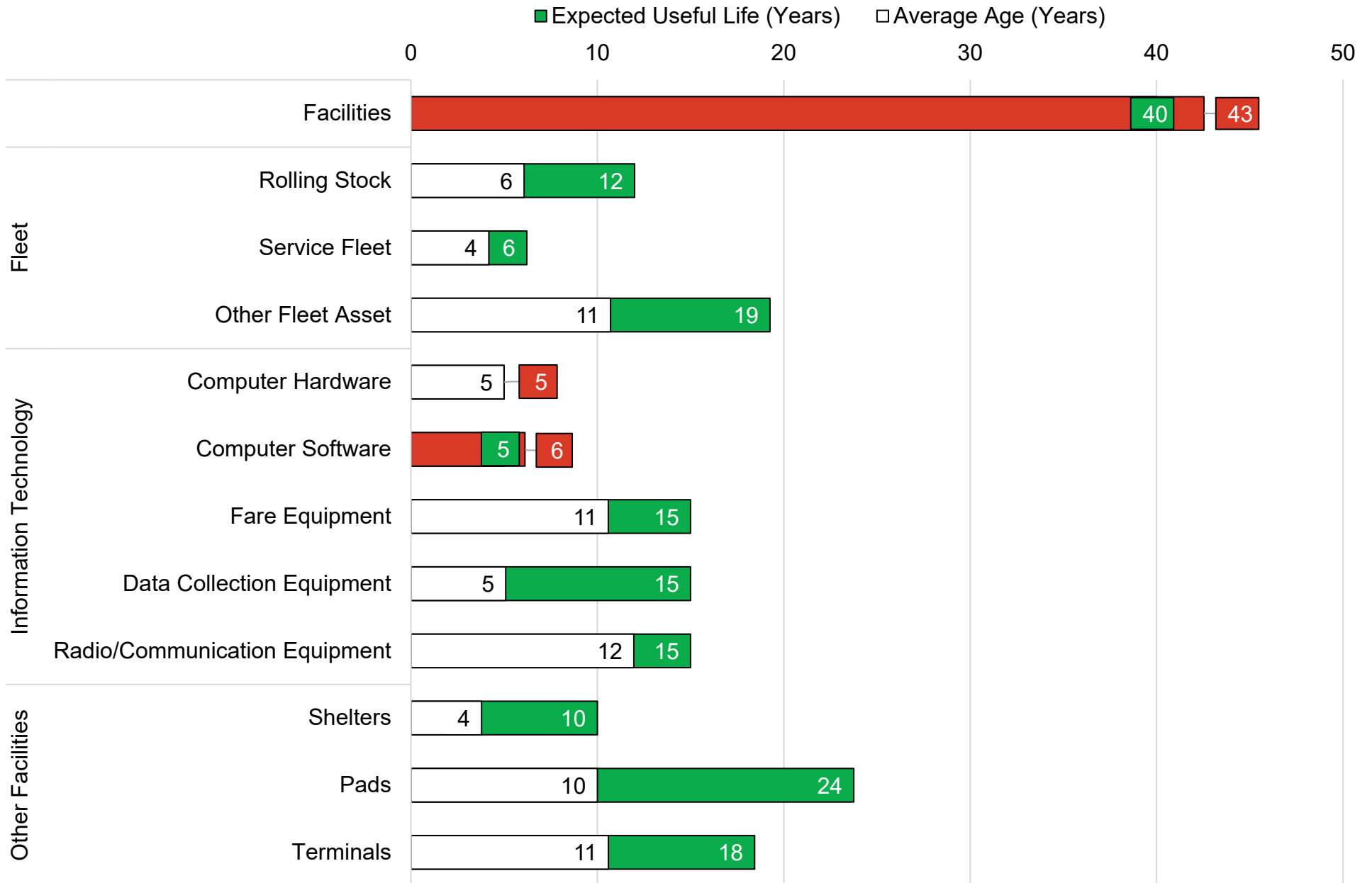
Figure 3.2 Average Age and Expected Useful Life

3.1.3: Asset Condition

The condition of the assets was determined using one of the three methods below based on data availability and accuracy:

1. Existing condition rating systems (e.g., Facility Condition Index, etc.),
2. Estimated based on age and the remaining expected useful life of the assets, and
3. Estimated based on expert opinion, in the absence of 1 or 2 above, or where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Land condition is not typically assessed and thus not listed.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data for LTC to identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.3 presents the overall condition distribution of all LTC assets. It shows that approximately 72% of the assets are in Very Good to Fair condition. However, it is important to note this condition profile is only a snapshot in time and not indicative of condition profiles over the next 10 years.

Pressures do exist and are reflected in multi-year budget requests and further described in Sections 3.3 and 3.4. In addition, there are pressures that are beyond scope of a traditional condition profile. For example, transitioning Fleet assets to a Pilot ZEB test are being pursued not strictly to improve asset condition but also climate, environmental issues, and modern practices suitable for a transit system of the size and complexity of LTC.

Figure 3.4 provides a detailed condition distribution for Facilities, Fleet, IT Equipment, and Other Facilities assets.
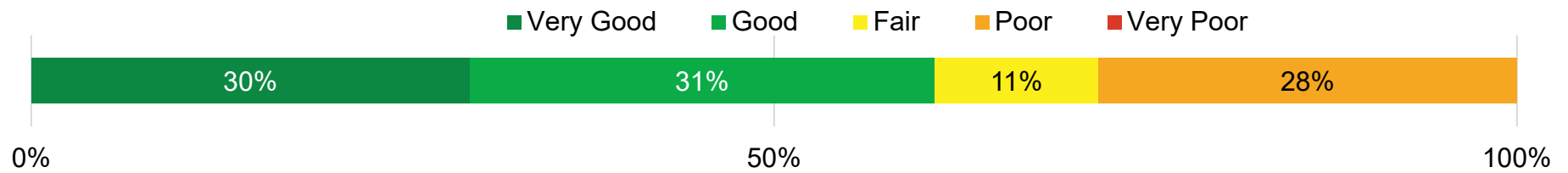

| ■ Very Good | ■ Good | ■ Fair | ■ Poor | ■ Very Poor |

| 30% | 31% | 11% | 28% |

0%   50%   100%
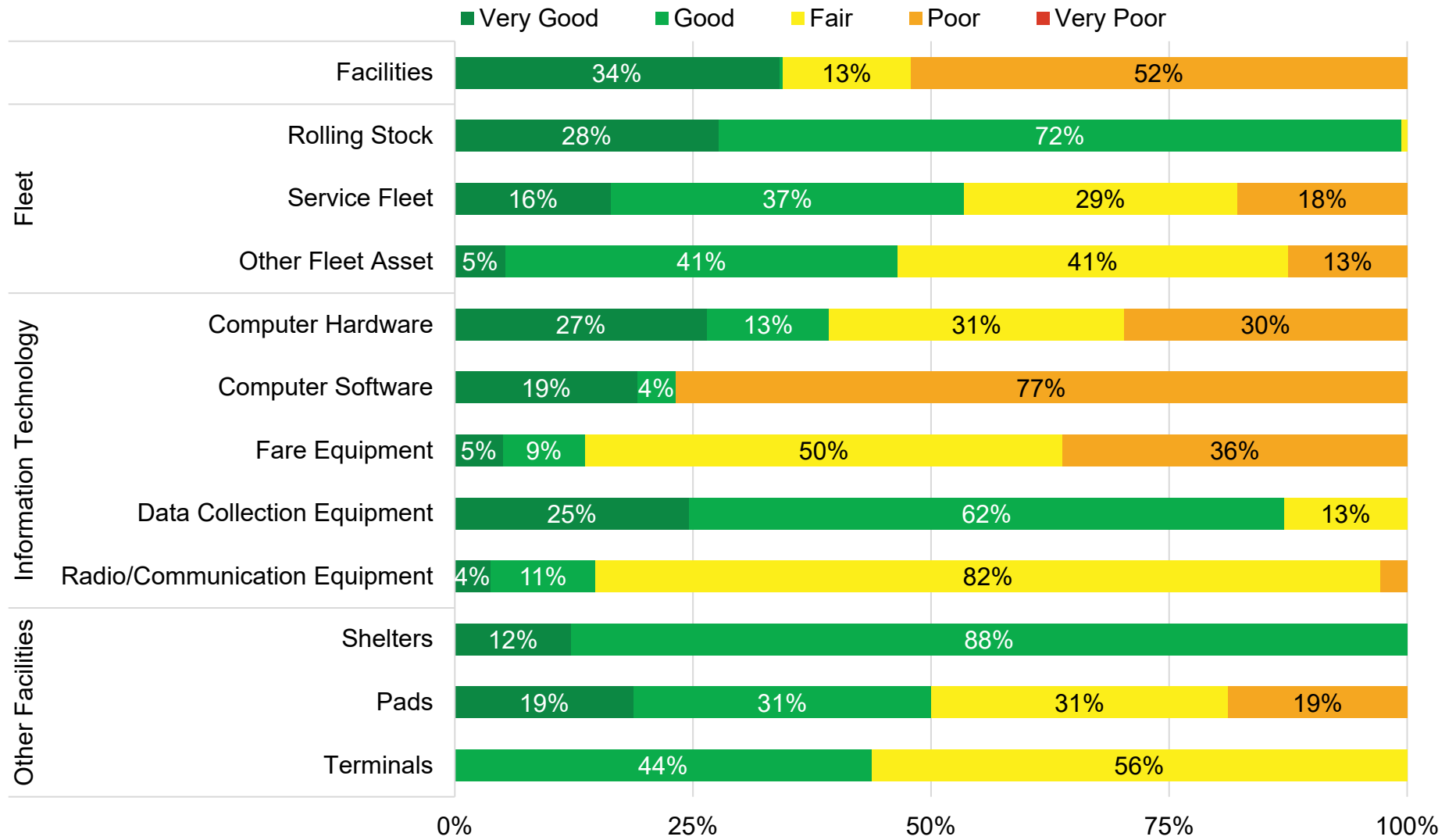
Figure 3.3 Overall Condition

Figure 3.4 Asset Condition Detail

Facilities

The LTC facility experts regularly perform comprehensive assessments, which inform internal expert opinion facility condition. The extensive internal expert opinion will assist the potential transition to tracking information in asset management software (such as VFA) to establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facility and their sub-components (building envelope, mechanical and electrical systems, etc.). This transition would be dictated based on staffing and financial resources but would complement how Highbury facilities will be rebuilt and significantly upgraded starting in 2025 and assist 'from the go' as the facility maintenance transition to the new layout. These assessments and interactions with supplemental consultant will become the primary source in identifying the repair, rehabilitation, and/or replacement strategies for each asset. Note the facilities condition ratings present the physical condition of the buildings and are not a representation of the functionality required to satisfy LTC service delivery (i.e. size, location, ability to accommodate certain types of functions, etc.).

The current condition assessment identifies that 47.9% of facility assets are in Fair or better condition. In the context of transit service delivery, such a material amount of facility assets in Poor condition is indicative of rehabilitation or repair needs. Given LTC needs for modern and larger facilities, there will be identification of sufficient rehabilitation or renewal needs to keep the current facilities functional while new construction begins in 2025. As mentioned earlier, significant pressures do exist and are reflected in multi-year budget requests and further described in Asset Lifecycle Management and Forecasted Infrastructure Gaps and Financing Strategy. Facility conditions of note are the Highbury location which is in Poor condition.

Fleet

99.5% of assets are Fair and above condition, which is considered a required condition profile given the need for safe transportation for LTC users. Given Rolling Stock (comprising nearly all of replacement value) of 12 years are approximately halfway through their typical lifecycle, and how Rolling Stock assets would typically be Fair or greater condition suggests reinvestment is required in the short to medium term (i.e. reinvestments occurring over the next 10 years). Service Fleet has a greater range of condition, which is consistent with how certain assets are for on-site use for LTC staff only. Other Facility Assets have shorter lasting assets which account for the varied condition profile.

Information Technology

81% of IT assets are in Fair or above condition. IT asset conditions were evaluated based on internal expert opinion and industry standards. Computer hardware and software and Fare Equipment having significant portions of their respective assets in poor condition suggests reinvestment in the shorter term. Performance and condition concerns of IT assets are captured on a proactive basis through problems reported by staff and the nature of transit services would quickly identify any issues with IT infrastructure.

Other Facilities Assets

Over 96% of Other Facilities assets are Fair and above condition, however pads with 19% of assets in Poor condition suggests reinvestment is required in the short to medium term.

3.2: Levels of Service

Asset management LOS link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- LTC 2019-2023 Business Plan,
- LTC's Zero Emission Bus Fleet Implementation Framework,
- 2023-2027 City of London Strategic Plan,
- 2023 Annual Budget Update.

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, LTC and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.3 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 LTC AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future LTC AMP development processes and practices.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Description
Accessible	Service is accessible by the community, not exclusive, it is inclusive to those who wish to/may use the service to the greatest extent possible, regardless of age, ability, etc. Includes metrics related to asset accessibility and legislated requirements. For example, *Accessibility for Ontarians with Disabilities Act* (AODA).
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Customer Satisfaction	Service is satisfactory/meeting expectations from the perspective of a customer or community. Includes a diversity of metrics that cover the performance of a service based on customer experiences. Metrics consist of descriptions from customer surveys and the like. Example includes percentage of customers satisfied with assets or service delivery.
Environmental Stewardship	Service is provided in a means that considers, controls, or reduces impacts to the environment. Includes metrics related to the assessment of service provision based on environmental stewardship and sustainability practices. Examples include annual monitoring of utility usage by square footage of facility spare, or fuel consumption-based greenhouse gas emissions.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.
Scope	The service is extended to/covers a defined range, or description of the range of service provided through municipal infrastructure assets. Includes, among other measures, maps of the user groups or areas of the municipality that have availability of municipal services, are connected to the municipal water system, or have fire flow access, etc..

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. Direct LOS metrics are the primary benchmarks. These can readily determine the cost to maintain current LOS and achieve proposed LOS. Next are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed. After review with LTC staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.4, and the support related LOS are documented in Table 3.5.

3.2.1: Direct Levels of Service

Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	Overall reinvestment rate	9.5%	10.9% to 11.4%
Environmental Stewardship	Technical	Annual facilities electric energy consumption, kilowatt-hour per square foot	22.1 kWH/sf	Positive Downwards
		Annual facilities natural gas consumption, cubic meters per square foot	4.7 m3/sf	Positive Downwards
		Annual facilities water consumption, cubic meters per square foot	0.03 m3/sf	Positive Downwards
		Annual greenhouse gas emissions per Rolling Stock asset (231)	75.5 tonnes per year per Rolling Stock asset	Positive Downwards
Reliability	Customer	Percentage of LTC assets in Fair or better condition	71.8%	Maintain current
		Percentage of Fleet Rolling Stock in optimum service life[6]	99.4%	100%
	Technical	Average Rolling Stock bus age (years)	6.0	Maintain current

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[6] There is a single 60-foot articulated diesel bus purchased in 2008 that is greater than 12 years of age.

3.2.2: Related Levels of Service

Table 3.5 Related Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance
Accessible	Technical	Ridership - Specialized	222,912
		Percentage of accessible transit Fleet	100%
Cost Efficiency	Technical	Rides per service hour - Conventional	21.6
		Rides per service hour - Specialized	1.5
		Facilities reinvestment rate	13.9%
		Fleet reinvestment rate	5.6%
Customer Satisfaction	Customer	Percentage of residents satisfied with Transit services	2022 not available given pandemic impact
Reliability	Customer	Percentage of Facilities in Fair or better condition	47.9%
		Percentage of Fleet assets in Fair or better condition	99.5%
		Percentage of Information Technology assets in Fair or better condition	81.2%
		Percentage of Other Facilities Assets in Fair or better condition	96.4%
	Technical	Mean Kilometer per service pull-in	6,909
	Technical	Mean Kilometer per in-service repairs	4,389
Scope	Technical	Rides per Capita - Conventional	31.1
	Technical	Ridership – Conventional	13,366,417
	Technical	Percentage of City population within 400m of a bus stop	88%
	Customer	Service hours per capita	1.4

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.6.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

LTC employs a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, disposal, and regular investments in strategic plan priorities, while continuing to prepare for introducing service improvements.

When feasible, LTC also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets or asset categories, which can result in cost and service efficiencies. Additionally, with significant asset investments, LTC seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Selected lifecycle activities are reviewed and modified based on continual industry benchmarking, staff training, professional networking, service reviews (including customer reviews), consultant recommendations, and trial and error through scenarios and pilot programs. LTC is also committed to climate change adaptation and mitigation planning through ZEB Pilot Program, and strategic planning exercises, which may trigger asset investment needs. The ZEB pilot program will involve 10 zero emission buses and having facilities infrastructure adapted to needs of having a ZEB-based fleet. Capital budget MU1101 will provide the funding for this pilot project. Also, as part of LTC's strategic planning exercises a more fulsome climate mitigation and infrastructure greening strategy like the City's Climate Emergency Action Plan is under consideration.

Table 3.7 lists specific asset management practices or planned actions LTC conducts for each lifecycle activity associated with each of the transit facilities and other LTC assets such as Fleet, Information Technology, and Other Facility Assets.

Table 3.8 lists specific risks associated with asset management practices or planned actions by lifecycle activity for all asset types.

Table 3.7 Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	**Facility** • Facilities are maintained and renewed through a specialized Facilities Team and other facilities management applications, which combined with comprehensive condition assessments and Facilities Team experience, determines the lifecycle management needs of a facility. • Needs include the direct care of the building envelope, mechanical and electrical systems, etc. **Fleet** • LTC Fleet assets are rigorously maintained to support the reliable delivery of transit service. They receive monthly and more rigorous biannual and annual inspections. • Ongoing lifecycle management reviews plus condition assessments at end of life. • Various tests extending lifecycle and assess impact on performance, cost, and risks are completed. **Information Technology** • Monitor and track IT equipment age and performance to determine when assets should be replaced. • Soft strategies (i.e., policies) to mitigate radio communication, data and fare equipment failure are continuously updated. • Software focus is to ensure that applications are considered 'in support' to mitigate potential malware/cyber-attacks and ensure assets are operating efficiently for individuals and services using them. **All LTC Assets** • Various controls and approval processes to safeguard assets. • Financial planning strategies to control costs. • Ongoing use and further development of computerized maintenance management system. • Updating and applying design standards. • Ongoing search for additional funding. • Operational continuous improvements. • Improvements to employee capabilities, communications, training, etc. • Changes to current and proposed LOS. • Developing asset management program. • Leadership networks with peers through conferences and committees to learn from other's experiences at both provincial and federal levels.

Activity	Specific Asset Management Practices or Planned Actions
Maintenance	**All LTC Assets** • Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets. • Maintenance also triggered by public/community partners feedback (when applicable). **Facility** • A work order system exists for LTC Facilities Team employees to generate and document capital works requests and completions. **Fleet** • A work order system exists for LTC Fleet Team to generate and document capital works requests and completions. • Vehicles and equipment are monitored, and problems addressed when triggered by staff observations. • Tender and request for proposal specifications are modified based on experience to minimize recurrence of issues, where possible. • Reactive maintenance for circumstances that cannot be easily mitigated (vehicle accidents requiring immediate repair, faster than anticipated vehicle breakdown, etc.). • Tracking all failures as incidents to continue to improve. Target is to minimize unplanned work and asset down time. • Empowering staff to make decisions regarding elective repairs to ensure continuity of service and fewer breakdowns while in service. **Information Technology** • Users of LTC hardware and software assets provide asset concerns on proactive basis through alerting applications and preventative maintenance programs. • Concerns are also addressed through routine maintenance programs reported by the user to the IT Team.
Renewal/ Rehabilitation	**Facility** • Facilities are regularly evaluated through comprehensive condition assessments, which determine the cost and timing of lifecycle renewal requirements. **Fleet** • Regular preventative maintenance programs assist in determining renewals/rehabilitations required; major overhauls or reconditioning fleet assets are very costly and generally do not add enough extended life to add value apart from complete engine and transmission overhauls completed at the mid-way point of a buses useful life. • Review opportunities to repurpose add on equipment, attachments and outfitting past the lifecycle of the parent asset. • Equipment is generally not considered a rehabilitation option. The lifecycle activity is regular maintenance and the decision to replace the asset.

Activity	Specific Asset Management Practices or Planned Actions
	Information Technology • IT assets are generally not rehabilitated. **Other Facility Assets** **Other LTC Assets** • Adopt the latest technology that maintains the current LOS.
Replacement/ Construction	**All LTC Assets** • Adopt the latest tested and proven technology that maintains the current LOS. **Facilities** • Facilities are regularly evaluated through comprehensive condition assessments, which determine the cost and timing of lifecycle renewal requirements. **Fleet** • Optimal asset lifecycle assessed to determine timing of replacement that minimizes maintenance/repair work and maximize salvage value. • Notice to all shop supervisors and managers of end-of-life assets to help with service and repair decisions to mitigate non-value-added expenditures. • Vehicle and equipment assets ideally are used to end of useful life. When unexpected events occurs then the asset would have to be immediately replaced. • Maximize "in warranty" status of asset a consideration of replacement. **Information Technology** • Scheduled replacement programs in place. • When applications and software no longer receive support, they are replaced with new supported applications and software where the risks to operate beyond service periods are significant. • Replaced when asset reaches end of useful life or unexpected event occurs with asset.
Disposal	**Facility and Other LTC Assets** • Appropriate and proper disposal occur when assets are replaced or renewed. • Dispose of assets under the applicable LTC procurement policy and aligned under the applicable regulation and environmental standards. **Fleet** • Optimal lifecycle analysis results in salvage values consistently achieved. • Fleet planning to stagger sales of similar assets at auction to ensure maximum returns and not over flooding resale market when available. • Fleet labour used to prepare assets for disposal helping maximize return. **Information Technology** • Assets are disposed of via an electronics recycler once they reach end of life. Hard drives are either wiped or physically destroyed.

Activity	Specific Asset Management Practices or Planned Actions
Service Improvement	**All LTC Assets** • Based on strategic service review results, implement service deliver changes that improve asset performance, cost, and risk. • Adopt the latest technology that enhances current or achieves proposed LOS. **Facility** • Consultation with community partners and users of facilities determines service improvement needs. **Fleet** • Extended warranties and enhanced service agreements negotiated when possible. • Request for proposals procurement practices to acquire higher quality assets with longer lifecycles. **Information Technology** • Potential service improvement projects are identified by staff using IT assets. • Strategic plans set short to long term objectives regarding technology service delivery modernization.
Growth	**All LTC Assets** • Continuously monitor the impacts of growth on service delivery and participate in Assessment Growth Policy process to secure appropriate levels of growth asset funding (when applicable). • Participate in discussions surrounding or related to the impacts of growth on service delivery and participate in Development Charges Background Studies and Assessment Growth Policy processes to secure appropriate levels of growth funding (subject to provincial legislation requirements and City of London policy) as well as inclusion in City approved base operating and capital budgets.

Table 3.8 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (i.e., the life is not extended or the cost of managing an asset increases rather than decreases). • Lowers the costs of existing operations and may provide additional capacity but does not extend the service life of assets. • Need for revised plans, reports, and recommendations. • Inadequate funding. • Poor quality asset information and planning assumptions incorrect. • Regulatory requirements/standards criteria change or do not exist. • Economic fluctuations, inflation, downturns, and use reduction/increases. • Occurrence of climate change, adverse weather/unforeseen events and emergencies, resulting in funds being diverted to other assets or purposes that were not originally planned. • Service provision changes. • Extending useful life past optimum can increase the risk of critical failure of major components, reduced salvage and remarketing value, or can have significantly higher maintenance costs.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure. • Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no benefits. • Staffing resource issues.
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during large, complex design and construction projects. • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset. • Declining market for resale of transit assets.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Incorrect growth assessments may result in overabundance or underabundance of assets. • Risk of insufficient or excess funding to construct/acquire or maintain new assets. • Potential insufficient knowledge of and supporting policies for new asset types.

3.3.3: Lifecycle Management Scenario Forecasts – Planned Budget, Maintain Current LOS, and Achieve Proposed LOS

General Approach

The general approach to forecasting the cost of the lifecycle activities that are required to maintain the current performance of the LOS metrics is to ensure that the proportion of assets in Fair or better condition remains relatively stable. Staff then consider the optimal blend of each lifecycle activity to achieve the lowest lifecycle cost management strategy that balances costs with the forecasted change in the condition profile of each asset type. Using this methodology, three different lifecycle management scenarios and their associated funding requirements are presented. For each scenario growth activities and funding requirements are constrained to those identified in the 2021 Development Charges Background Study Update. Thus, no growth infrastructure gaps are presented.

Each scenario lists the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements.

These scenarios are defined as:

1. Planned Funding Scenario – Presents the budget constrained to 2023 annual budget update.
2. Maintain Current LOS Scenario – Forecasts the level of investment required to maintain current LOS performance.
3. Achieve Proposed LOS Scenario – Forecasts the level of investment required to achieve proposed LOS. The approach considers the desired LOS documented in LTC's strategic plans or other governing documents.

The Forecasted Infrastructure Gaps and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies that will be used to manage the gap. Each scenario is further explained in the following sections.

A. Scenario One: Planned Funding

The LTC average annual activity and planned funding is summarized in Table 3.9. This scenario presents the budget constrained to the current level of planned expenditures. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its condition or expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

As shown in Figure 3.5, given the cost pressures associated with Rolling Stock replacement values a decreasing condition profile is projected with assets being in Fair and Poor condition (Rolling Stock assets only).

Average annual activity for operating and capital budgets are presented as the average expenditure budget from the 2021 and 2022 fiscal years. Planned funding operating budget is equal to the 2023 fiscal year budget. Planned funding capital budgets (e.g., renewal, service improvement, and growth) are the annual average of the approved 10-year capital plan for 2023-2032 per the 2023 annual budget update.

These capital budgets are inclusive of Council approved funding for:

- Highbury Facility Demolition and Upgrades ('MU1450') for which the associated lifecycle needs are presented in scenario two costs to maintain current LOS; and
- ZERO-EMISSION BUS (ZEB) Pilot Project ('MU1101') for which the associated lifecycle needs are presented in scenario three costs to achieve proposed LOS.

Growth activities are analyzed using the 2021 Development Charges Background Study Update. There is one growth project which relates to conventional transit growth needs.

Table 3.9 Scenario One – Average Annual Planned Budget ($Thousands)

| Activity Type	Average Annual Activity for 2021 and 2022	Planned Funding Relating to Maintain Current LOS	Incremental Planned Funding Relating to Achieve Proposed LOS	Total Planned Funding
Operating	42,857	45,837	None Identified	45,837
Renewal, Replacement, Rehabilitation, Disposal	10,750	44,283	None Identified	44,283
Service Improvement	7,725	1,513	2,622	4,135
Growth	4,065	1,382	None Identified	1,382
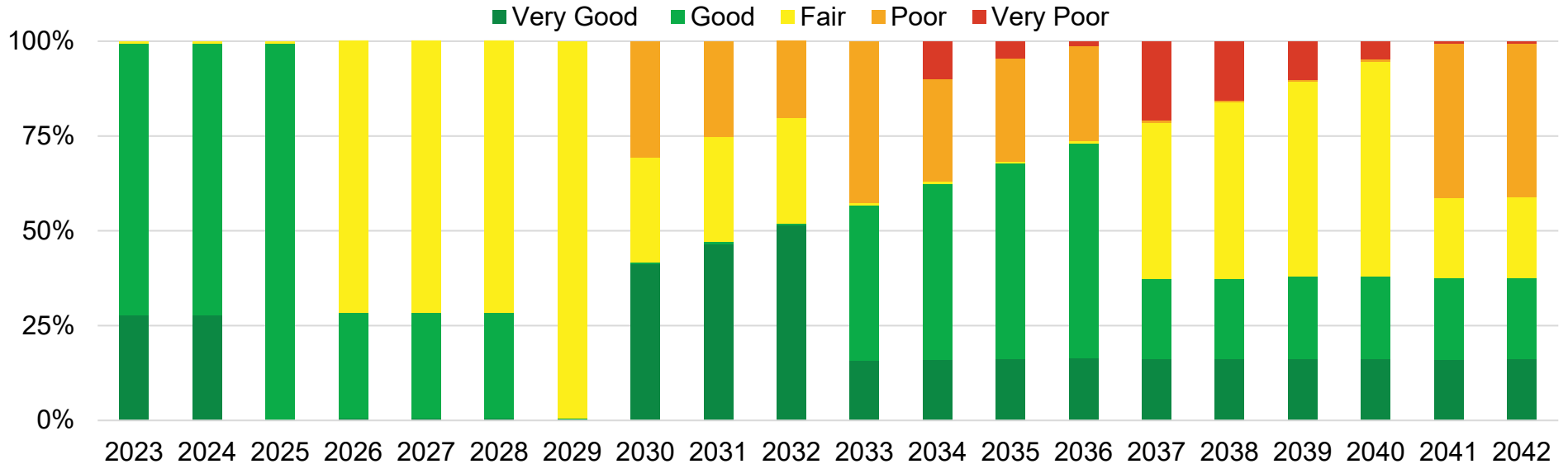
Figure 3.5 Current Budget Project Condition Profile (Rolling Stock Assets Only)

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.10.

This approach forecasts the lifecycle activities that are required to maintain the current performance of the LOS metrics. The analysis considers the current age and condition of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. Based on this analysis, Table 3.10 identifies a 10-year infrastructure gap of $80.0 million if LTC is to maintain current LOS.

Rolling Stock lifecycle renewal and replacement requirements represent $57.1 million or 71% of the identified infrastructure gap. This pressure is primarily attributable to the impacts of inflation on the range of Rolling Stock used to deliver transit services, noting inflationary pressures are above historical averages due to supply and demand imbalances because of the pandemic. Based on this enhanced level of funding Figure 3.6 shows the Rolling Stock forecasted condition profile expected from the maintain current LOS, which indicates assets will be primarily in Very Good and Fair condition.

The second major contributor to the maintain current LOS infrastructure gap are lifecycle renewal and replacement requirements associated with the Information Technology assets under management. This gap represents $16.2 million or 20% of the total maintain current LOS gap identified. The drivers of the gap are associated with radio/communications equipment, fare equipment, and computer hardware replacement needs beyond existing capital budgets and uncommitted reserve fund balances.

Within the maintain current LOS needs analysis are the funding requirements present in the 2024-2027 MYB Business Case #P-60 – London Transit Commission – Project 2 Highbury Facility Rebuild, which is inclusive of the previously approved budget for Highbury Avenue Facility Demolition and Rebuild – Project 1. The purpose of the case is to illustrate LTC cannot operate as an entity without a proper site and facilities that reflect modern City size that LTC services. Project 1 and Project 2 need to be completed to realize the increased bus storage and charging capacity for electric buses, normal operations can continue once Project 1 is completed. Regardless of the type of vehicle LTC operates in the future, the construction of a new LTC facility at its current location on Highbury Avenue is required.

It is forecasted to cost $332.5 million to complete the Highbury facility including demolition of existing facility, design, consulting, and cost escalations. Project 1 has been submitted to the Investing in Canada Infrastructure Program Public Transit Stream (ICIP-PTS) using the remaining $119.3 million allocated to London, noting the funding has not yet been finalized but for AMP purposes it is assumed the funding will be secured. For Project 2, there are no known provincial or federal funding programs available at time of writing; consistent with the 2024-2027 MYB, the underlying assumption for this AMP is the City will fund it entirely in 2029. Like Project 1 it is assumed for AMP purposes the funding will be secured as such no infrastructure gap associated with Project 2 is presented.

Table 3.10 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

Activity Type	Planned Funding[7]	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS[8]	Maintain Current LOS Infrastructure Gap
Operating Budget	45,837	None identified	45,837	None identified
Renewal, Replacement, Rehabilitation, Disposal	44,283	1,805	55,606	8,005
Service Improvement	1,513[9]			
Growth Activities	1,382	None identified	1,382	None identified
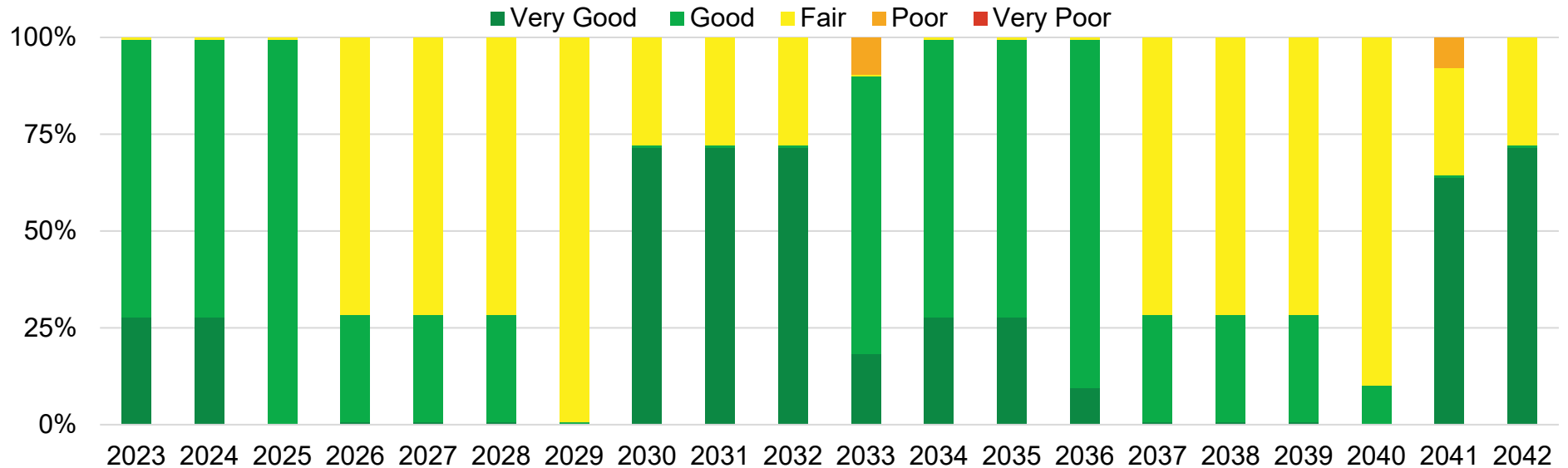
Figure 3.6 Maintain Current Levels of Service Project Condition Profile (Rolling Stock Assets Only)

C. Scenario Three: Achieve Proposed LOS

The cost to achieve proposed LOS are summarized in Table 3.11. This scenario forecasts the enhanced lifecycle and service improvement activities that are required to achieve the proposed LOS. As it relates to Rolling Stock, Figure 3.7 shows the condition profiles from this analysis are identical to maintain current LOS profiles. This is consistent with the strategy to pursue ZEB Pilot Program for reasons other than enhancing condition.

As at time of AMP development, there is no funding mechanism and Council approved strategic direction in place to finance a full ZEB strategy implementation. In conjunction with costing estimates being only in preliminary stages, the only achieved proposed LOS needs relates to the electric bus trial program

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[7]Planned funding relates to maintain current LOS.
[8]Investment to maintain current LOS based on 2024-2027 MYB business cases 60 and committed funding to date for Highbury Facility.
[9] It is noted that service improvement budget 'MU1101 Zero-Emission Bus' is excluded as this funding is used solely for achieve proposed LOS in table 3.11.

(projected to start calendar year 2025) of 10 ZEBs and accompanying supporting infrastructure is financed through service improvement budget MU1101, which was approved in the 2020-2023 MYB period.

Table 3.11 forecasts a 10-year infrastructure gap of approximately of nil given the ZEB Pilot Program is fully funded from 2020-2023 MYB period approved budgets.

Table 3.11 Scenario Three - Average Annual Cost to Achieve Proposed LOS ($Thousands)

Activity Type	Planned Funding[10]	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Incremental Cost to Achieve Proposed LOS (CEAP/ZEB Implementation)	Achieve Proposed LOS Infrastructure Gap[11]
Operating Budget	45,837	None identified	45,837	None identified	None identified
Renewal, Replacement, Rehabilitation, Disposal	44,283	1,805	55,606	2,622	None Identified
Service Improvement	4,135				
Growth Activities	1,382	None identified	1,382	None identified	None identified
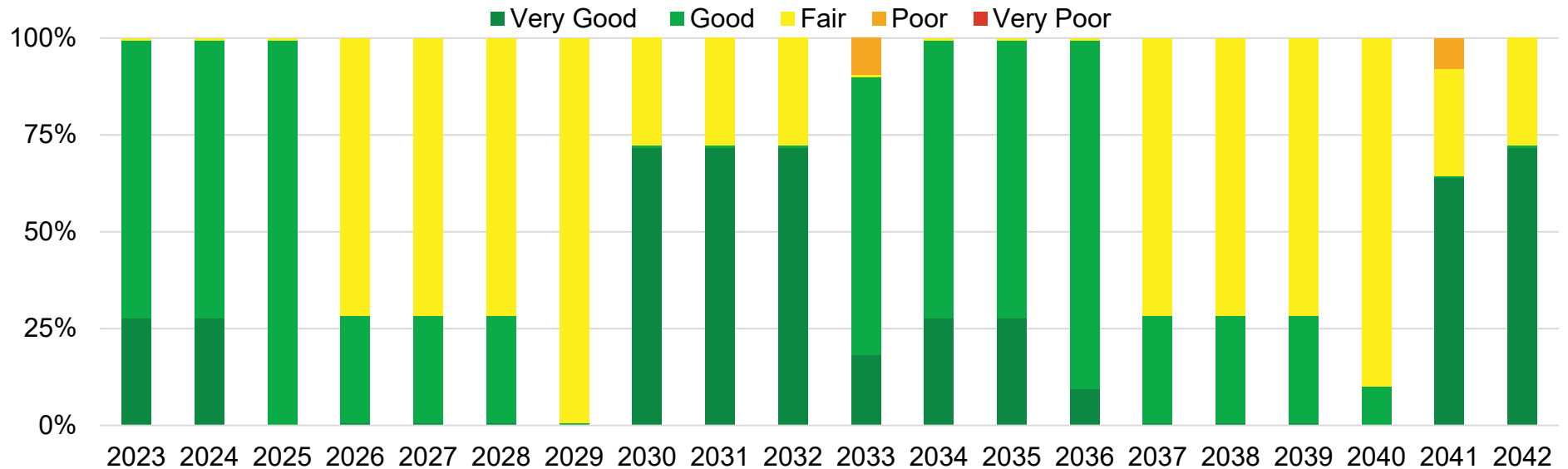
Figure 3.7 Achieve Proposed Levels of Service Projected Condition Profile (Rolling Stock Assets Only)

[10]Planned funding to achieve proposed LOS is cumulative of planned funding of maintain current LOS.
[11]Infrastructure gap to achieve proposed LOS is inclusive of maintain current LOS infrastructure gap and incremental investment to achieve proposed LOS.

3.4: Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

The infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on LTC assets required to provide services, and
- the amount of funding presently identified in budgets and reserve funds over a 10-year period (2023-2032).

In other words, what LTC plans to spend versus what the assets need. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize the risks associated with failing assets and insufficient asset complements.

The LTC identified infrastructure gaps are summarized below in Table 3.12 and illustrated in Figure 3.8. Over the 10-year analysis period, the cumulative maintain current LOS and achieve proposed LOS infrastructure gaps are expected to be $80.0 million and nil, respectively.

The gap to maintain current LOS is 15.7% of LTC's $510.3 million infrastructure replacement value. Maintain current LOS pressures of note include maintaining investment for Rolling Stock with supplementary funding gaps for IT Equipment and Other Facilities Assets to ensure LTC can continue providing reliable public transit in the London geographic area. Planned capital reserve fund drawdowns that finance IT Equipment and Other Facilities Assets are a component of the listed reserve fund availability.

The incremental gap to achieve proposed LOS is nil of LTC's infrastructure replacement value.

Table 3.12 Average Annual Budget and Gap Analysis ($Thousands)

| Asset Type	Planned Funding to Maintain Current LOS	Incremental Funding to Achieve Proposed LOS	Reserve Fund Availability	Investment to Maintain Current LOS	Incremental Investment to Achieve ZEB	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
Land, Facilities	35,014	1,230	None Identified	35,014	1,230	None Identified	None Identified
Fleet	10,782	1,121	809	17,623	1,121	6,032	None Identified
IT Equipment	None Identified	53	922	2,543	53	1,621	None Identified
Other Facility Assets	None Identified	218	74	426	218	352	None Identified
London Transit Commission	45,796	2,622	1,805	55,606	2,622	8,005	None Identified
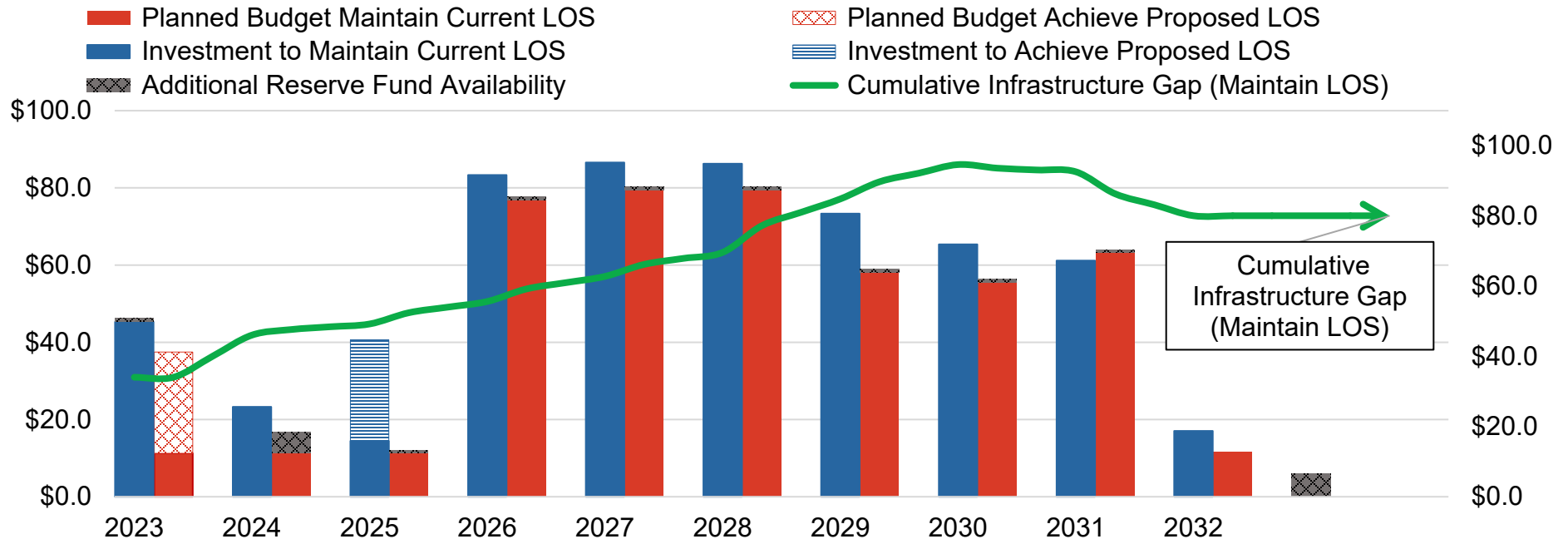
Figure 3.8 Maintain Current and Achieve Proposed LOS Cumulative Infrastructure Gap (Millions)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that LTC actions are collectively (both financial and non-financial) anticipated to tackle the growth in projected infrastructure gaps.

Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing the AMP well in advance of the multi-year budgeting process so that its results help inform the requested operating and capital budgets. However, due to lagging impacts of the pandemic, the AMPs for all the City's agencies, boards, and commissions were delayed post 2024-2027 MYB development. As such this infrastructure gap financing strategy does not present alternative financing options. In lieu of alternative financing strategies, in 2025 this AMP will be updated and reported to Commission and Council based on the approved 2024-2027 MYB and 2025 annual budget update.

3.5:   Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – planned budget, maintain current LOS, and achieve proposed LOS.

Scenario One planned budget is identified to have constraints on LTC's capacity to effectively maintain infrastructure. This leads to an expectation of asset condition deterioration. This decline might not be immediate but, over time, it becomes more visible to the public and causing operating problems, increasing the operating and maintenance costs, and potentially leading to higher repair or replacement costs in the future.

Scenario Two maintain current LOS funding is greater than what is currently allocated, illustrating the financial strain of maintaining a healthy asset portfolio and LTC services. This scenario acknowledges the need for continual investment in assets to maintain their current state.

Scenario Three achieve proposed LOS represents improvements aligning with ZEB Pilot implementation needs. This level of funding is greater than both the planned budget and the one needed to maintain current LOS. The advantages of this approach are alignment with City of London's CEAP.

These three scenarios result in different LOS depending on the funding provided for asset lifecycle renewal and service improvement actions. Thus, the choices made will have an implication for asset condition and LTC operational effectiveness.

3.5.2: Current and Future Challenges

General

LTC faces a dynamic collection of opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, post pandemic industry recovery)
- Organizational (e.g., recruitment and retention of staff, particularly drivers and mechanics, continued quest/community engagement and partnerships)
- Technology (e.g. ever changing systems and technologies supporting riders in the transit industry)
- Political/Legal (e.g., multi-tier governmental and business partnerships such as ICIP-PTS)
- Environmental (e.g., sustainability, climate change, Zero Emission Bus Implementation Strategy)

To help navigate these factors the LTC 2019-2023 Business Plan provides a framework for the development of proactive, leading-edge strategies designed to ensure the changing needs of our riders are supported through meaningful engagement and collaboration, investment in our people and infrastructure, and effective and efficient service delivery.

The following commentary summarizes the main current and future challenges impacting infrastructure needs and costs.

Pandemic Disruption, Inflation, Employee Resourcing

Pandemic disruption greatly impacted LTC ridership[12]. LTC's strategy was to continue providing essential transit services to conventional transit routes, however, it was initially impacted by employee resource challenges like witnessed in many other industries.

Administrative services within LTC generally are modestly staffed, so any unexpected absences can impact LTC. As LTC emerges from the pandemic, inflationary pressures beyond those accounted for within the 2020-2023 MYB and associated 10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 LTC AMP and are a material component of the infrastructure replacement values and 10-year infrastructure gaps reported. These capital financing pressures represent a significant risk to the condition and LOS associated with LTC infrastructure assets.

Additionally, although supply chain issues have begun to normalize post-pandemic, one significant area of risk remains with the supply and delivery of buses. Currently there is only one bus manufacturer supplying clean diesel buses in Canada with delivery lead times now approaching 16 months.

Political and Legal[13]

Infrastructure Canada's Investing in Canadian Infrastructure Program (ICIP) is a $33 billion program to deliver funding bilaterally between IC and provinces and territories.

The Government is investing in the construction, expansion, and improvement of public transit infrastructure, for projects that:

- Improve the capacity of public transit infrastructure;

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[12] https://www.londontransit.ca/staff-report-1-covid-19-ridership-and-service-impacts/ to https://www.londontransit.ca/staff-report-8-covid-19-ridership-and-service-impacts/

[13] https://www.infrastructure.gc.ca/plan/icp-pic-INFC-eng.html

- Improve the quality or safety of existing or future transit systems; and
- Improve access to a public transit system.

The public transit stream (PTS) of ICIP indicates a 40% federal, 33% provincial, and 27% municipal cost sharing formula. In late 2022 budget requests were submitted to finance Project 1 Highbury demolition and rebuild[14]. Funding through this stream is allocated according to a formula based on ridership and population, which balances the demand on existing systems, while providing support for expected population growth. However, at the time of writing the AMP, funding approval of Project 1 and funding programs for Project 2 are still outstanding.

Technology

Monitoring and enhancing technology to ensure best in class onsite connection and Fleet communication and tracking is a continuous pressure.

Climate Change

In 2019, London City Council declared a climate emergency. LTC has also begun a Zero Emission Bus Implementation Strategy[15]. As a frame of reference there are currently 8 hybrid buses within LTC's Rolling Stock inventory along with the pilot to introduce 10 zero emission buses into the fleet. Future AMP analysis could include facilities energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs) and analyzing energy reduction measures identified in the 2023-2027 Strategic Plan.

The Zero Emission Strategy also highlights the need for multilevel government support, including the federal Zero

Emission Transit Fund which includes support purchasing of zero-emission buses and supporting charging infrastructure and facility upgrades; Strategic Science Fund to leverage onsite research opportunities with partnered science and research organizations, Clean Fuels Fund which could support pilot programs allied to hydrogen fueling technologies, and Canada Infrastructure Bank Financing (Zero-Emission Buses Initiative) which helps finance the cost differential for electric bus technologies over diesel buses.

If the ZEB implementation strategy is pursued, the transition to ZEBs will significantly alter LTC service and operations at all levels. A change of this magnitude will require extensive change management and training as well as increased resources. Training processes are predicted to be an ongoing process even after the initial rollout of ZEBs given battery technology is continually evolving.

Aging Infrastructure

Like most Canadian municipalities, City of London and LTC owns and maintains aging infrastructure. In the case of LTC, this is most materially representative in the headquarters facility which is approximately 74-years old, as it was constructed in the 1950's and then converted for LTC use in 1972. Facilities this age often may require substantial capital investments to maintain their condition and operational functionality. This is illustrated in the 2024-2027 MYB Business Case #P-60 for Project 2 Highbury Facility Rebuild. As a general comment, LTC needs to continuously assess the latest Fleet and Facilities requirements to assess if modern service delivery needs are being met.

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[14] https://pub-london.escribemeetings.com/filestream.ashx?DocumentId=95828

[15] https://www.londontransit.ca/staff-report-1-zero-emission-bus-implementation-strategy/

Growth

London is experiencing steady to above average population and employment growth. From a City-wide perspective this growth triggers a surge of City-wide service and asset capacity needs, resulting in a proportional boom in new and/or enhanced infrastructure construction and acquisition.

As the asset portfolio increases due to growth, ongoing renewal of these new assets require more resources. To accommodate the tax-supported financing pressures Council approved the Assessment Growth Policy to ensure new property tax dollars attributable to growth are used to fund the long-term operating and capital financing needs of applicable City services and assets.

This AMP does assume LTC will inherit operations of Bus Rapid Transit once infrastructure is constructed. However, as noted in the Assumptions and Limitations section of the AMP, it is not yet confirmed this will occur. It is also noted the implementation of Bus Rapid Transit, once the infrastructure is constructed, will further support growth of transit in the City of London.

Additionally, this growth may correspond to increased demand on existing assets, such as increasing 'wear and tear' due to volume. As a result, maintaining existing infrastructure capacity and quality, especially with climate change impacts as well, poses continuous challenges as intensification occurs and as additional urban and rural development continues.

3.6:   Conclusion

Table 3.13 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for LTC assets.

Valued at over $510.3 million, the LTC assets are overall in Good condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain the current LOS. However, to maintain current LOS and achieve proposed LOS additional investments are required, with preliminary calculations at approximately $80.0 million over 10-years (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of LTC assets will be in jeopardy and could result in degradation of the services ultimately delivered.

Table 3.13 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Millions)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS [16]	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [17]
Land	$5.4	Not applicable	None Identified	None Identified	Not applicable	Not applicable
Facilities	$261.6	Fair			13.9%	13.4% to 13.9%
Fleet	$213.4	Good	$60.3	None Identified	5.6%	8.3% to 8.8%
IT Equipment	$24.8	Fair	$16.2	None Identified	0.2%	10.3% to 10.5%
Other Facility Assets	$5.1	Good	$3.5	None Identified	4.3%	8.4% to 12.7%
London Transit Commission	$510.3	Good	$80.0	None Identified	9.5%	10.9% to 11.4%

Reliability and Accuracy Commentary

Figure 3.9 visually presents LTC and CAM staff assessment of AMP data reliability and accuracy. Data reliability is moderately high and accuracy is rated moderate.
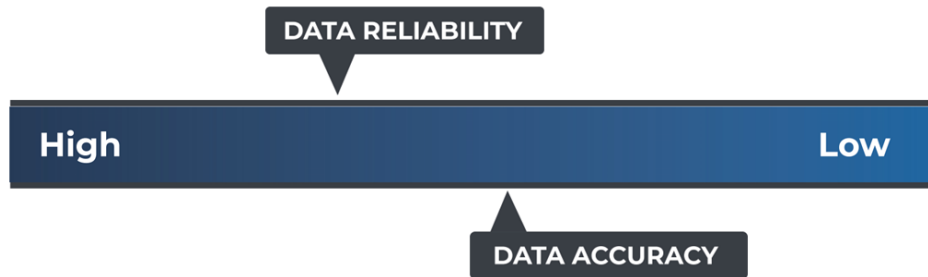
Figure 3.9 Accuracy Reliability Scale

There are a variety of strategies, business plans, public documents, and funding applications indicate a greater data reliability.

Facility valuation and needs is based on internal expert opinion and supplementary work relating to Highbury expansion and corroborated with Altus standard costing. However, full implementation of VFA Facilities Management software (or similar facilities software) is being considered in context of staff and financial resources.

Remaining inventories are an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

A review of systems and processes that support LTC asset registries is recommended over the 2024-2027 MYB and beyond. Such investments will raise the reliability and accuracy of the data. The long-term goal is to have all asset registries within advanced asset management software applications.

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[16] This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.
[17] Source: Reinvestment rates based on maintain current LOS and achieve proposed LOS.

Section 4. Conclusion and Recommendations

4.1: Conclusions

4.1.1: Key Findings

LTC infrastructure systems are integral to transit services and play a key role in achieving LTC 2019-2023 Business Plan, Zero-Emission Bus Implementation Strategy, and the City's 2023-2027 Strategic Plan objectives and goals.

This AMP is a strategic document that describes the state of LTC's infrastructure and the approach to managing assets over their lifecycle to maintain current LOS and achieve approved LOS at the lowest lifecycle cost possible. It was produced through extensive efforts of LTC and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 CAM Plans. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:
- There is $510.3 million worth of infrastructure under the direct ownership and control of LTC. This infrastructure represents a diverse array of assets including Facilities, Fleet, Information Technology assets, and Other Facilities Assets.
- The overall condition of LTC assets is rated as Good.
- Good condition indicates that the infrastructure shows general signs of deterioration and requires attention, some elements exhibit significant deficiencies. There are also facility requirements that go beyond condition assessments to appropriate space for modern LTC operations, which include electrification efforts that lead to purchasing Zero Emission Buses and having support infrastructure, such as charging stations, in place.
- Based on the existing LTC planned funding, the 10-year maintain current LOS infrastructure gap is approximately

$80.0 million and the 10-year achieve proposed LOS infrastructure gap is approximately nil.
- Through the 2024-2027 MYB a significant portion of this gap has been approved for funding by the Commission but it is noted this AMP does not reflect budgets updated through the 2024-2027 MYB process. Any finalized Council decisions will be reflected in future AMPs or annual plan updates.
- Future AMPs will be brought forward to align with the development of MYBs and will present financing strategies to mitigate remaining infrastructure gaps annual growth while balancing the impact of taxation affordability on the community.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024 timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024 deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025 O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help LTC manage its $510.3 million asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall LTC strategic objectives and goals. Short term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement, and within existing staff, other resources, and budgets.

Table 4.1 2024 LTC AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/ Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Supplement the basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, enhance methodologies for determining asset conditions.	• Increases consistency of asset management practices across LTC assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Enhance aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision Making	Supplement investment strategies for LTC infrastructure based on asset registries and strategic plans.	• Furthers understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into LTC strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term
Risk Management	Enhance LTC asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Explore opportunities to address the infrastructure gap through various financing strategies.	• Enhanced investment strategies. • Enhance service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or LTC software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each LTC service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Monitor and report annually the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing LTC public engagement practices.	• Enhanced adaptability to changing operational environments and community partners needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.0.1 O.Reg.588/17 July 1, 2024 Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[18]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1 every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[18] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.0.2 O.Reg.588/17 July 1, 2025 Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g. measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. i.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
6.(1) 6. iii.	For population 25K or more, overview of the risks associated with implementation of the AMP	Sections - #3.5
6.(1) 7.	Explanation of other key assumptions	Sections - #2.4

Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the LTC, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with LTC, and
- The asset is utilized to achieve LTC plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: The LTC Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of

wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost LTC would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

BEB: Battery Electric Bus

BRT: Bus Rapid Transit

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

Commission: London Transit Commission's Members

CUTRIC: Canadian Urban Transit Research and Innovation Consortium

DC: Development Charges

FCI: Facilities Condition Index

FCEB: Fuel Cell Electric Bus

GHG: Green House Gases

GWP: Global Warming Potential

IT: Information Technology

ICIP: Investing in Canada Infrastructure Program

ICIP-PTS: Investing in Canada Infrastructure Program Public Transit Stream

kWH/sf: Kilowatt hours per square foot

LCR: Lifecycle Renewal

LTC: London Transit Commission

LOS: Levels of Service

MESL: Maintain Existing Service Levels

m3/sf: Cubic Meters per Square Foot

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RF: Reserve Fund

RV: Replacement Value

TCA: Tangible Capital Asset

VFA: Facilities Management Software

ZEB: Zero Emission Bus

ZETF: Zero Emission Transit Fund

For more information vist **london.ca/CAM** or contact
Corporate Asset Management Phone: **519-661-CITY (2489)** Email: **CAM@london.ca**

London
CANADA

2024

Museum London
Asset Management Plan

City of London

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Acknowledgement

Land Acknowledgment

We acknowledge that Museum London resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis, and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the Museum London, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge the efforts of Museum London staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to the Museum London Board of Directors and City of London Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

Museum London Board of Directors

Members: Sarah Padfield (Chair), Trevor Hunter (Vice Chair), Laura Annable (Student Member), Tina Kalopisis (Member), Shelley Kopp (Member), Tracy Langelaan (Member), Jon R. Lavkulich (Member), Michelle Quintyn (Member), Florentine Strzelczyk (Member), Diana Tamblyn (Member), Michael Wojtak (Member), Victoria Yang (Member), and Sam Trosow (Councilor).

Section 1. Executive Summary

Summary	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$57.6	$57.6
Cumulative 10-Year Infrastructure Gap ($millions)	$7.3	$11.4
Infrastructure Gap as a Percentage of Replacement Value	12.91%	20.13%

1.1: 2024 Museum London Asset Management Plan Introduction

Museum London (ML) is a nationally recognized, leading art and history resource that connects and inspires communities across Southwestern Ontario through collections, exhibitions, education, public engagement, outreach activities and special events. Serving as a downtown anchor, it attracts tens of thousands of visitors yearly, boosting the local economy and contributing to city vibrancy. ML's infrastructure systems are a crucial element in conserving and activating a collection of over 45,000 artifacts and over 5600 artworks, and delivering year-round cultural and educational services to meet the needs of diverse audiences of all ages.

This Asset Management Plan (AMP) is designed to enhance the management of ML's infrastructure assets in a way that connects ML strategic plan, City of London, and community objectives to day-to-day and long-term infrastructure investment decisions. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning ML for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, replaced, and disposed).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that maintain current LOS and those that achieve proposed LOS;

- If necessary, establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet Museum London Board of Directors (Board) approved LOS and associated lifecycle activities.

Based on this analysis, key findings of the 2024 ML AMP are:

- There are $57.6 million dollars of infrastructure assets under ML management, this amount excludes its art and material culture collections;
- Overall, ML assets are in Fair condition;
- The capital budget funds ML facility/internal systems renewals valued at $56.8 million; Operating budget covers ML furniture and equipment valued at $755 thousand.
- Capital budget cumulative 10-year maintain current LOS and achieve proposed LOS infrastructure gaps of $7.3 million and $11.4 million, respectively, exist;
- No infrastructure gaps have been assessed for operating budget funded assets; and
- The average planned capital budget for 2023-2032 (based on the 2023 annual budget update) represents a reinvestment rate of 0.7%, which is less than the recommended average maintain current LOS and achieve proposed LOS reinvestment rates of 2.0% and 2.7%, respectively.

A summary of these results is presented in the following tables and figures:

- .Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of ML's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets;

- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS; and

Figure 1.2 shows the optimal maintain current LOS and achieve proposed LOS expenditures compared to planned budget, and the resulting infrastructure gaps.

Table 1.1 2024 AMP Summary Information

Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($ Millions)	$57.6	$57.6
10-Year Infrastructure Gap ($ Millions)	$7.3	$11.4
Infrastructure Gap as a Percentage of Replacement Value	12.9%	20.1%
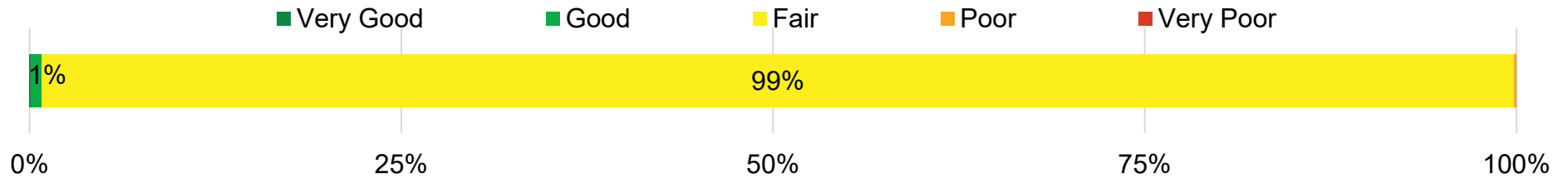
Figure 1.1 Overall Condition

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
0.7%	2.0%	2.7%

Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps ($ Millions)

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.

- **Detailed Asset Management Plan** section summarizes ML existing asset inventory, its replacement value, condition, age distribution, and how ML stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.

- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the

recommendations that will be used to guide future asset management activities, subject to ML Board approval.

- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on input from ML staff and asset data collected, the ML AMP represents a tactical outcome of the City's CAM Program. It outlines the current strategy for ML to manage its infrastructure valued at $57.6 million and details the required investments in the asset portfolio to maintain the current LOS and achieve the proposed LOS objectives.

The 2023 maintain current LOS and achieve proposed LOS infrastructure gaps of $776 thousand and 1.2 million, respectively, compared to the $56.8 million capital funded asset base are considered well managed gaps. However, the cumulative 10-year maintain current LOS and achieve proposed LOS gaps of $7.3 million and $11.4 million, respectively, are concerning. This growth in the infrastructure gaps has the potential to escalate beyond ML's ability to manage services effectively. There is no intent to allow this to occur. As such further action is needed to address both the understanding and forecasted growth of the gaps.

Choices are available as to how ML manages the infrastructure gaps:

- ML can continue to provide services at their current or targeted levels by committing to the necessary investments, thereby mitigating, or potentially eliminating

the infrastructure gaps. This funding can originate from tax-supported or non-tax-supported sources. Non-tax-supported financing primarily relies on external factors such as earned revenue through programs, grants, donations, endowments, sponsorships, and partnerships. Nevertheless, the availability of funding sources is limited. Consequently, ML must persist in managing its services in a cost-effective manner, attentively considering the impacts on both the community and staff as well as the collections of art and artifacts under the Museum's care.

- Paying for the gaps is not the only opportunity. In rare cases, ML can reduce LOS to match its ability to pay and is constantly evaluating programs and services. However, there is an imperative to honour various commitments to public funders, donors, and other partners, and meet professional Museum standards, along with a strong desire to enhance these services, particularly in light of public demand and the educational and social value they provide. Balancing aspirations with financial and operational constraints is a significant challenge, requiring careful management and strategic decision-making.
- A third opportunity for ML is to find more efficient and effective methods of delivering cultural and educational services, including altering the asset mix that facilitates service provision to the community. Whenever feasible, ML strongly endorses this approach and consistently invests in enhancements. A key component of this strategy is the ongoing effort to refine asset management practices.

Overall, ML has a long-standing practice of pursuing all possible means to achieve service delivery goals and has been reasonably successful delivering quality services. In effect ML adopts a blend of the three approaches outlined and is continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

Based on these objectives the Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against ML's $57.6 million worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement. They will be pursued utilizing existing staff, other resources, and budgets to the fullest extent feasible.

Section 2.   Introduction

2.1: Supporting Museum London Goals Through the Corporate Asset Management Program

Museum London (ML) is a leading art and history resource that connects communities, inspires change, challenges ways of thinking, and ignites creativity towards a more just world. Serving the diverse communities of Southwestern Ontario for more than 80 years, and recognized nationally for our work, ML collects, interprets, shares, and creates knowledge and opportunities through exhibitions and programs featuring local histories and material culture, as well as historical and contemporary art.

The Museum is an accessible cultural resource for Londoners, an anchor downtown, and a significant attraction that welcomes tens of thousands of visitors each year, contributing to the local economy and making our city a vibrant destination.

These service delivery outcomes are based on ML's strategic community and organizational objectives established through the ML Strategic Plan. This plan outlines the purpose, vision, mission, and values that guide ML in a manner that resonates with the core values of our community. The 2024-2027 Museum London Strategic Plan summarizes these as follows:

Our Purpose
Honouring and amplifying our interconnections.

Our Vision
A leading art and history resource that connects communities, inspires change, challenges ways of thinking, and ignites creativity towards a more just.

Our Mission
Museum London mobilizes art and history to build community and co-create an inspired future.

Our Values
- Inclusivity
- Creativity
- Collaboration
- Learning and leadership
- Respect for nature

The City's Corporate Asset Management (CAM) Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems that support service delivery. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[1].

This Asset Management Plan (AMP) was developed through the City's CAM Program based on an approved Service Level Agreement between ML and the City. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and ML Board of Directors (Board) approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of 2023-2032 capital plan (hereon

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[1] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

referred to as "planned budget"), will have on the state of the infrastructure assets.

- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2: Provincial Asset Management Planning Requirements

This AMP builds upon existing ML asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB) established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal

infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, in January 2018, the Province created O. Reg. 588/17 under the Infrastructure for Jobs and Prosperity Act. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted ML financial are consolidated within the City's financial statements. The following dates are provincially required:
  - By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  - By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS, and the costs to achieve them, and the financial strategies to fund the expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.
- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see

Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3: Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across ML who are involved with managing infrastructure assets, including staff involved with finance, technical staff involved with planning and executing the construction, acquisition, and maintenance of infrastructure assets, and staff who operate and maintain infrastructure assets. Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure
- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure

The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?
- Age and expected useful life of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and helps inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects capital financing pressures that go beyond what can be accommodated in the ML 2023-2032 planned budget.

A sample of the capital financing pressures captured in the AMP are:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,
- Achieve Proposed LOS – meeting the desired LOS may require additional investments to improve the condition of existing infrastructure, and

- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

By acknowledging capital financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and helps to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with ML's strategic plans, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other ML approved targets, etc.). The achievement of these proposed service

levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, ML strives to provide services to the community that are accessible, cost efficient, demonstrate environmental stewardship, reliable, and safe, with suitable scope. As shown in Figure 2.1, to obtain a desired LOS, ML faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.
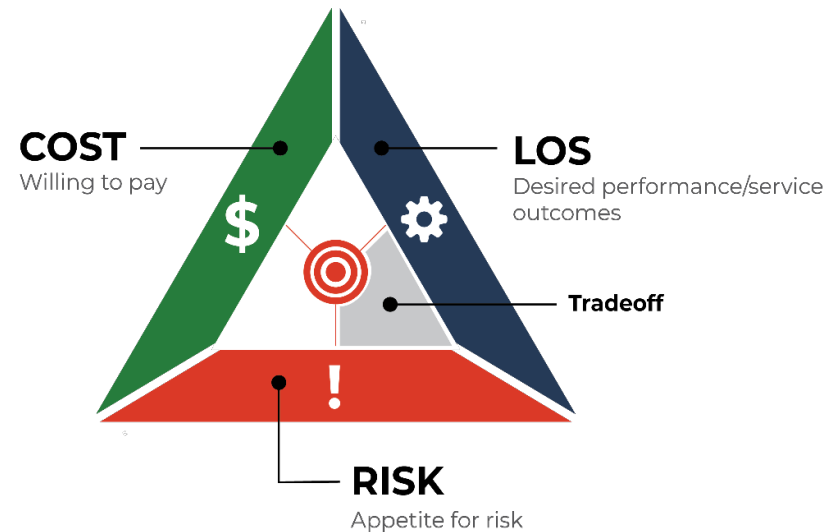

Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budget, the required budget to maintain current LOS, and the required budget to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned budget over a 10-year period (2023-2032).

In other words, what ML plans to spend versus what the asset needs are. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, and to minimize the risks associated with failing assets.

Next are the infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current

budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community, which is consistent with the outcomes and expected results of the 2024-2027 ML Strategic Plan and 2023-2027 City of London Strategic Plan.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with addressing infrastructure gaps. This discussion includes opportunities and challenges that are both in and outside of the control of ML and ML Board. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and
- Growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of ML infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by ML as of December 31, 2022, and associated planned budgets approved in the 2023 annual budget update. Thus, timing differences exist between when this AMP was developed versus current 2024-2027 MYB approvals. Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.
- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in three ways:
  - Condition may be technically assessed and reported on in a quantifiable technique. This method is the most accurate and most expensive (e.g., facility condition);
  - Condition may be assumed based on age and estimated useful life; and
  - Finally, condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- The planned budget will occur as planned over the period of analysis.

Section 3.   **Detailed Asset Management Plan**

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

Museum London (ML) owns and operates assets with a total replacement value of approximately $57.6 million. These assets encompass a wide array, from the museum's building infrastructure to furniture and equipment necessary for various operational needs. Each asset is managed and maintained to meet both legislated and non-legislated service requirements with the aim of providing the highest level of cultural engagement and educational value possible for the community.

Table 3.1 summarizes the assets by type, inventory/quantity, and replacement values. The asset replacement values have been identified using different ML databases including financial systems, VFA Facilities Management software, and internal expert opinion. These replacement values aim to capture current market prices for the fully replacement of identified assets. For further information regarding costing refer to State of Local Infrastructure in the Introduction section.

To further contextualize the necessity of these assets the following summarizes ML's organizational and service delivery structures.

ML sustains its operations with a broad range of assets, including a museum facility with specialized storage areas and exhibition areas with environmental controls suitable for the protection of art and artifacts, specialized audio-visual and gallery furnishings, comprehensive office and commercial equipment, and state-of-the-art digital devices. These assets are essential for delivering educational programs, presenting exhibitions, and hosting community gatherings, propelling the museum's mission to be a hub of cultural engagement and historical preservation. The strategic deployment of these assets promotes accessibility, interactive learning, and long-term sustainability, dovetailing with the ML's Strategic Plan.

Facility

ML is an art and history museum located near the confluence of the Thames River, at 421 Ridout Street North in London, Ontario. The current facility was designed by Raymond Moriyama and constructed in 1980. In 2018, the museum opened an expansion known as the Centre at the Forks. The museum building is a four-story structure encompassing a gross area of 90,000 square feet. The building's current replacement value is estimated at approximately $56.8 million. The main entrance is positioned on the building's east side and the building accommodates spaces designated for the exhibition of artworks and artifacts, secure collection storage facilities with specialized racks, shelves and equipment, space for archival and document storage, retail and food service, office spaces, and areas for educational and studio programs, public gatherings, and meetings. The building is classified as an Ontario Building Code Group A Division 2 facility intended for assembly occupancies for the production or viewing of performing arts and the alike, and is designed to be up to four stories, equipped with a sprinkler system, and barrier-free. In collaboration with ML staff, City of London Facilities Division is responsible for the management and maintenance of the museum building and its internal systems. This ensures that the facility meets its functional requirements, serves as a community gathering place, and functions as an accessible cultural resource for the public, while operating in a safe and efficient manner.

Furniture and Equipment

Valued at $755 thousands, the 'Furniture and Equipment' asset type at ML constitutes a vital array of less financially material

assets that are integral to museum operations and the delivery of its services. This category includes various subtypes such as:

- Gallery Furniture
- Audio and Video Devices
- Heavy Equipment
- Office Furniture
- Commercial Kitchen Equipment

These assets complement the visitor experience and aesthetic and functional requirements of exhibitions, ensuring that art and historical artifacts are displayed in an accessible and informative manner. Additionally, they provide interactive displays and information provision to visitors and facilitate the administrative tasks that support the museum's educational and cultural programs. The strategic management and maintenance of these assets are critical to the museum's success and its service to the public.

Collection

ML cares for one of Canada's most important art collections and one of the most significant historical artifact collections in the Province; the art collection includes more than 5,600 historical and contemporary artworks by regional and Canadian artists and over 45,000 artifacts reflecting the history of London. Collections are activated through exhibitions, available to researchers, and loaned to institutions across the country. A portion of the collection is available online. Currently, these assets are excluded from the AMP as they fall outside of O. Reg. 588/17 requirements. However, future AMP continuous improvement projects will assess if collections could be included.

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Facilities	Building and Site development	1	Each	$56,804
Furniture and Equipment	Furniture, AV and digital devices, commercial equipment, etc.	679	Each	$755
Total				$57,559

3.1.2: Age Summary

Figure 3.1 shows ML average asset age as a proportion of the average expected useful life. This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates ML's ability to replace such assets on-time. Overall, the data affirms that ML facility are past its expected useful life while primarily all other assets are well within their expected useful life.

Facilities

The age of the facility is calculated based on the original date of construction in 1980, recorded in the VFA Facilities Management software. The facility has exceeded its average industry standard expected useful life of 40-years. This leads to an increase in its operation and maintenance cost. It is important to note that 40-years was selected as the expected useful life based on the non-structural components of buildings which have the longest expected useful life. In practice the many components that comprise a building are slated for renewal based upon a combination of factors including age, condition, consequence of failure, likelihood of failure, etc., and the practical expected useful life is largely indefinite while the building continues to serve its intended/required purpose in its given geographic location.

Although this building has exceeded its expected useful life, it is maintained in a fair condition through regular upkeep. Its condition reflects a conservative approach to management, ensuring core functionality and operational standards of the building are upheld. Future considerations may include assessments for necessary improvements or updates to align with evolving standards and maintain its utility and relevance in a practical manner.

Furniture and Equipment

The average age of the Furniture and Equipment assets is determined through the acquisition year recorded in ML's databases for each asset. The estimation of each asset's average expected useful life is based on internal expert assessments and historical data. This category includes various assets, each possessing its own acquisition date and expected useful life. The calculated average age is 8 years, in comparison to the average expected useful life of 13 years. It is typical for assets within this category to exhibit varying ages due to staggered acquisition timelines. Hence, the average age falling within the expected useful life indicates robust and effective asset management practices at ML.
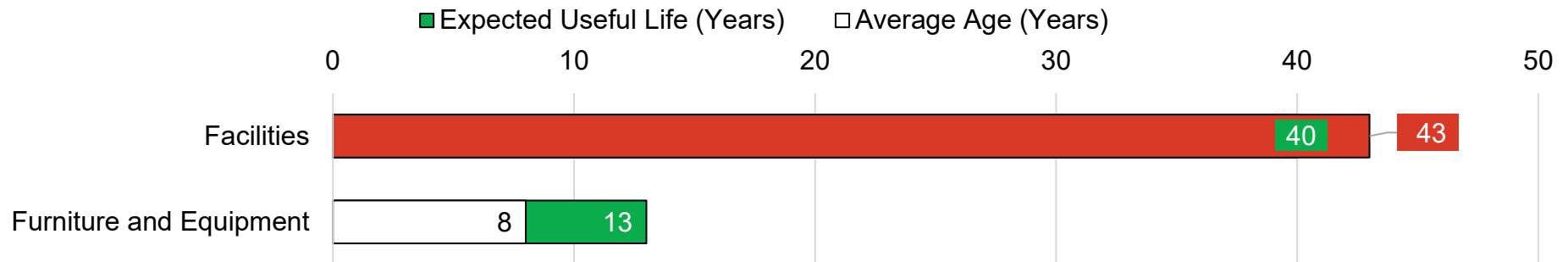

Figure 3.1 Average Age and Expected Useful Life

3.1.3: Asset Condition

The condition of the assets was determined using one of the three methods below based on data availability and accuracy:

1. Existing condition rating systems (e.g., Facility Condition Index, etc.),
2. Estimated based on age and the remaining expected useful life of the assets, and
3. Estimated based on expert opinion, in the absence of 1 or 2 above, or where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data helps identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.2 presents the condition distribution of all ML assets. It shows that approximately 99% of the assets are in Fair condition dominated by the condition of the facility itself which is in a state of fair condition.

Figure 3.3 provides a breakdown of ML condition for the Facility, and Furniture and Equipment.

Facility

The ML facility condition is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facility and its sub-components (building envelope, mechanical and electrical systems, etc.). The assessment is used as a primary source in identifying the repair, rehabilitation, and/or replacement strategies for the building internal systems and components. Note, the facility condition rating presents the physical condition of the building and are not a representation of the functionality required to satisfy ML service delivery (i.e. size, location, ability to accommodate certain types of functions or equipment, etc.).

The current condition assessment identifies that the facility is overall in Fair condition. This condition score indicates investments in the short to medium term are required to maintain the facility's ability to support operations. When a

facility is in 'Fair' condition, it implies that while the building may not currently face critical issues, there are enough concerns regarding its condition to warrant attention in the near future. Such concerns could range from aging infrastructure and internal building systems nearing the end of their useful life, which may lead to potential interruptions in building functionality, and in the Museum's case, pose a risk to the safety of the collections, to more superficial wear and tear that impacts both the facility's functionality and aesthetic appeal.

Furniture and Equipment

Looking into the condition distribution of the Furniture and Equipment asset type, 89% of the assets are in fair or better condition. The condition of these assets are based on either asset age or internal expert opinion of ML staff.

In the lifecycle management of an asset inventory, the presence of some assets categorized as 'Poor' condition is a typical phase, indicating these assets are scheduled for replacement. The 11% of assets in the Poor condition, specifically the gallery and office furniture, as well as a portion of the commercial kitchen equipment, indicate a necessity for investment in the short-term. This investment is critical to replace these deteriorating assets promptly, which is integral to preserving the asset portfolio within an acceptable state of repair.
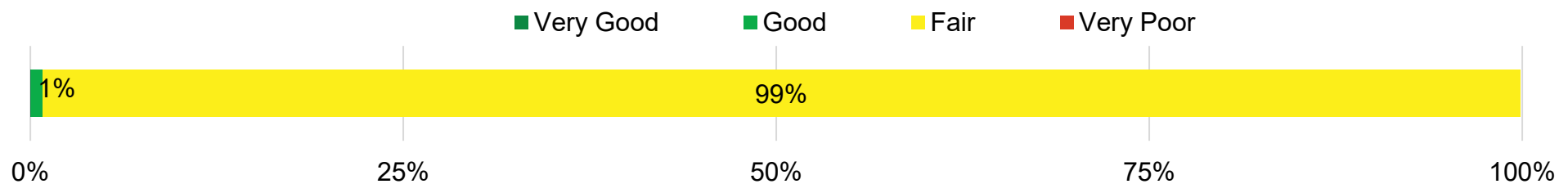
Figure 3.2 Overall Condition
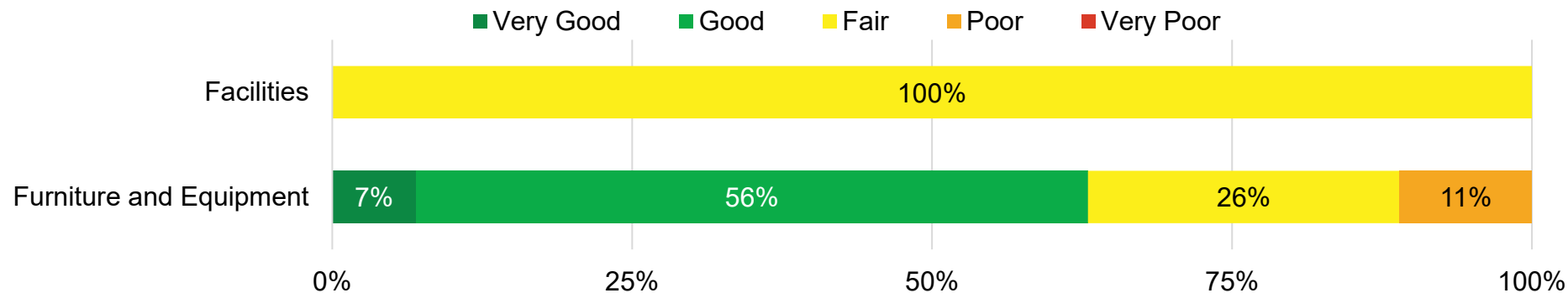
Figure 3.3 Asset Condition Detail

3.2: Levels of Service

Asset management Levels of Service (LOS) link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- 2024-2027 ML Strategic Plan,
- ML Standard Facility Report
- ML Annual Report
- 2023-2027 City of London Strategic Plan, and
- 2023 Annual Budget Update.

Table **3.3** lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 ML AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future ML AMP development processes and practices.

- Canadian Arts Data / Données sur les arts au Canada (CADAC)
- Various Industry best practices

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, ML and CAM staff collaborate to formulate effective metrics that can be linked to asset performance.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Description
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Environmental Stewardship	Service is provided in means that considers, controls, or reduces impacts to the environment. Includes metrics related to the assessment of service provision based on environmental stewardship and sustainability practices. Examples include annual monitoring of utility usage in relation to the square footage of the facility., or fuel consumption-based greenhouse gas emissions.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.
Safety	As best as possible, the service safeguards against known dangers and risks. Covers performance assessments of services related to safety and compliancy with legislation, codes, and/or internal policies/practices. Includes metrics regulated/legislated by a governing body (Federal or Provincial governments, etc.) related to the specific service or asset. Examples include Percentage of interior facilities that meets security standards, percentage of facility components annually inspected, etc.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can readily determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed.

After review with ML staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.4, and the supporting related LOS are documented in Table 3.5. These LOS will be expanded upon as part of future AMPs development.

3.2.1: Direct Levels of Service

Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	Overall reinvestment rate of Capital funded assets	0.7%	2.0%
Environmental Stewardship	Technical	Annual electric energy consumption kilowatt-hour per square foot	28.68 kWH/sf	Positive Downwards
		Annual natural gas consumption cubic meters per square foot	0.065 m3/sf	Positive Downwards
		Annual water consumption cubic meters per square foot	0.095 m3/sf	Positive Downwards
Reliability	Customer	Overall assets in fair or better condition	100%	100%

3.2.2: Related Levels of Service

Table 3.5 Related Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance
Safety	Technical	Humidity Facility Environmental Controls - Percentage of time relative humidity (RH) is in the target range of 45-55%	100%
		Temperature Facility Environmental Controls - Percentage of time recommend set point temperature is in the target range of 20-22 Celsius.	100%
		Visible Light Facility Environmental Controls - Percentage of facilities physical art display areas maintained at 50-150 LUX of visible light	100%
		Percentage of interior facilities that meets security standards	100%
		Percentage of art and artifacts vault/storage capacity utilized	115%

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.6.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

ML employs a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, disposal, and regular investments in and business process improvements, while continuing to prepare for introducing service improvements.

When feasible, ML also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets or asset categories, which can result in cost and service efficiencies. Additionally, with significant asset investments, ML seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Selected lifecycle activities are reviewed and modified based on continual industry benchmarking, staff training, professional networking, online reviews, consultant recommendations, and trial and error through scenarios and pilot programs. ML is also committed to climate change adaptation and mitigation planning, which may trigger asset investment needs.

The current ML lifecycle management activities (practices and planned actions) are presented as follows:

- Table 3.7 lists specific asset management practices or planned actions by lifecycle activity for the Facility, and Furniture and Equipment.
- Table 3.8 lists specific risks associated with asset management practices or planned actions by lifecycle activity.

Table 3.7 Current Asset Management Practices or Planned Actions

Activity	Specific Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	**Museum Facility** • The Facility is maintained and renewed through a specialized Facilities Team and their use of VFA software (supplied through Gordian) and other facilities management applications, which combined with comprehensive condition assessments and Facilities Team experience, determines the lifecycle management needs of the facility. • Needs include the direct care of the building envelope, mechanical and electrical systems, etc. **Other ML Assets** • Various controls and approval processes to safeguard assets. • Financial planning strategies to control costs. • Ongoing use and development of computerized maintenance management system. • Updating and applying design standards. • Ongoing search for additional funding. • Operational continuous improvements. • Improvements to employee capabilities, communications, training, etc. • Changes to current and proposed LOS. • Developing asset management program. • Leadership networks with peers across the country to learn from other's experiences.
Maintenance	**Museum Facility** • Planned inspections and regular general maintenance schedules ensure the facility is fit for service. • A work order system and online interface exists for City of London and ML Facilities Team employees to generate and document capital works requests and completions. **Other ML Assets** • Scheduled preventative maintenance programs for most assets. • Scheduled inspection programs for key assets. • Maintenance also triggered by public/community partners feedback (when applicable).
Renewal/ Rehabilitation	**Museum Facility** • The Facility is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of renewal requirements. **Other ML Assets** • Adopt advanced technologies for ML's diverse assets, such as specialized audio-visual systems, gallery furnishings, and digital devices, to maintain the current LOS.

Activity	Specific Asset Management Practices or Planned Actions
Replacement/ Construction	**Museum Facility** • The Facility is regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the cost and timing of replacement requirements. **Other ML Assets** • Adopt advanced technologies for ML's diverse assets, such as specialized audio-visual systems, gallery furnishings, and digital devices, to maintain the current LOS.
Disposal	**Museum Facility and other types of assets** • Appropriate and proper disposal occur when assets are replaced or renewed. • Dispose of assets under the applicable regulation and environmental standards.
Service Improvement	**Museum Facility and other types of assets** • Strategic plans, and consultation with community partners and users of facilities determines service improvement needs. • Based on strategic service review results, implement service deliver changes that improve asset performance, cost, and risk. • Adopt advanced display technologies in ML to enhance or achieve the proposed LOS, leveraging contemporary solutions in museums and galleries to enrich visitor experience and engagement.
Growth	• Continuously monitor the impacts of growth on service delivery and participate in Assessment Growth Policy process to secure appropriate levels of growth asset funding (when applicable).

Table 3.8 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (e.g., the life is not extended or the cost of managing an asset increases rather than decreases). • Need for revised plans, reports, and recommendations. • Asset management plans or proposed network solutions not followed. • Poor quality asset information/planning assumptions incorrect. • Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to assets that were not originally planned. • Extending asset useful life past optimum range may increase maintenance cost and risk of critical failure. • Inability to mitigate malware/cyber-attacks resulting from deteriorated and non-supported asset. • Lack of vandalism mitigation strategy and emergency response plan increases risks, costs, and disrupts services. • Financial risks – economic fluctuations, inflation, expenditure type changes (e.g. change in IT industry – shift to operating licenses financed through operating budgets versus historical capital expenditure nature), etc.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities such as those resulting from vandalism and security breaches. • Incorrectly planned maintenance activities can lead to premature asset failure. • Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no actual benefits.
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during large, complex design and construction projects. • Lack of knowledge regarding best practices and market offerings (e.g., new offerings and standards). • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. • Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Incorrect growth assessments may result in overabundance or underabundance of assets. • Risk of insufficient or excess funding to construct/acquire or maintain new assets. • Potential insufficient knowledge of and supporting policies for new asset types.

General Approach

The type and frequency of lifecycle management strategies and activities impact both an asset's condition and its ability to enable service delivery. Because of this relationship, the AMP presents three different lifecycle management scenarios and their associated funding requirements. To align with the categories of Asset Lifecycle Management Activities outline above, each scenario is broken down by the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements.

In summary these scenarios are defined as:

1. Planned Funding – This scenario presents the budget constrained to the level of expenditure approved in the 2023 annual budget update.
2. Maintain Current LOS – forecasts the level of investment required to maintain current LOS performance.
3. Achieve Proposed LOS – forecasts the level of investment required to achieve proposed LOS. The approach considers the desired level of service documented in ML strategic plan and other documents.

Each scenario is further explained in the following sections. After each scenario is presented, the Forecasted Infrastructure Gaps and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies that will be used to manage the gap and work towards long term service, financial, and infrastructure sustainability.

Aligned with the City's Climate Emergency Action Plan (CEAP), the like-for-like lifecycle rehabilitation and renewal activities tied to each scenario will be substituted with green-for-like whenever feasible. This means that instead of simply replacing existing infrastructure with a similar one (like-for-like), there will be an increased focus on incorporating more energy efficient and greenhouse gas (GHG) emissions friendly infrastructure solutions (green-for-like). Such investments will incrementally support long term net zero targets.

A. Scenario One: Planned Funding

The ML average annual activity and planned funding is summarized in Table 3.9. This scenario presents the budget constrained to the current level of planned expenditures. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

For this analysis, average annual activity for operating and capital budgets are presented as the average expenditure budget from the 2021 and 2022 fiscal years. Planned funding operating budget is equal to the 2023 fiscal year budget. Planned funding capital budgets (e.g., renewal, service improvement, and growth) are the annual average of the approved 10-year capital plan for 2023-2032. Growth activities are analyzed using the 2021 Development Charges Background Study Update. Thus, no growth projects are identified.

Table 3.9 Scenario One – Average Annual Planned Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Planned Funding
Operating	3,409	3,479
Renewal, Replacement, Rehabilitation, Disposal	355	403
Service Improvement	None identified	None Identified
Growth	None identified	None identified

B. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.10. This approach forecasts the lifecycle activities that are required to maintain the current performance of the LOS metrics. The analysis considers the current age and condition of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. The analysis of the facility component incorporates the calculation of the reinvestment rate, which is derived from an evaluation of the facility's current condition using the FCI. This approach ensures that the determined reinvestment rate aligns with best practices for maintaining museum-type facilities.

Furthermore, the calculation of required investments is specifically aimed at maintaining the existing condition of the museum facility, ensuring its continued state of good repair. These calculated expenditure requirements are then compared to planned funding identified in scenario one to determine if infrastructure gaps exist.

Based on this analysis, Table 3.10 identifies a cumulative 10-year infrastructure gap of $7.3 million if ML is to maintain current LOS.

Table 3.10 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Operating Budget	3,479	None identified	3,479	None identified
Renewal, Replacement, Rehabilitation, Disposal	403	None identified	1,136	733
Service Improvement	None identified	None identified	None identified	None identified
Growth Activities	None identified	None identified	None identified	None identified

C. Scenario Three: Achieve Proposed LOS

The cost to achieve proposed LOS are summarized in Table 3.11. This scenario forecasts the enhanced lifecycle and service improvement activities that are required to achieve the proposed LOS based VFA facility management professional assessment, which is inclusive of the 2024-2027 MYB business Case #P-70 – Museum London Elevator Upgrades.

The business case highlights the urgent need for elevator retrofitting, as original 1978 equipment is outdated and beyond repair, with skilled service personnel increasingly hard to find.

The modernization is crucial for ensuring the reliability, safety, accessibility, and code compliance of the facility, and underscoring the indispensability of functioning elevators for core museum functions and services.

Table 3.11 forecasts a cumulative 10-year infrastructure gap of approximately $11.4 million if ML is to achieve proposed LOS. This amount is inclusive of the 10-year infrastructure gap to maintain current LOS.

Table 3.11 Scenario Three - Average Annual Cost to Achieve Proposed LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Incremental Cost to Achieve Proposed LOS[2]	Achieve Proposed LOS Infrastructure Gap[3]
Operating Budget	3,479	None identified	3,479	None identified	None identified
Renewal, Replacement, Rehabilitation, Disposal	403	None identified	1,136	411	1,144
Service Improvement					
Growth Activities	None identified	None identified	None identified	None identified	None identified

[2]Incremental investment to achieve proposed LOS considers requirements to enhance the current condition and 2024-2027 MYB business cases 70.
[3]Infrastructure gap to achieve proposed LOS is inclusive of maintain current LOS infrastructure gap and incremental investment to achieve proposed LOS.

3.4: Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

The infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on ML assets required to provide services, and
- the amount of funding presently identified in budgets and reserve funds over a 10-year period (2023-2032).

In other words, what ML plans to spend versus what the assets need. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize the risks associated with failing assets and insufficient asset compliments.

ML identified infrastructure gaps are summarized below in Table 3.12 and illustrated in Figure 3.4. Over the 10-year analysis period, the cumulative maintain current LOS and achieve proposed LOS infrastructure gaps are expected to be $7.3 million and $11.4 million, respectively.

The gap to maintain current LOS is 12.9% of ML's $56.8 million infrastructure replacement value of the capital funded assets. ML facility pressures are the primary contributor to the gap. These needs include rehabilitation and replacement of existing infrastructure systems.

Rehabilitation and replacement investments are based on VFA Facilities Management software, review, and critiquing consultant assessments, and considering industry best practices to maintain the facility's current condition.

The incremental gap to achieve proposed LOS is 7.2% of ML's infrastructure replacement value (combined gaps represent 20.1% of replacement value). This amount represents investments to complete all identified VFA Facilities Management software rehabilitation and replacement activities, which is inclusive of the elevators' replacements contained within ML 2024-2027 MYB business case #P-70 – Museum London Elevators Upgrade.

Table 3.12 Average Annual Budget and Gap Analysis ($Thousands)

Asset Type	Planned Funding	Reserve Fund Availability	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
Museum London	403	None identified	1,136	411	733	1,144
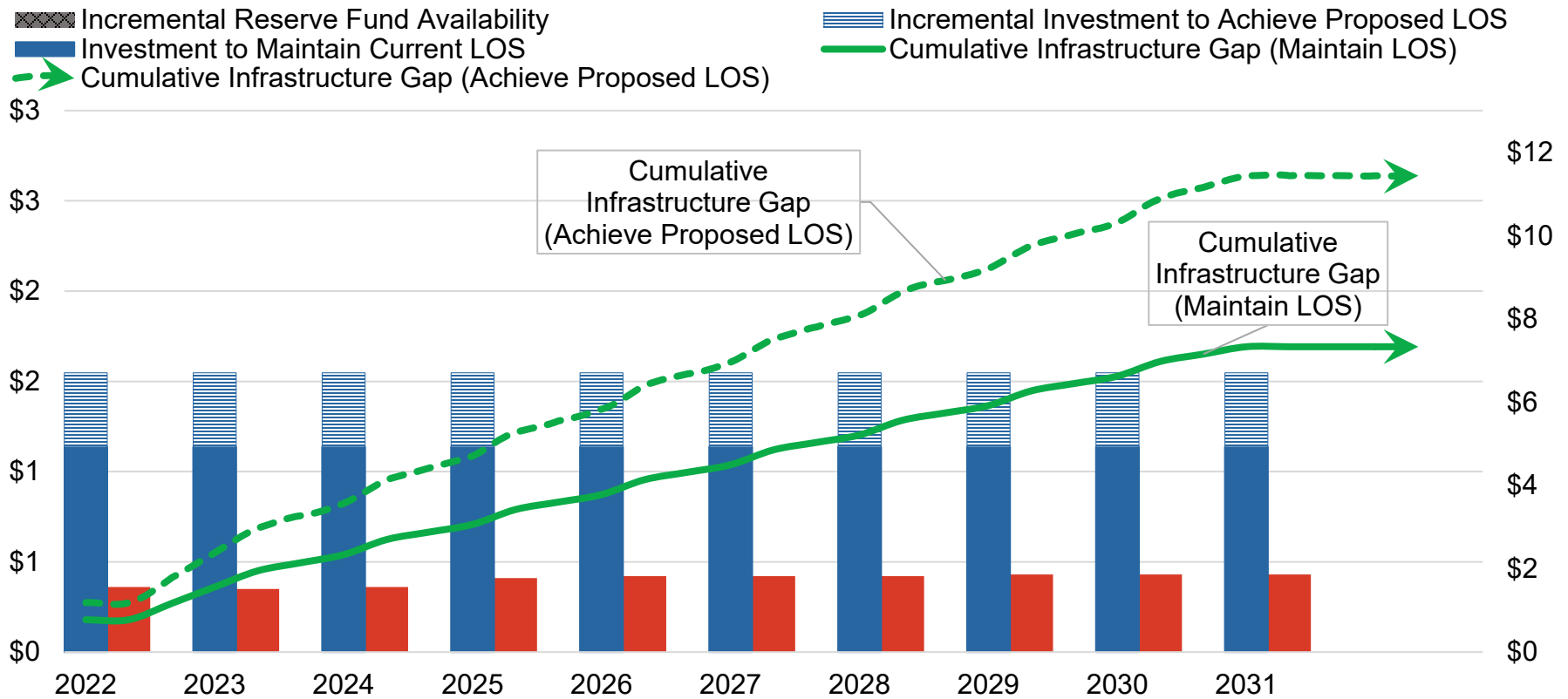
Figure 3.4 Maintain Current and Achieve Proposed LOS Cumulative Infrastructure Gap (Millions)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that ML actions are collectively (both financial and non-financial) anticipated to tackle the growth in projected infrastructure gaps.

Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of

infrastructure dependent services. This is done by completing the AMP well in advance of the multi-year budgeting process so that its results help inform the requested operating and capital budgets. However, due to lagging impacts of the pandemic, the AMPs for all the City's agencies, boards, and commissions were delayed post 2024-2027 MYB development. As such this infrastructure gap financing strategy does not present alternative financing options. In replacement of alternative financing strategies, in 2025, this AMP will be updated and reported to ML Board of Directors and City Council based on the approved 2024-2027 MYB and 2025 annual budget update.

3.5: Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – planned budget, maintain current LOS, and achieve proposed LOS.

Scenario One planned budget is identified to have constraints on ML's capacity to effectively maintain infrastructure. This leads to a deterioration in asset condition. This decline might not be immediate but, over time, it becomes more visible to the public, causes operating problems, increases the operating and maintenance costs, and leads to higher repair or replacement costs in the future.

Scenario Two maintain current LOS funding greater than what is currently allocated, illustrating the financial strain of maintaining a healthy asset portfolio and ML services. This scenario acknowledges the need for continual investment in assets to maintain their current state, eliminating the degradation in LOS that would result from the first scenario.

Scenario Three achieve proposed LOS represents improvements aligning with facility needs. This level of funding is greater than both the planned budget and the one needed to maintain current LOS. The advantages of this approach are the continued operation of ML with enhancement of asset conditions, and potential long term cost savings.

These three scenarios result in different LOS depending on the funding provided for asset lifecycle renewal and service improvement actions. Thus, the choices made will have an implication for asset condition and ML operational effectiveness.

3.5.2: Current and Future Challenges

General

ML faces dynamic opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, post pandemic industry recovery)
- Organizational (e.g., recruitment and retention of staff, continued quest/community engagement and partnerships)
- Technology (e.g. operational continuity, interactive technology, spatial constraints, art, and artifact security)
- Cultural and Social (e.g., Cultural representation, diversity, community engagement, ethics, education)
- Operational (e.g., Funding, staffing, visitor engagement, conservation, space management)
- Political/Legal (e.g., multi-tier governmental, regulatory compliance, intellectual property)
- Environmental (e.g., sustainability, climate change)

To help navigate these factors the ML 2023-2027 Strategic Plan provides a framework for the development of proactive, leading-edge strategies designed to ensure the changing needs of our community and supported through meaningful engagement and collaboration, investment in our people and infrastructure, and effective and efficient service delivery.

The following commentary summarizes the main current and future challenges impact infrastructure needs and costs.

Pandemic Disruption and Inflation

Pandemic disruption greatly impacted ML operations. ML was closed for much of 2020, 2021, and for part of 2022. In addition to impacting the delivery of programs and services, this impacted the Museum's earned revenue. As we emerged from the pandemic, inflationary pressures beyond those accounted

for within the 2020-2023 MYB and associated 10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 ML AMP and are a material component of the infrastructure replacement values and 10-year infrastructure gaps reported. These capital financing pressures represent a significant risk to the condition and LOS associated with ML infrastructure assets.

Technology

Adapting to the digital era, ML is integrating hybrid experiences into its offerings for exhibitions, public access to collections, for education programs, and for online registration and sales. Virtual tours and live-streamed events have been introduced to complement in-person visits, providing broader access to the museum's collections and programs and to reach an audience beyond London. This strategic direction necessitates upgrading the museum's infrastructure, including advanced equipment and technologies, to accommodate the new digital interfaces and to securely store digital assets. Deploying new tools to collect and analyze audience data is essential to make the museum more responsive. Enhancements to visitor experience on-site are prioritized to ensure that they are meaningful and encourage repeat visits. Furthermore, ML is creating participatory opportunities and enriching experiences, both onsite and online, reflecting its dedication to innovation, inclusivity, and the essential enhancement of engagement through digital platforms.

Climate Change

In 2019, London City Council declared a climate emergency at the urgence of the community.

ML has adopted 'respect for nature' as a core value and is proud to show that sustainability and the arts go hand-in-hand. Through ML membership in Green Economy London, ML is committed to measuring, publicly reporting, and setting reduction targets related to environmental stewardship. Future AMP analysis could include facilities energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs) and analyzing energy reduction measures identified in the 2023-2027 Strategic Plan.

Aging Infrastructure

Like most Canadian municipalities, City of London and ML owns and maintains aging infrastructure. In the case of ML, this is most materially representative in the facility itself which is approximately 43-years old. Facilities this age often need substantial capital investments to maintain their condition and operational functionality within the context of providing a welcoming environment and for ML, maintaining precision environmental controls to safeguard art and artifact collections in the Museum's care, and other artworks and exhibitions borrowed from galleries and museums across the country. For example, this could include replacing many building elements such as the roof, and repairing and updating mechanical, electrical, and plumbing systems. This is illustrated in the 2024-2027 MYB business case #P-70 for elevator upgrades. ML needs to continuously monitor design aesthetics to assess if modern service delivery needs are being met.

Sustainable Operation and Resilience

ML is investing in operational sustainability and resilience, focusing on preserving assets, maximizing the use of our existing facility and grounds, and attracting and retaining talent. The commitment to fostering strong funder relationships and cultivating new streams of earned revenue is supported by a five-year plan to embed a philanthropic culture, reorient organizational structure, and optimize infrastructure for improved space utilization and revenue targets.

Cultural

ML faces cultural challenges including ensuring the relevance of its collections and programs in the context of contemporary societal issues and the changing needs and expectations of a diverse community. These challenges require an approach that highlights connections between art, history, and present cultural, social, environmental, and economic concerns. A strategic direction is in place to launch interdisciplinary initiatives to showcase these interconnections, aiming to enhance audience engagement by emphasizing the interrelationships among various cultural expressions. This strategy is supported by a commitment to developing interpretive strategies and collaborative programs aligned with the changing cultural landscape, both nationally and internationally. ML may need to invest in upgrading its building and infrastructure on the grounds, equipment, and furniture, supporting interactive and flexible exhibits with adaptable infrastructure, advanced technological tools, and modular furniture, to enhance audience engagement and diversifying exhibits.

Growth

London is experiencing steady to above average population and employment growth. This growth requires enhanced city-wide services and expands the capacity requirements for cultural and heritage institutions, prompting required investments in the development or improvement of cultural infrastructure. While ML is not listed in the 2021 Development Charges Background Study, the City's ongoing expansion signals a ripe opportunity for ML to further establish itself as a key cultural destination. As such evaluating ML's future infrastructure and programming needs inclusive of the City's growth could identify and warrant other funding considerations.

3.6: Conclusion

Valued at over $57 million, ML assets are overall in Fair condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain the current LOS. However, to maintain current LOS and achieve proposed LOS additional investments are required, with preliminary calculations at approximately $7.3 million and additional $4.1 million, respectively, over 10-years (2023-2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of ML assets will be in jeopardy and could result in degradation of the services ultimately delivered, undermine the capacity of ML to earn revenue from various streams, and importantly, risks the safety of the valuable and culturally significant collections that ML holds in trust for the public. Table 3.13 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for ML assets.

Table 3.13 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Millions)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [4]
Museum London	$57.56	Fair	$7.3	$11.4	0.7%	2.0% - 2.7%

Reliability and Accuracy Commentary

Figure 3.5 visually presents ML and CAM staff assessment of this AMP's data reliability and accuracy with supporting commentary following. In summary this assessment rates data reliability and data accuracy as moderate.

Figure 3.5 Accuracy Reliability Scale

Based on the materiality of assets, key rating considerations and conclusions are:

- Facilities valuation and needs is based on VFA information and corroborated with Altus Group standard costing. However, full implementation of VFA Facilities Management software within operations is undergoing a phased approach, which was not complete at the point of AMP completion.

- Furniture and Equipment inventories are an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

These ratings are consistent with many City of London service areas. To improve these ratings, a review of systems and processes that support ML asset registries is recommended over the 2024-2027 MYB and beyond. Such investments will raise the reliability and accuracy of the data, noting the long-term goal is to have all asset registries within advanced asset management focused software applications.

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[4] Source: Reinvestment rates based on investment to maintain current LOS and achieve proposed LOS (net of select assets funded from operating budget).

Section 4.   **Conclusion and Recommendations**

4.1: Conclusions

4.1.1: Key Findings

ML infrastructure systems are integral to the Museum's ability to serve the community through cultural and educational programs, and its ability to preserve, interpret, and activate its expansive art and history collections. ML infrastructure systems play a key role in achieving ML 2023-2027 Strategic Plan objectives and goals.

This AMP is a strategic document that describes the state of ML's infrastructure and the approach to managing assets over their lifecycle to maintain current LOS and achieve approved LOS at the lowest lifecycle cost possible. It was produced through extensive efforts of ML and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 AMPs. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:

- There is $57.6 million worth of infrastructure under the direct ownership and control of ML. This infrastructure represents a diverse array of assets including the museum facility, furniture, and equipment.
- The overall condition of ML assets is rated as Fair, primarily due to the fair condition of the museum facility. In contrast, the condition of ML furniture and equipment is overall rated as Good.
- Fair condition indicates that the infrastructure shows general signs of deterioration and requires attention, some elements exhibit significant deficiencies. In the context of ML, who must maintain precision control over temperature and relative humidity to safeguard collections and exhibitions, this poses a risk.

- Asset lifecycle renewal is financed through Capital ($56.8 million for facility and systems) and Operating budgets ($755,000 for furniture and equipment).
- Based on the existing ML planned funding, the 10-year maintain current LOS infrastructure gap is approximately $7.3 million and the 10-year achieve proposed LOS infrastructure gap is approximately $11.4 million.
- Through the 2024-2027 MYB a portion of this gap has been approved for funding by the ML Board, however, at the time of writing this AMP this budget is currently being deliberated by City of London Council.
- Future AMPs will be brought forward to align with the development of MYBs and will present financing strategies to mitigate remaining infrastructure gaps annual growth while balancing the impact of tax and non-tax affordability on the community.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024, timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024, deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025, O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is

contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help ML manage its $57.6 million asset portfolio to provide affordable and

sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall ML strategic objectives and goals.

Short term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement. They will be pursued utilizing existing staff, other resources, and budgets to the fullest extent feasible.

Table 4.1 2024 ML AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/ Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across ML assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, thereby aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision	Develop and implement investment strategies for ML infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term

Category	Improvement Initiative details	Key Benefits	Time Period
Making	Incorporate and align the AMP into ML strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term
Risk Management	Enhance ML asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or ML software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each ML service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually review the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible, incorporate infrastructure related data and public feedback opportunities in existing ML public engagement practices.	• Enhanced adaptability to changing operational environments and community needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.1 O.Reg.588/17 July 1, 2024, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[5]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital, and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1, every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[5] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.2 O.Reg.588/17 July 1, 2025, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g., measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. i.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital, and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
6.(1) 6. iii.	For population 25K or more, overview of the risks associated with implementation of the AMP	Sections - #3.5
6.(1) 7.	Explanation of other key assumptions	Sections - #2.4

Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the ML, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with ML, and
- The asset is utilized to achieve ML plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: ML Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of

wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets

through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality, or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost ML would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

Board: Museum London Board of Directors

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

DC: Development Charges

FCI: Facilities Condition Index

GHG: Green House Gases

IT: Information Technology

kWH/sf: Kilowatt hours per square foot

LCR: Lifecycle Renewal

LOS: Levels of Service

MESL: Maintain Existing Service Levels

m3/sf: Cubic Meters per Square Foot

ML: Museum London

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RF: Reserve Fund

RV: Replacement Value

TCA: Tangible Capital Asset

VFA: Facilities Management Software

For more information vist **london.ca/CAM** or contact
Corporate Asset Management Phone: **519-661-CITY (2489)** Email: **CAM@london.ca**

London
CANADA

2024

RBC Place London
Asset Management Plan

City of London

RBC PLACE LONDON

London CANADA

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Acknowledgement

Land Acknowledgment

We acknowledge that RBC Place London resides on the traditional lands of the Anishinaabeg, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This land continues to be home to diverse Indigenous people (First Nations, Métis, and Inuit) whom we recognize as contemporary stewards of the land and vital contributors to society. As representatives of the people of the RBC Place London, we are grateful to have the opportunity to work and live in this territory.

Staff Acknowledgment

The Corporate Asset Management office would like to acknowledge the efforts of the RBC Place London staff for the effort and support they put forth to help accumulate the data and develop the findings of this Asset Management Plan. We are also sincerely thankful to the RBC Place London Board and City Council for their support.

City of London Council (2022-2026)

Mayor: Josh Morgan

Councillors: Hadleigh McAlister (Ward 1), Shawn Lewis (Ward 2), Peter Cuddy (Ward 3), Susan Stevenson (Ward 4), Jerry Pribil (Ward 5), Sam Trosow (Ward 6), Corrine Rahman (Ward 7), Steve Lehman (Ward 8), Anna Hopkins (Ward 9), Paul Van Meerbergen (Ward 10), Councillor Skylar Franke (Ward 11), Elizabeth Peloza (Ward 12): David Ferreira (Ward 13), and Steven Hillier (Ward 14)

RBC Place London's Board

Members: Susan Judd (Chair), Jennifer Diplock (Past Chair), Sara De Candido, Ross de Gannes, Jeffrey Floyd, Linda Nicholls, Garrett Vanderwyst, Eunju Yi, Josh Morgan (Mayor), David Ferreira (Councillor), Susan Stevenson (Councillor), Scott Mathers (Deputy City Manager).

Section 1. Executive Summary

Summary	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$107.6	$107.6
Cumulative 10-Year Infrastructure Gap ($millions)	$11.6	$13.6
Infrastructure Gap as a Percentage of Replacement Value	10.75%	12.60%

1.1: 2024 RBC Place London Asset Management Plan Introduction

The RBC Place London (RBC Place) infrastructure systems represent one of the critical backbones of providing economic impact, supporting local business, and driving tourism visitations to our community. Being nationally recognized as a community connector, adding vibrancy to London's downtown and supporting the City as an economic driver comprises RBC Place London's strategic vision.

This Asset Management Plan (AMP) is designed to support the management of RBC Place's infrastructure assets in a way that connects strategic RBC Place, City of London, and community economic, social, and entertainment objectives to day-to-day and long-term infrastructure investment decisions. This is accomplished by:

- Aligning with the regulatory landscape, by meeting the requirements of Ontario Regulation 588/17 – Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17), and positioning RBC Place for capital grant funding applications.
- Understanding the current state of the infrastructure systems (value, quantity, age, condition, etc.).
- Measuring and monitoring levels of service (LOS) to quantify how well infrastructure systems are meeting expectations.
- Communicating asset lifecycle management activities (e.g., how infrastructure is operated, maintained, rehabilitated, and replaced).
- Determining the optimal costs and reinvestment rates of the asset lifecycle activities split between those that maintain current LOS and those that achieve proposed LOS;

- And as necessary establishing an infrastructure gap financing strategy to fund the expenditures that are required to meet RBC Place London's Board (Board) approved LOS and associated lifecycle activities.

Key findings of the 2024 RBC Place AMP are:

- There are $107.6 million dollars of infrastructure assets under RBC Place management;
- Overall, these assets are in Good condition;
- Cumulative 10-year maintain current LOS and achieve proposed LOS infrastructure gaps of $11.6 million and $13.6 million, respectively, exist; and
- The average planned budget for 2023-2032 (based on the 2023 annual budget update) represents a reinvestment rate of 0.7%, which is less than the recommended average maintain current LOS and achieve proposed LOS reinvestment rates of 2.1% and 2.5%, respectively.

A summary of these results is presented in the following tables and figures:

- Table 1.1 summarizes the infrastructure gaps and presents them as a percentage of RBC Place's infrastructure assets replacement value;
- Figure 1.1 summarizes the overall condition distribution of the assets between those that are in Very Good to Very Poor condition;
- Figure 1.2 shows the optimal maintain current LOS and achieve proposed LOS expenditures compared to planned budget and additional reserve fund availability, and the resulting infrastructure gaps;
- Table 1.2 presents the reinvestment rates for planned budget, maintain current LOS, and achieve proposed LOS.

Table 1.1 2024 AMP Summary Information

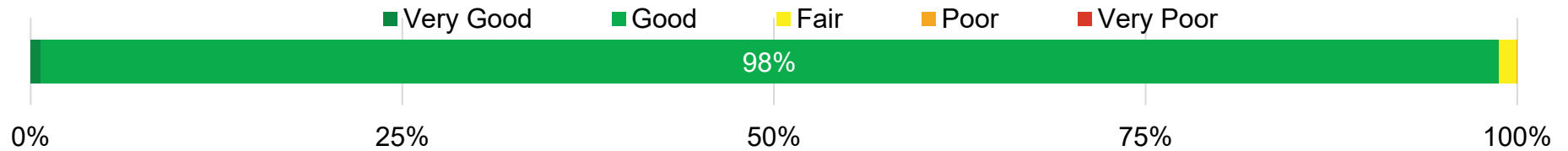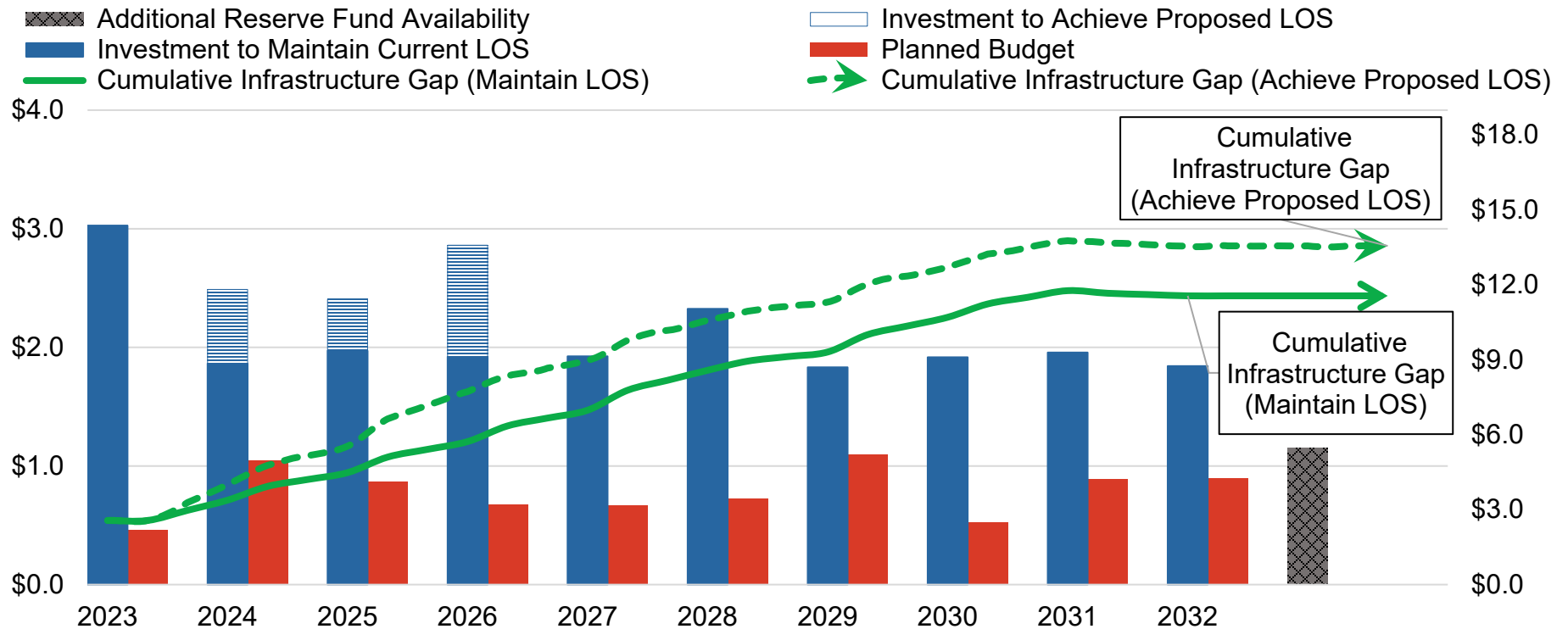| Summary Information	Maintain Current LOS	Achieve Proposed LOS
Replacement Value ($millions)	$107.6	$107.6
10-Year Infrastructure Gap ($millions)	$11.6	13.6
Infrastructure Gap as a Percentage of Replacement Value	10.75%	12.60%

Figure 1.1 Overall Condition

Figure 1.2 10-Year Planned Budget, LOS Investments and Infrastructure Gaps (millions)

Table 1.2 Approved Budget, Maintain Current LOS, and Achieve Proposed LOS Annual Reinvestment Rates

Current Annual Reinvestment Rate (Planned Budget)	Maintain Current LOS Recommended Annual Reinvestment Rate	Achieve Proposed LOS Recommended Annual Reinvestment Rate
0.7%	2.1%	2.5%

1.2: Summary of Asset Management Plan Structure

The AMP is designed to provide the reader with a strong functional knowledge of the basis of this report along with the process and data behind the development and results. This is achieved through the following report structure:

- **Introduction** section provides an overview of the provincial and municipal policies that govern asset management reporting requirements and the City's Corporate Asset Management (CAM) Program as well as a summary of the various components of the AMP that culminate together to provide meaningful information that supports asset and budget decisions.
- **Detailed Asset Management Plan** section summarizes the existing asset inventory, its replacement value, condition, age distribution, and how RBC Place stores its asset data. This section then explores the LOS delivered by the assets, the associated lifecycle management strategies, and activities, and concludes with an analysis of the identified infrastructure gaps and supporting financing strategies.
- **Conclusion and Recommendations** section outlines the findings and observations made throughout the AMP development and reporting process and establishes the recommendations that will be used to guide future asset management activities, subject to Board approval.
- **Appendix A. O.Reg.588/17 Asset Management Plan Requirements** section encompasses a detailed mapping

of the legislated requirements to the various sections and/or sub-sections of this AMP.

1.3: Executive Summary Conclusion and Recommendations

Conclusion

Based on RBC Place staff input and asset data, the RBC Place AMP is a tactical outcome of the City's CAM Program, outlining RBC Place's plan to manage its $107.6 million worth of infrastructure, and the required investments in existing infrastructure to meet maintain current LOS and achieve proposed LOS objectives. There are no easy solutions to how the entire infrastructure system works together to achieve an optimal delivery of event management and hosting services. But this AMP, among other RBC Place strategic documents, helps to identify the additional efforts required to address the reported infrastructure gaps.

The 2023 maintain current LOS infrastructure gap of $2.6 million compared to a $107.6 million asset base is considered a well managed gap. There is no current 2023 achieve proposed LOS gap as such proposed investments commence in 2024 to align with the City's 2024-2027 Multi-Year Budget (MYB). However, the cumulative 10-year maintain current LOS and achieve proposed LOS gaps of $11.6 million and $13.6 million require monitoring. This growth in the infrastructure gaps has the potential to escalate beyond RBC Place's ability to manage services effectively. As there is no intent to allow this to occur, further action is needed to address both the understanding and forecasted growth of the gaps.

Choices are available as to how RBC Place manages the infrastructure gaps:

- RBC Place can continue to deliver services at their current or proposed levels by committing to make required investments thereby mitigating or even eliminating the infrastructure gaps. This funding can come from either tax supported or non-tax supported sources of financing. However, funding sources are limited, thus, RBC Place must continue to manage its services in an affordable manner with due regard to market prices and staff impacts.

- Paying for the gaps is not the only opportunity. In rare cases, RBC Place can reduce LOS to match its ability to pay. However, there may be an unwillingness to give up services currently enjoyed and a strong desire to improve services especially when considered in the context of the ability for London to be a drawing card to host major events.

- A third opportunity for RBC Place is to find more efficient and effective ways of delivering services, including changing the asset mix that supports service delivery. When possible, RBC Place strongly supports this direction and regularly invests in improvements. One element of this third approach is the work underway to enhance asset management practices.

Overall, RBC Place has a long-standing practice of pursuing all possible means to achieve service delivery goals and has been reasonably successful delivering quality services. In effect RBC Place adopts a blend of the three approaches outlined and is continuously seeking to improve these strategies.

Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater confidence in the analysis documented and decisions formed through the AMP and supporting processes.

The Recommendations section of this AMP outlines administrative projects that will enhance the management of and reporting against RBC Place's $107.6 million worth of infrastructure assets. These recommendations are structured to address short- and long-term asset management objectives and are categorized according to distinct asset management knowledge areas.

Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement. There are no additional funding needs associated with the completion of these administrative projects (i.e., initial projects will be completed leveraging existing staff and other resources).

Section 2. Introduction

2.1: Supporting RBC Place London Goals Through the Corporate Asset Management Program

RBC Place London infrastructure systems support a range of event management services that enable residents, businesses, City of London tourists, guest, and partners to have a joyful and engaging experience in the City. These service delivery results are based on RBC Place's strategic community and organizational objectives established through the RBC Place Strategic Plan, which outlines the mission, vision, and values that guide RBC Place in a way that aligns with the core values of our community. The 2024 RBC Place Strategic Plan summarizes these objectives as follows:

Our Mission

RBC Place London attracts and hosts meaningful experiences, which connects communities, adds vibrancy, and generates an economic benefit for London in a fiscally responsible and sustainable way.

Our Vision

RBC Place London is nationally recognized as a community connector, adding vibrancy to London's downtown, and supporting the City of London as an economic driver.

The City's CAM Program is designed to enhance the management of the infrastructure assets (both City of London and Agencies, Boards, and Commissions assets) in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. Like the strategic planning and budgeting processes, this is an iterative process that continuously improves through

each cycle. For further information regarding the CAM Program refer to the City's CAM Policy[1].

This AMP was developed through the City's CAM Program based on an approved Service Level Agreement between RBC Place and the City. By following this development process the AMP achieves the following:

- Sets out the plan for managing the infrastructure assets to ensure they can provide services at levels that meet the community and Board approved objectives.
- Forecasts the expected impact that the 2023 annual budget update, inclusive of 2023-2032 capital plan (hereon referred to as "planned budget"), will have on the state of the infrastructure assets.
- Understanding of the changes in lifecycle strategies and associated risks if there are funding gaps between the planned budget and the expenditures required to maintain current LOS or achieve proposed LOS.
- Fulfill O. Reg. 588/17 mandated requirements and maintain eligibility for current and future other levels of government capital funding programs.

2.2: Provincial Asset Management Planning Requirements

This AMP builds upon existing RBC Place asset management activities and leverages others that have been developing since the establishment of the City's CAM department and CAM Program. London's legislated asset management journey began in 2008 when Canada's Public Sector Accounting Board (PSAB)

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[1] CAM Policy https://london.ca/council-policies/corporate-asset-management-policy

established new requirements for municipalities to practice tangible capital asset (TCA) accounting. This accounting process resulted in the development of the first comprehensive inventory of all assets owned by the City (both directly and non-directly owned assets). In 2012, the Province then published 'Building Together: Guide for Municipal Asset Management Plans' to encourage and support municipalities in Ontario to develop AMPs in a consistent manner.

Building Together outlines the information and analysis that municipal asset management plans are to include and was designed to provide consistency across the province for asset management. To encourage the development of AMPs, the Provincial and Federal governments began to frequently make AMPs a prerequisite to accessing capital funding programs.

In 2015, Ontario passed the 'Infrastructure for Jobs and Prosperity Act', which affirmed the role that municipal infrastructure systems play in supporting the vitality of local economies. After a year-long industry review process, the Province created O. Reg. 588/17 under the *Infrastructure for Jobs and Prosperity Act*. O. Reg. 588/17 further expands on the Building Together guide, mandating specific requirements for municipal asset management policies and AMPs.

Among others, these requirements mandated:

- Municipalities to complete Council approved and publicly available AMPs for all assets presented on the consolidated financial statements, excluding Joint Water Boards. It is noted RBC Place financial are consolidated within the City's financial statements. The following dates are provincially required:
  - By July 1, 2024, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided, the costs to maintain them, and the financing strategy to

fund the expenditures necessary to maintain current LOS for all infrastructure systems in the City.
  - By July 1, 2025, the O. Reg. 588/17 requires an AMP that documents the current LOS being provided and the costs to maintain them, the proposed LOS, and the costs to achieve them, and the financial strategies to fund the expenditures necessary to maintain current LOS and achieve proposed LOS for all infrastructure systems in the City.
- That these AMPs be updated annually and comprehensively reviewed and updated every 5-years.

For a complete reconciliation and mapping of how this AMP complies with all O. Reg. 588/17 requirements (both July 1, 2024, and July 1, 2025, requirements) see Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

2.3:   Developing the Asset Management Plan

This AMP is the culmination of efforts from staff across RBC Place who are involved with managing infrastructure assets, including senior leadership, finance staff, technical staff involved with planning and executing the construction and maintenance of infrastructure assets, and on-the-ground staff who operate and maintain infrastructure assets.

Through this collaborative development process the AMP addresses the following questions:

- What do we own and why?
- What is it worth?
- What condition is it in?
- What are its current and proposed service levels?
- What activities do we employ to manage the assets?
- What does it all cost?

A more modern asset management question is also to ask, "Is this asset providing the community the service it expects and is willing to pay for?"

To answer these questions as best as possible, the CAM Program and this AMP are structured based on several interdependent development strategies that support answering or providing insight into the responses to these questions.

These development strategies and processes (steps) are categorized as:

- State of Local Infrastructure
- Levels of Service
- Asset Lifecycle Management Strategy
- Forecasted Infrastructure Gaps and Financing Strategies
- Discussion and Conclusion

To enhance readers understanding of the data and information presented, the following explanations are provided regarding each development strategies purpose, processes, and results.

2.3.1: State of Local Infrastructure
The State of Local Infrastructure is the initial building block of the AMP and is intended to provide the following information:

- Inventory of assets – What do we own?
- Valuation of assets (replacement value) – What is it worth?

- Age and expected useful life of assets – How old is it and when does it need to be replaced?
- Condition of assets – What Condition is it in?

This information is a fundamental building block of an AMP and RBC Place inform future management of infrastructure assets based on individual and collective needs.

It is important to note replacement values seek to utilize best available information to identify all asset costs associated with replacing assets. As such this AMP reflects capital financing pressures that go beyond what can be accommodated in the RBC Place 2023-2032 planned budget.

A sample of the capital financing pressures captured in the AMP are:

- Inflation - the rising cost of goods and services can put additional strain on the budget for infrastructure projects to maintain current LOS,
- Climate – addressing the impact of climate change and implementing climate-related initiatives can require significant financial resources,
- Achieve Proposed LOS – meeting the desired LOS may require additional investments in existing or new infrastructure, and
- Aging Infrastructure – the need to upgrade or replace versus rehabilitating aging assets can contribute to capital financing pressures.

By acknowledging capital financing pressures and considering both current and future challenges, the AMP sets the foundation for strategic infrastructure planning and RBC Place to prioritize and address infrastructure needs effectively.

2.3.2: Levels of Service

Asset related LOS are specific parameters that describe the extent and quality of asset related services; they are not an exhaustive presentation of all service levels provided to the community. These LOS link an asset's performance to target performance goals associated with RBC Place's strategic plans, budgets, and other relevant policies and reports. Additionally, in accordance with O. Reg. 588/17 requirements, these LOS are quantified and reported between the costs to maintain current LOS and achieve proposed LOS, which are defined as:

- Maintain Current LOS – is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.
- Achieve Proposed LOS – is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., regulatory requirements, master plans, other Board approved targets, etc.). The achievement of these proposed service levels may require changes in quantity of assets and/or frequency and scope of asset related lifecycle activities.

LOS metrics are organized in a hierarchical manner. At the forefront are the direct LOS metrics, which serve as the primary benchmarks. From these, we can provide clear lines-of-sight to determine the cost to maintain current LOS and achieve proposed LOS. Next in line are the related LOS metrics. These

are closely tied to the direct LOS metrics due to their primarily formal relationship. However, pinpointing their associated costs can be more intricate.

Overall, RBC Place strives to provide services to the community that are accessible, cost efficient, provide customer satisfaction, demonstrate environmental stewardship, reliable, and safe, with suitable scope. As shown in Figure 2.1, to obtain a desired LOS, RBC Place faces a complex trade-off challenge, which includes three parameters: Cost, LOS, and Risk.
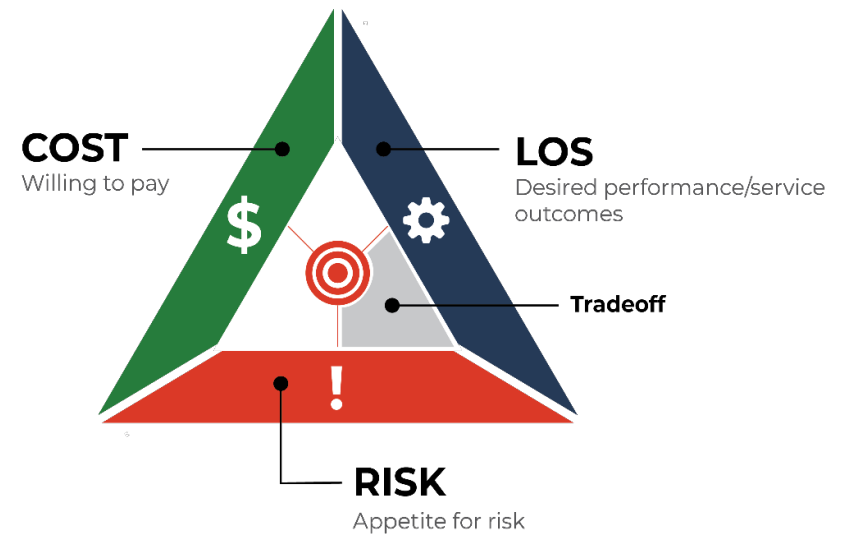

Figure 2.1 Trade-off Cost, Risk, and LOS

2.3.3: Asset Lifecycle Management Strategy and Activities

The asset lifecycle management strategies are the set of planned actions that will enable the assets to provide the approved LOS in a sustainable way, while managing risk, at the lowest lifecycle cost possible.

This part of the AMP describes the asset lifecycle activities applied to the assets. This includes the typical practices and actions, and risks associated with each asset activity. From here three scenarios that forecast the condition profile of the asset portfolio based on planned budget, the required budget to maintain current LOS, and the required budget to achieve proposed LOS are provided.

2.3.4: Forecasted Infrastructure Gaps and Financing Strategies

In this part of the AMP identified infrastructure gaps are summarized and illustrated in both table and figure format. The infrastructure gaps are a dollar amount based on the difference between:

- The amount of money that needs to be spent on assets to maintain current LOS and achieve proposed LOS for the community, and
- The amount of funding presently identified in the planned budget and capital reserve fund over a 10-year period (2023-2032).

In other words, what RBC Place plans to spend versus what the asset needs are. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure, to minimize the risks associated with failing assets, and to acquire new infrastructure.

Next are the infrastructure gap financing strategies, which set out the approach to ensuring that appropriate funds are available to facilitate the delivery of infrastructure dependent services. These strategies are meant to strengthen current budgeting processes by reinforcing a long-term perspective on the impact of providing various asset-related LOS and the required investments versus the affordability to the community, which is consistent with the outcomes and expected results of the 2024 RBC Place Strategic Plan and 2023-2027 City of London Strategic Plan.

2.3.5: Discussion and Conclusion

The discussion part of the AMP looks at current and future opportunities and challenges associated with addressing infrastructure gaps. This discussion includes opportunities and challenges that are both in and outside of the control of RBC Place and Board. Among others, this includes consideration of the following:

- Service delivery characteristics,
- Cost pressures, and
- Growth and service improvement planning.

The final element of the detailed AMP is the conclusion section. In this section the results are summarized and to facilitate interpretation of the AMP data accuracy and data reliability ratings with supporting commentary are provided. The goal is to transparently provide the reader with knowledge of the validity and limitations of the information provided and to highlight continuous data improvement plans.

2.4: Assumptions and Limitations

As previously stated, this AMP is designed to enhance the management of RBC Place infrastructure assets in a way that connects strategic objectives to day-to-day decisions related to when, why, and how investments are made into infrastructure systems. However, all AMPs are developed within the context of various assumptions and limitations.

The following points summarize the assumptions and limitations of this AMP:

- The scope of this AMP covers the assets directly owned by RBC Place as of December 31, 2022, and associated planned budgets approved in the 2023 annual budget update. Thus, timing differences exist between when this AMP was developed versus current 2024-2027 MYB approvals. Based on O. Reg. 588/17 requirements these differences are permissible and are minimized through the AMP annual update process as well as the CAM Program continues to explore opportunities to limit such timing differences.
- This AMP is compliant with the July 2024 and July 2025 requirements of O. Reg. 588/17 in that it encompasses both maintain current LOS and achieve proposed LOS as well as associated forecasted infrastructure gaps and supporting financing strategies.
- The AMP addresses condition information in three ways:
  - Condition may be technically assessed and reported on in a quantifiable technique. This method is the most accurate and most expensive (e.g., facilities condition);
  - Condition may be assumed based on age and estimated useful life; and
  - Finally, condition may be based on the expert opinion of staff using the asset.
- Unexpected events (e.g., severe storms attributed to climate change, etc.) will not disrupt infrastructure replacement and renewal projects over the period of analysis.
- The planned budget and expected reserve fund availability will occur as planned over the period of analysis.
- RBC Place is not listed within the current City 2021 Development Charges Background Study and as such growth budgets and implications are excluded from this analysis.

Section 3.   Detailed Asset Management Plan

3.1: State of Local Infrastructure

3.1.1: Asset Inventory and Valuation

RBC Place London, which opened in 1993, believes in creating the ultimate experience for guests. These experiences can range from trade & consumer shows, weddings, conferences, conventions, meetings, and special events (staff parties, fundraising galas, holiday celebrations, etc.). Some notable community event examples at RBC Place include London Comic Con, the 2019 JUNO Awards Gala, London Chamber of Commerce Business Achievement Awards and State of the City Mayoral Addresses.

The infrastructure required to host such gatherings includes a multilevel facility with 70,000 square feet of meeting, conference, and exhibition space maintained and operated by courteous and skilled staff. The second floor offers a 33,000 square foot ballroom space, with fourteen breakout rooms available on the first floor. The newly refurbished King Street Patio can host up to 700 guests for outdoor concerts or cocktail receptions.

The assets required to allow these events have an approximate replacement value of $107.6 million. This primarily relates to the RBC Place building and sitework, but also includes a variety of furniture and equipment (chair, tables, staging assets, linens, etc.), IT equipment, and culinary assets (Buffet Equipment, Refrigeration, Ovens, Shelving, Smallware, China, Flatware, Glassware, Holloware, etc.).

Each asset is managed and maintained to meet the highest level of comfort, quality, and enjoyment for guests and staff.

Table 3.1 summarizes the assets by type, inventory, quantity, and replacement values. The asset replacement values have been identified using different RBC Place databases including J.D. Edwards, VFA Facilities Management software, Momentus event management software, 3rd party evaluations, and internal expert opinion. These replacement values aim to capture current market prices for the full replacement of identified assets. For further information regarding costing refer to Introduction.

Table 3.1 Inventory and Valuation

Asset Type	Asset	Inventory	Unit	Replacement Value (Thousands)
Facilities	RBC Place Building and Sitework	2	Each	$103,815
Furniture and Equipment	Chairs, Staging Assets, Tables, Dance Floor, Linen, Decorations, Etc.	37,762	Each	$1,697
Culinary	Buffet Equipment, Refrigeration, Shelving, Smallware, China, Flatware, Glassware, Holloware, etc.	88,833	Each	$2,040
IT Equipment	Radios, Computers, Printers, IT Devices	80	Each	$58
Total				$107,611

Additional details relating to each asset type are provided.

Facilities

Valued at over $103 million, from a replacement value perspective RBC Place's building and sitework represent most assets under management. As explained earlier, there is a first and second floor which has accessible, adaptable floor plans to match an event's needs and accommodate groups from 10 to 2,000 individuals. The nature of events is further described to show how the facility is used and managed by RBC Place staff.

The second-floor ball room can accommodate up to 190 booths individually spaced at 10 feet by 10 feet or 8 feet by 10 feet for a tradeshow.

Weddings of 100 to 600 attendees, are hosted on both levels with a central foyer tailored for an intimate cocktail experience.

Conferences, conventions, and meetings are hosted in the flexible space of both floors where room sizes can increase and decrease. RBC Place can accommodate up to 14 breakout rooms, many of which are equipped with a state-of-the-art digital hearing assistance system. The RBC Place facility staff manages and maintains these assets, allowing them to meet the functional requirements, and building and safety codes, while operating in a safe and efficient manner.

Furniture and Equipment

With a replacement value of approximately $1.7 million, the Furniture and Equipment category contains asset critical to event hosting such as chairs, tables, linens, lobby furniture, staging assets (ramps, rails, grating plates, etc.), dance floor panels and edging, decorations and props, various accessories such as banners, stands, coat racks, lift equipment, and cleaning equipment tools. Each asset description has its own range and complexity, such as having the appropriate tables and chairs relative to the event being hosted. The array of

Furniture and Equipment assets is emphasized even though it is less than 2% of RBC Place replacement value, because it is vital to have these assets and trained staff to maintain the current high level of guest experience which RBC Place strives toward and achieves.

Culinary

RBC Place boasts two individuals with Certified Chefs de Cuisine (CCC) designations and a world class kitchen. The assets needed to provide a world-class kitchen include holloware (platters, coffeepots, bowls, etc.) glassware and bar supplies (crystal glasses, martini racks, champagne flutes, etc.), flatware, dish cleaning equipment, cooking equipment, concessions equipment, China, smallware, shelving equipment, refrigeration, and buffet equipment. The array of Culinary assets is emphasized even though it is less than 2% of RBC Place replacement value, because it is vital to have the appropriate Culinary equipment and trained staff to maintain the guest experience RBC Place strives toward and achieves.

IT Equipment

IT assets have an approximate replacement value of $60 thousand and without such assets it would not be possible to effectively use and manage all other RBC Place assets to successfully delivery services aligned with guest expectations.

3.1.2: Age Summary

Figure 3.1 shows the RBC Place average asset age as a proportion of the average expected useful life. This comparison provides a visual representation of how close assets are to the ends of their lifecycle, which demonstrates RBC Place's ability to replace such assets on-time. Overall, the data affirms that RBC Place assets are within their expected useful life, noting that lifecycle activities must continue over a 10-year period to

ensure the age distribution would remain under expected useful life or be enhanced.

Facilities

The age of the facility was calculated using the recorded construction date in the VFA Facilities Management software. Overall facility assets are three quarters through the standard expected useful life of 40-years. This leads to an increase in the operation and maintenance cost of the facility. It is important to note that 40-years was selected as the expected useful life based on the non-structural components of buildings which have the longest expected useful life. In practice the many components that comprise a building are slated for renewal based upon a combination of factors including age, condition, consequence of failure, likelihood of failure, etc., and the practical expected useful life is largely indefinite while the building continues to serve its intended/required purpose in its given geographic location.

Nevertheless, the age of RBC Place facility assets and the evolving demands and best practices of event management service delivery have given rise to the need for comprehensive

facility assessments and asset management industry best practices. The first facility assessment was completed in 2020 and helped form the basis for the 2024-2027 MYB business case #P-74 – Elevators – RBC Place London. Further details and financial impacts of these assessments and industry best practices are provided in Asset Lifecycle Management Strategy – Maintaining Current and Achieving Proposed Levels of Service.

Information Technology and Furniture and Equipment

IT and Furniture and Equipment asset average age and expected useful life are based upon internal expert opinion, with Furniture informed by industry experts and data stored in Momentus software. These assets are approximately halfway through their expected useful life.

Culinary

Culinary assets are informed by industry experts, internal expert opinion and managed in the Momentus software. Many of these assets were acquired during the 1993 opening year of RBC Place which is reflected in the age distribution nearing end of expected useful life.
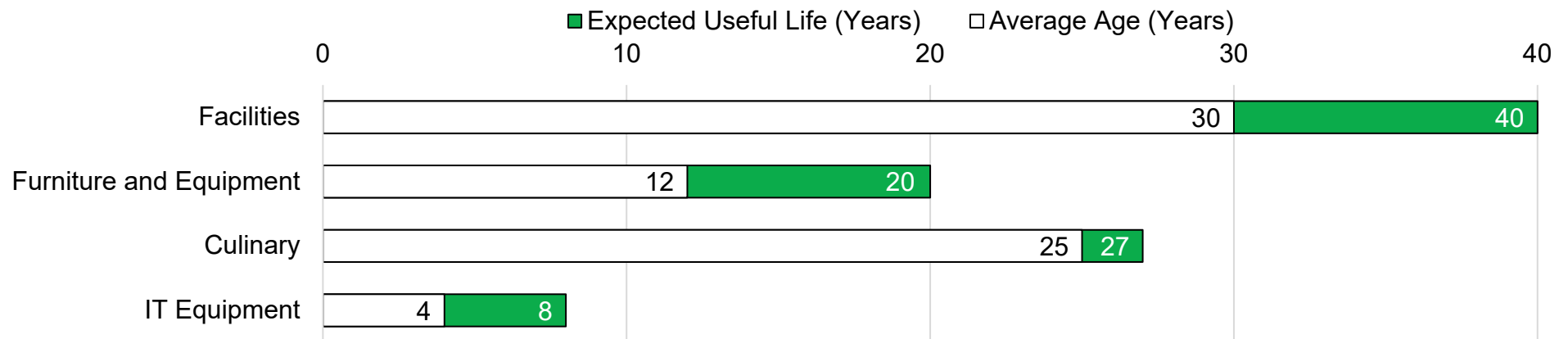

Figure 3.1 Average Age and Expected Useful Life

3.1.3: Asset Condition

The condition of the assets was determined using one of the three methods below based on data availability and accuracy:

1. Existing condition rating systems (e.g., Facility Condition Index, etc.),
2. Estimated based on age and the remaining expected useful life of the assets, and
3. Estimated based on expert opinion, in the absence of 1 or 2 above, or where there was low confidence that age and expected useful life appropriately represented the asset condition.

Based on these methodologies, asset conditions are recorded on a ratings scale of 1 to 5. Table 3.2 provides the definitions of each condition scale used in the CAM Program and in this AMP.

Table 3.2 Condition and Scale Definitions

Grade	Summary	Definition
1	Very Good Fit for the future	The infrastructure in the system or network is generally in very good condition, typically new or recently rehabilitated. A few elements show general signs of deterioration that require attention.
2	Good Adequate for now	The infrastructure in the system or network is in good condition; some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies.
3	Fair Requires attention	The infrastructure in the system or network is in fair condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor At risk	The infrastructure in the system or network is in poor condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration.
5	Very Poor Unfit for sustained service	The infrastructure in the system or network is in unacceptable condition with widespread signs of advanced deterioration. Many components in the system exhibit signs of imminent failure, which is affecting service.
-	Not Assessed	This category is reserved for assets where data is either missing, not updated, or cannot be considered reliable. Flagging this data for RBC Place to identify where gaps in information exist and may allow for the development of assessment plans to improve future data.

Figure 3.2 presents the overall condition distribution of all RBC Place assets. It shows that approximately 99% of the assets are in Very Good to Fair condition. However, it is important to note this condition profile is only a snapshot in time and not indicative of condition profiles over the next 10 years. Also, because of the nature of RBC Place services and its primarily non-tax funding structure, condition expectations are different than those of other municipal services.

Pressures do exist and are reflected in multiyear budget requests and further described in Sections 3.3 and 3.4. In addition, there are industry best practices to consider in maintaining an asset three quarters through its expected useful life, and thrives on a modern, adaptable, and tasteful aesthetic.

Figure 3.3 provides a detailed condition distribution for Facilities, Furniture and Equipment, Culinary, and IT equipment.
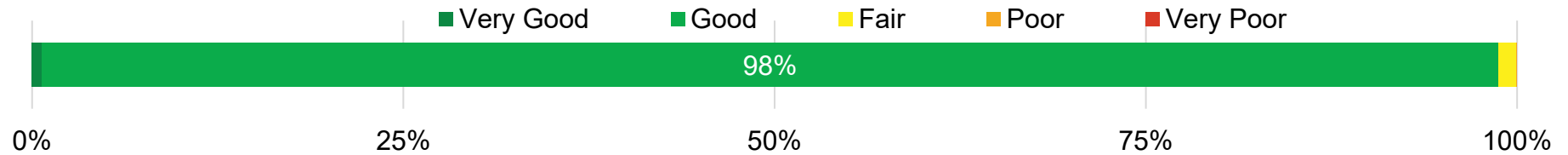
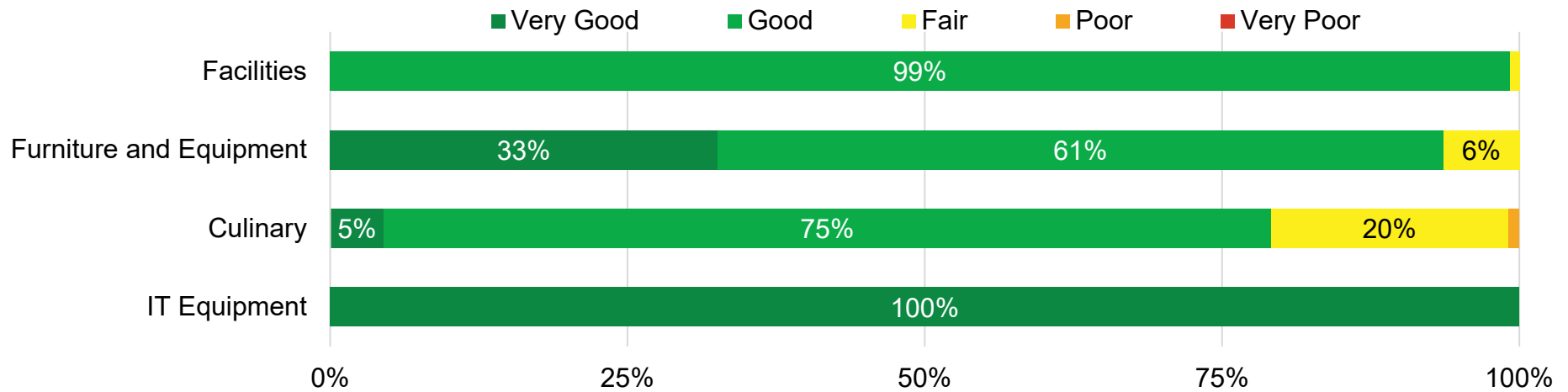

Figure 3.2 Overall Condition

Figure 3.3 Asset Condition Detail

Facilities

The RBC Place facility experts regularly perform comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) that reflects the overall condition of the facility and their sub-components (building envelope, mechanical and electrical systems, etc.). These assessments and interactions with supplemental consultant work are used as a primary source in identifying the repair, rehabilitation, and/or replacement strategies for each asset. Note the facilities condition ratings present the physical condition of the buildings and are not a representation of the functionality required to satisfy RBC Place service delivery (i.e. size, location, ability to accommodate certain types of functions, etc.).

The current condition assessment identifies that 99% of facility assets are in Good condition. In the context of event management service delivery, such a material amount of facility assets in Good condition is indicative of satisfactory performance, noting lifecycle reinvestments in medium term to longer term are still required. As mentioned earlier, pressures do exist and are reflected in multiyear budget requests and further described in Sections 3.3 and 3.4. In addition, there are industry best practices to consider in maintaining an asset three quarters through its expected useful life, and thrives on a modern, adaptable, and tasteful aesthetic. Specific facility conditions of note are the elevators, which are in Poor condition and require immediate reinvestments.

Furniture and Equipment

All assets are Fair and above condition, however there is a greater condition distribution, as shown with 6% of assets listed as Fair and 61% as Good. Given these assets are more than halfway through the typical lifecycle of 20 years suggests

reinvestment is required in the short to medium term (i.e. reinvestments occurring over the next 10 years).

Culinary Assets

Nearly all assets are Fair and above condition, however there is a greater condition distribution, as shown with 20% of assets listed as Fair. This suggests reinvestment is required in the short to medium term.

Information Technology

100% of IT assets are in Very Good condition. IT asset conditions were evaluated based on internal expert opinion and industry standards. Performance and condition concerns of IT assets are captured on a proactive basis through problems reported by staff and the nature of event management would quickly identify any issues with IT infrastructure.

3.2: Levels of Service

Asset management LOS link strategic plans and budget service delivery objectives to corresponding asset performance metrics. As such this AMP strives for LOS performance measures linked to:

- 2023 RBC Place Strategic Plan,
- 2023-2027 City of London Strategic Plan, and
- 2023 Annual Budget Update.

These LOS foundations guide the establishment of customer service deliver values (herein referred to as "customer values"), which in turn guide the development of overarching AMP LOS objectives. Informed by these objectives, RBC Place and CAM staff collaborate to formulate effective metrics that can be linked to asset performance. Table 3.3 lists the LOS customer value definitions created through this development process.

The selection and development of meaningful LOS linked to decision making and cost, requires a long-term continuous improvement methodology. Thus, the LOS used in the 2024 RBC Place AMP are focused on traditional asset management metrics like reinvestment rate and condition. Continuous effort will be made towards expanding costed LOS as part of future RBC Place AMP development processes and practices.

Table 3.3 Customer Values Definition

Customer Value	Corporate Definition and Descriptions
Accessible	Service is accessible by the community, not exclusive, it is inclusive to those who wish to/may use the service to the greatest extent possible, regardless of age, ability, etc. Includes metrics related to asset accessibility and legislated requirements. For example, *Accessibility for Ontarians with Disabilities Act* (AODA).
Cost Efficiency	Presents service area budgets, and where possible measures financial performance in terms of providing the maximum service outcomes (more output for less cost) out of the available operating and capital budgets. Examples include annual cost to provide the service, asset lifecycle budget as a percentage of current replacement value.
Environmental Stewardship	Service is provided in a means that considers, controls, or reduces impacts to the environment. Includes metrics related to the assessment of service provision based on environmental stewardship and sustainability practices. Examples include annual monitoring of utility usage by square footage of facility spare, or fuel consumption-based greenhouse gas emissions.
Reliability	Service is fit for its purpose. Includes metrics related to the reliability of services such as condition of assets.
Safety	As best as possible, the service safeguards against known dangers and risks. Covers performance assessments of services related to safety and compliancy with legislation, codes, and/or internal policies/practices. Includes metrics regulated/legislated by a governing body (Federal or Provincial governments, etc.) related to the specific service or asset. Examples include percentage of legislated Ministry of Transportation (MTO) safety inspections met, percentage of facility components annually inspected, etc.

Direct and Related LOS

Selected LOS metrics are organized in a hierarchical manner. Direct LOS metrics are the primary benchmarks. These can readily determine the cost to maintain current LOS and achieve proposed LOS. Next are the related LOS metrics, which are closely tied to the direct LOS metrics but in some cases cannot be readily costed. After review with RBC Place staff, direct LOS considered most representative of asset-based services and able to be costed over a 10-year projected period (2023-2032) are documented as in Table 3.4, and the support related LOS are documented in Table 3.5.

3.2.1: Direct Levels of Service

Table 3.4 Direct Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance	Proposed Target (2022 to 2031)
Cost Efficiency	Technical	Overall reinvestment rate	0.7%	2.5%
Environmental Stewardship	Technical	Annual electric energy consumption kilowatt-hour per square foot	8.71 kWH/sf	Positive Downwards
		Annual natural gas consumption cubic meters per square foot	0.14 m3/sf	Positive Downwards
		Annual water consumption cubic meters per square foot	0.13 m3/sf	Positive Downwards
		Reduce energy consumption at RBC Place London	Disclosures will begin in 2023 to align with 2023-2027 City of London Strategic Plan	15%
Reliability	Customer	Percentage of RBC Place assets in Fair or better condition	99.9%	Maintain current

3.2.2: Related Levels of Service

Table 3.5 Related Levels of Service

Customer Value	Focus	Service Performance Measure	2022 Performance
Reliability	Customer	Percentage of Facilities in Fair or better condition	100.0%
		Percentage of Furniture and Equipment assets in Fair or better condition	100.0%
		Percentage of Culinary assets in Fair or better condition	99.1%
		Percentage of IT Equipment in Fair or better condition	100.0%

3.3: Asset Lifecycle Management

3.3.1: Asset Lifecycle Management Activities

The asset lifecycle management activities are the range of actions funded through the operating and capital budgets that are practiced on the assets. Asset lifecycle activities are generally grouped into the categories shown in Table 3.6.

Table 3.6 Definitions for Lifecycle Activities

Activities	Description
Non-Infrastructure Solutions	Actions or policies that can lower costs or extend useful lives.
Maintenance	Including regularly scheduled inspection and maintenance or more significant repairs and activities associated with unexpected events.
Renewal/Rehab	Significant repairs designed to extend the life of the asset.
Replacement/Construction	Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehab is no longer an option.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the municipality.
Service Improvement	Planned activities to improve an asset's capacity, quality, and system reliability.
Growth	Planned activities required to extend services to previously unserved areas – or expand services to meet growth demands.

3.3.2: Asset Lifecycle Management Strategy

RBC Place employs a combination of lifecycle management activities to maintain current LOS while striving to optimize costs based on defined risks. This strategy includes activities for maintenance, rehabilitation, replacement, disposal, and regular investments in strategic plan priorities, while continuing to prepare for introducing service improvements.

When feasible, RBC Place also strives to further optimize these lifecycle activities by coordinating and synchronizing work across multiple assets or asset categories, which can result in cost and service efficiencies. Additionally, with significant asset investments, RBC Place seeks to optimize asset use and redundant capacity, often achieved through risk benefit cost analyses and cost effectiveness analyses.

This strategy is not static. Selected lifecycle activities are reviewed and modified based on continual industry benchmarking, staff training, professional networking, service reviews (including customer reviews), consultant recommendations, and trial and error through scenarios and pilot programs. RBC Place is also committed to climate change adaptation and mitigation planning through Sustainable Tourism 2030 Pledge, and strategic planning exercises, which may trigger asset investment needs.

Table 3.7 lists specific asset management practices or planned actions RBC Place conducts for each lifecycle activity associated with the convention facility and other RBC Place assets such as furniture and equipment, culinary, and IT equipment.

Table 3.8 lists specific risks associated with asset management practices or planned actions by lifecycle activity for all asset types.

Table 3.7 Current Asset Management Practices or Planned Actions

Activity	Corporate Definition and Descriptions
Non-Infrastructure Solutions	**Facility** • Facilities are maintained and renewed through a specialized Facilities Team and their use of VFA software (supplied through Gordian) and other facilities management applications, which combined with comprehensive condition assessments and Facilities Team experience, determines the lifecycle management needs of a facility. • Needs include the direct care of the building envelope, mechanical and electrical systems, etc. **Other RBC Place Assets** • Various controls and approval processes to safeguard assets. • Financial planning strategies to control costs. • Ongoing use and development of computerized maintenance management system. • Updating and applying design standards. • Ongoing search for additional funding. • Operational continuous improvements. • Improvements to employee capabilities, communications, training, etc. • Changes to current and proposed LOS. • Developing asset management program. • Leadership networks with peers through conferences and committees to learn from other's experiences.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure. • Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no benefits.
Renewal/ Rehabilitation	**Facility** • Facilities are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition assessments, the expertise of Facilities Team, and computer software programs used, determine the majority of the cost and timing of renewal requirements. **Other RBC Place Assets** • Adopt the latest technology that maintains the current LOS.
Replacement/ Construction	**Facility** • Facilities are regularly evaluated through comprehensive condition assessments, which establish and update an industry-standard Facility Condition Index (FCI) score that accurately reflects the overall condition of the facilities (splits into components of building envelope, mechanical and electrical systems, etc.). These condition

Activity	Corporate Definition and Descriptions
	assessments, the expertise of Facilities Team, and computer software programs used, determine the majority of cost and timing of replacement requirements. **Other RBC Place Assets** • Adopt the latest technology that maintains the current LOS.
Disposal	**Facility and Other RBC Place Assets** • Appropriate and proper disposal occur when assets are replaced or renewed. • Dispose of assets under the applicable regulation and environmental standards.
Service Improvement	**Facility** • Consultation with community partners and users of facilities determines service improvement needs. **Other RBC Place Assets** • Based on strategic service review results, implement service deliver changes that improve asset performance, cost, and risk. • Adopt the latest technology that enhances current or achieves proposed LOS.
Growth	• Continuously monitor the impacts of growth on service delivery and participate in Assessment Growth Policy process to secure appropriate levels of growth asset funding (when applicable).

Table 3.8 Risks Associated with Asset Management Practices or Planned Actions

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
Non-Infrastructure Solutions	• Lack of a realization of the benefit from the activity (i.e., the life is not extended or the cost of managing an asset increases rather than decreases). • Lowers the costs of existing operations and may provide additional capacity but does not extend the service life of assets. • Need for revised plans, reports, and recommendations. • Inadequate funding. • Poor quality asset information and planning assumptions incorrect. • Regulatory requirements/standards criteria change or do not exist. • Economic fluctuations, inflation, downturns, and use reduction/increases. • Occurrence of climate change, adverse weather/unforeseen events, and emergencies, resulting in funds being diverted to other assets or purposes that were not originally planned. • Service provision changes. • Extending useful life past optimum can increase the risk of critical failure of major components. • Assets beyond optimum life have reduced salvage/remarketing value or have greater maintenance costs.
Maintenance	• Completing planned maintenance activities while managing the need to execute reactive maintenance activities. • Incorrectly planned maintenance activities can lead to premature asset failure.

Activity	Specific Risks Associated with Asset Management Practices or Planned Actions
	• Enough resources available to complete a series of unplanned, urgent work requests that are submitted in close succession. • Overscheduling preventative maintenance can lead to excessive maintenance and additional costs with no benefits.
Renewal/ Rehabilitation	• Incorrect assumptions regarding improved expected useful life after rehabilitation.
Replacement/ Construction	• Cost over-runs during large, complex design and construction projects. • Minimizing service and repairs at end of life increases the chance of failures.
Disposal	• Disposal incorrectly performed or cost overruns resulting from increase disposal requirements compared to initial estimates. • Timing for replacements has an operational impact. Delaying or holding inventory requires storage and can adversely affect the function and value of the retiring asset.
Service Improvement	• Service improvement is either not required or incorrectly assessed.
Growth	• Incorrect growth assessments may result in overabundance or underabundance of assets. • Risk of insufficient or excess funding to construct/acquire or maintain new assets. • Potential insufficient knowledge of and supporting policies for new asset types.

General Approach

The general approach to forecasting the cost of the lifecycle activities that are required to maintain the current performance of the LOS metrics is to ensure that the proportion of assets in Fair or better condition remains relatively stable. Staff then consider the optimal blend of each lifecycle activity to achieve the lowest lifecycle cost management strategy that balances costs with the forecasted change in the condition profile of each asset type. Using this methodology, three different lifecycle management scenarios and their associated funding requirements are presented. Each scenario lists the operating, renewal (inclusive of replacement, rehabilitation, and disposal), service improvement, and growth funding requirements.

These scenarios are defined as:

1. Planned Funding Scenario – Presents the budget constrained to 2023 annual budget update.
2. Maintain Current LOS Scenario – Forecasts the level of investment required to maintain current LOS performance.
3. Achieve Proposed LOS Scenario – Forecasts the level of investment required to achieve proposed LOS. The approach considers the desired LOS documented in RBC Place's strategic plans.

The Forecasted Infrastructure Gap and Financing Strategy section provides an overview of the results along with the short- and long-term financing strategies that will be used to manage the gap. Each scenario is further explained in the following sections.

Scenario One: Planned Funding

The RBC Place average annual activity and planned funding is summarized in Table 3.9. This scenario presents the budget constrained to the current level of planned expenditures. If there is insufficient budget in any particular year to complete a rehabilitation or replacement activity on an asset that has reached its expected useful life age trigger, then the asset remains in a Poor or Very Poor condition state until there is sufficient budget in a future year to complete the lifecycle activity.

Average annual activity for operating and capital budgets are presented as the average expenditure budget from the 2021 and 2022 fiscal years. Planned funding operating budget is equal to the 2023 fiscal year budget. Planned funding capital budgets (e.g., renewal, service improvement, and growth) are the annual average of the approved 10-year capital plan for 2023-2032. Growth activities are analyzed using the 2021 Development Charges Background Study Update. Thus, no growth projects are identified.

Table 3.9 Scenario One – Average Annual Planned Budget ($Thousands)

Activity Type	Average Annual Activity for 2021 and 2022	Planned Funding
Operating	1,088	678
Renewal, Replacement, Rehabilitation, Disposal	1,128	787
Service Improvement	None Identified	None Identified
Growth	None Identified	None Identified

A. Scenario Two: Maintain Current LOS

The cost to maintain current LOS are summarized in Table 3.10. This approach forecasts the lifecycle activities that are required to maintain the current performance of the LOS metrics. The analysis considers the current age and condition of assets along with the expected useful life age triggers for rehabilitation and replacement activities to forecast the funding requirements into the future. The forecasted condition profile expected from the maintain current LOS is not readily available.

Based on this analysis, Table 3.10 identifies a 10-year infrastructure gap of $11.6 million if RBC Place is to maintain current LOS.

Table 3.10 Scenario Two - Average Annual Cost to Maintain Current LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Maintain Current LOS Infrastructure Gap
Operating Budget	678	None identified	678	None identified
Renewal, Replacement, Rehabilitation, Disposal	787	115	2,058	1,156
Service Improvement	None Identified	None Identified	None identified	None identified
Growth Activities	None Identified	None identified	None identified	None identified

B. Scenario Three: Achieve Proposed LOS

The cost to achieve proposed LOS are summarized in Table 3.11. This scenario forecasts the enhanced lifecycle and service improvement activities that are required to achieve the proposed LOS. The condition profiles from this analysis are not readily available. However, RBC Place work through the 2024-2027 MYB resulted in Business Case #P-74 – Elevators – RBC Place London. The summary purpose of the case is to illustrate RBC Place cannot operate as an entity without properly functioning elevators.

Table 3.11 forecasts a 10-year infrastructure gap of approximately $13.6 million if RBC Place is to achieve proposed LOS.

Table 3.11 Scenario Three - Average Annual Cost to Achieve Proposed LOS ($Thousands)

Activity Type	Planned Funding	Additional Reserve Fund Drawdown	Cost to Maintain Current LOS	Incremental Cost to Achieve Proposed LOS[2]	Achieve Proposed LOS Infrastructure Gap[3]
Operating Budget	678	None identified	678	None identified	None identified
Renewal, Replacement, Rehabilitation, Disposal	787	115	2,058	200	1,356
Service Improvement	None identified	None identified	None identified	None identified	None identified
Growth Activities	None identified	None identified	None identified	None identified	None identified

[2]Incremental investment to achieve proposed LOS based on 2024-2027 MYB business cases 74.
[3]Infrastructure gap to achieve proposed LOS is inclusive of maintain current LOS infrastructure gap and incremental investment to achieve proposed LOS.

3.4: Forecasted Infrastructure Gaps and Financing Strategy

3.4.1: Forecasted Infrastructure Gaps

The infrastructure gaps are a dollar amount based on the difference between:

- the amount of money that needs to be spent on RBC Place assets required to provide services, and
- the amount of funding presently identified in budgets and reserve funds over a 10-year period (2023-2032).

In other words, what London plans to spend versus what the assets need. Ideally, the infrastructure gaps decline over time as greater investments are made to replace older infrastructure, to improve the condition of infrastructure and to minimize the risks associated with failing assets and insufficient asset complements.

The RBC Place identified infrastructure gaps are summarized below in Table 3.12 and illustrated in Figure 3.4. Over the 10-year analysis period, the cumulative maintain current LOS and achieve proposed LOS infrastructure gaps are expected to be $11.6 million and $13.6 million, respectively.

The gap to maintain current LOS is 10.75% of RBC Place's $107.6 million infrastructure replacement value. RBC Place facility pressures are the primary contributor to the gap. These needs include rehabilitation and replacement of existing infrastructure systems.

Rehabilitation and replacement investments are based on VFA Facilities Management software, review, and critiquing consultant assessments, and considering industry best practices to maintain the facility's current condition.

Additional maintain current LOS pressures of note include maintaining investment for Furniture and Equipment, and Culinary assets to ensure RBC Place can continue providing world-class amenities to the varied events.

The incremental gap to achieve proposed LOS is 1.9% of RBC Place's infrastructure replacement value (combined gaps represent 12.6% of replacement value). This amount represents investments in elevators to ensure RBC Place continues operating as a viable knowledge transfer and social engagement centre.

Funding to achieve proposed LOS were brought forward for funding as part of the 2024-2027 MYB. Thus, future updates to this AMP may present reduced infrastructure gaps.

Table 3.12 Average Annual Budget and Gap Analysis ($Thousands)

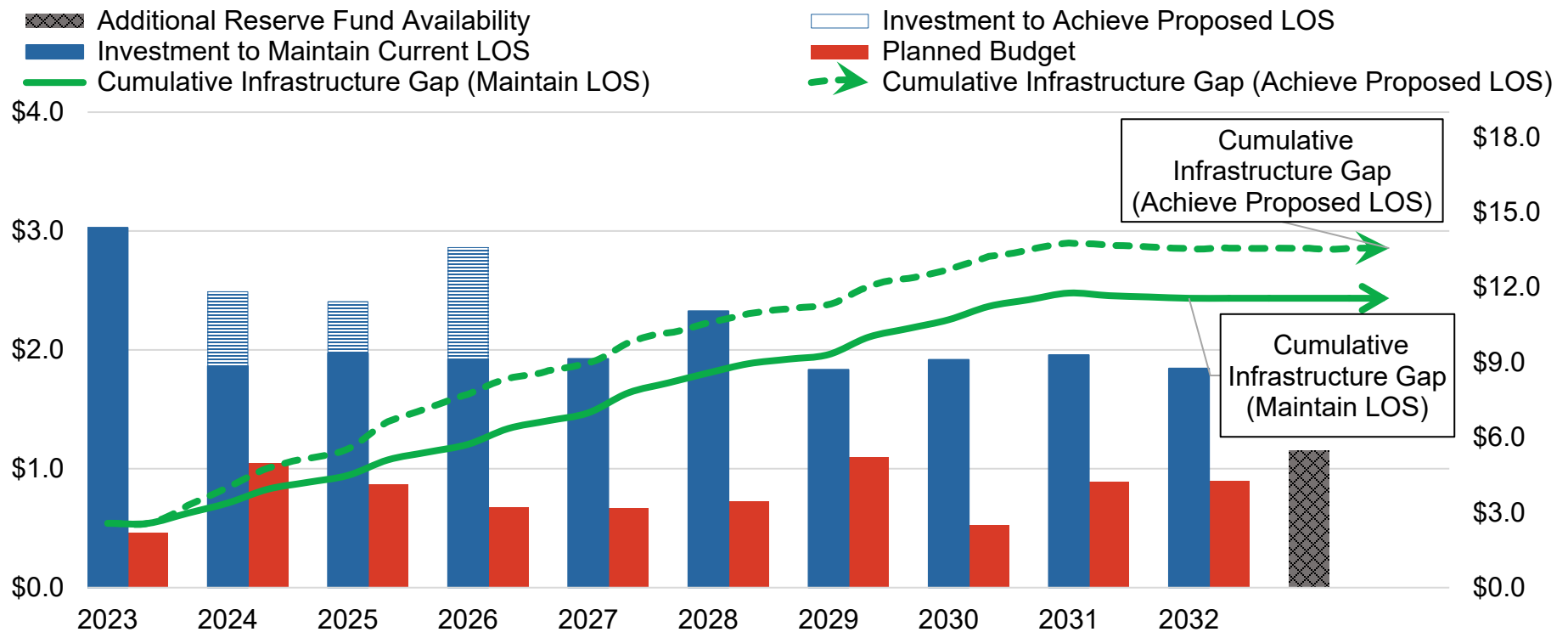| Asset Type	Planned Funding	Reserve Fund Availability	Investment to Maintain Current LOS	Incremental Investment to Achieve Proposed LOS	Infrastructure Gap to Maintain Current LOS	Infrastructure Gap to Achieve Proposed LOS
RBC Place London	786.8	115	2,058	200	1,156	1,356

Figure 3.4 Maintain Current and Achieve Proposed LOS Cumulative Infrastructure Gap (Millions)

3.4.2: Infrastructure Gap Financing Strategy

At present, Canada lacks a defined standard or guidance for assessing the acceptability of municipal infrastructure gaps. Nevertheless, the fundamental objective of asset management is that RBC Place actions are collectively (both financial and non-financial) anticipated to tackle the growth in projected infrastructure gaps.

Typically, the infrastructure gap financing strategies supports this objective by setting out the approach to ensuring that appropriate funds are available to support the delivery of infrastructure dependent services. This is done by completing the AMP well in advance of the multi-year budgeting process so that its results help inform the requested operating and capital

budgets. However, due to lagging impacts of the pandemic, the AMPs for all the City's agencies, boards, and commissions were delayed post 2024-2027 MYB development. As such this infrastructure gap financing strategy does not present alternative financing options. In lieu of alternative financing strategies, in 2025 this AMP will be updated and reported to Board and Council based on the approved 2024-2027 MYB and 2025 annual budget update.

3.5:   Discussion

3.5.1: Lifecycle Management Scenarios

The lifecycle management section included three scenarios – planned budget, maintain current LOS, and achieve proposed LOS.

Scenario One planned budget is identified to have constraints on RBC Place's capacity to effectively maintain infrastructure. This leads to an expectation of asset condition deterioration. This decline might not be immediate but, over time, it becomes more visible to the public and causing operating problems, increasing the operating and maintenance costs, and potentially leading to higher repair or replacement costs in the future.

Scenario Two maintain current LOS funding is greater than what is currently allocated, illustrating the financial strain of maintaining a healthy asset portfolio and RBC Place services. This scenario acknowledges the need for continual investment in assets to maintain their current state.

Scenario Three achieve proposed LOS represents improvements aligning with facility needs. This level of funding is greater than both the planned budget and the one needed to maintain current LOS. The advantages of this approach are the continued operation of RBC Place with functional elevators, enhancement of asset conditions, and potential long term cost savings.

These three scenarios result in different LOS depending on the funding provided for asset lifecycle renewal and service improvement actions. Thus, the choices made will have an implication for asset condition and RBC Place operational effectiveness.

3.5.2: Current and Future Challenges

General

RBC Place faces a dynamic collection of opportunities and challenges that impact service delivery and infrastructure. For example, some of these conditions and trends include:

- Economic (e.g., budget pressures/inflation, post pandemic industry recovery)
- Organizational (e.g., recruitment and retention of staff, continued quest/community engagement and partnerships)
- Technology (e.g. digital strategy to support hybrid meetings and Wi-Fi connections)
- Political/Legal (e.g., multi-tier governmental and business partnerships)
- Environmental (e.g., sustainability, climate change)

To help navigate these factors the RBC Place 2024 Strategic Plan provides a framework for the development of proactive, leading-edge strategies designed to ensure the changing needs of guests and partners are supported through meaningful engagement and collaboration, investment in our people and infrastructure, and effective and efficient service delivery.

The following commentary summarizes the main current and future challenges impacting infrastructure needs and costs.

Pandemic Disruption and Inflation

Pandemic disruption greatly impacted RBC Place and the live events industry. RBC Place was closed much of 2020 through August 2021. As we emerge from the pandemic, inflationary pressures beyond those accounted for within the 2020-2023 MYB and associated 10-year capital plans started developing in 2021 and continued throughout 2022 and into 2023 due to COVID-19 induced supply chain disruptions and supply-demand imbalances. As of 2023, these higher input costs have been incorporated into the 2024 RBC Place AMP and are a material

component of the infrastructure replacement values and 10-year infrastructure gaps reported. These capital financing pressures represent a significant risk to the condition and LOS associated with RBC Place infrastructure assets.

Technology

Hybrid meetings with guests live streaming, along with Wi-Fi connections for in-person guests, are a mainstay in event management. Monitoring and enhancing technology to ensure best in class onsite connection is a continuous pressure.

Climate Change

In 2019, London City Council declared a climate emergency. RBC Place has also signed the Sustainable Tourism 2030 Pledge[4]. There is a commitment to ensuring current space has sustainable products by diverting waste, measuring carbon footprint, and supporting the community with sustainable policies. It is important to address these challenges thoroughly and promptly if we are to leave a positive legacy for future generations. Future AMP analysis could include facilities energy efficiency and GHG reduction investments (i.e., green for like lifecycle renewal and green service improvement costs) and analyzing energy reduction measures identified in the 2023-2027 Strategic Plan.

Aging Infrastructure

Like most Canadian municipalities, City of London and RBC Place owns and maintains aging infrastructure. In the case of RBC Place, this is materially representative in the facility which is 30-years old. Facilities this age often may require substantial capital investments to maintain their condition and operational functionality within the context of providing a welcoming event environment. This is illustrated in the 2024-2027 MYB Business Case #P-74 for elevator repairs and replacements. RBC Place needs to continuously monitor design aesthetics to assess if modern service delivery needs are being met.

Growth

London is experiencing steady to above average population and employment growth. From a City-wide perspective this growth triggers a surge of City-wide service and asset capacity needs, resulting in a proportional boom in new and/or enhanced infrastructure construction and acquisition. While RBC Place is not listed within the current 2021 Development Charges Background Study, a growing and vibrant city suggests a welcoming environment and destination appeal to host and manage major live events. RBC Place strategies to continue this appeal includes commitment to new and enhanced experiences, such as showcasing London's arts and culture under the 'City of Music' concept.

If RBC Place identifies future infrastructure needs based on the growth of the City, an analysis could be performed to see if the Assessment Growth Policy applies to RBC Place to ensure its long-term capital financing needs are being met.

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[4] https://www.rbcplacelondon.com/news/rbc-place-london-signs-sustainable-tourism-2030-pledge

3.6:   Conclusion

Valued at over $107.6 million, the RBC Place assets are overall in Good condition, indicating that historically there has been sufficient investment in sustaining these assets to maintain the current LOS. However, to maintain current LOS and achieve proposed LOS additional investments are required, with preliminary calculations at approximately $11.6 million and incremental $2.0 million, respectively, over 10-years (2023-

2032). It is also noted that if supply chain issues and rising costs continue, the timely rehabilitation, replacement, and acquisition of RBC Place assets will be in jeopardy and could result in degradation of the services ultimately delivered. Table 3.16 presents the summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates for RBC Place assets.

Table 3.13 Summary of the State of Local Infrastructure, Infrastructure Gap, and Reinvestment Rates (Millions)

Asset Type	Replacement Value	Current Condition	Infrastructure Gap Maintain Current LOS [5]	Infrastructure Gap Achieve Proposed LOS	Current Annual Reinvestment Rate	Recommended Annual Reinvestment Rate [6]
RBC Place London	$107.6	Good	$11.6	$13.6	0.7%	2.1% to 2.5%

Reliability and Accuracy Commentary

Figure 3.5 visually presents RBC Place and CAM staff assessment of AMP data reliability and accuracy. Data reliability and accuracy is rated moderate.
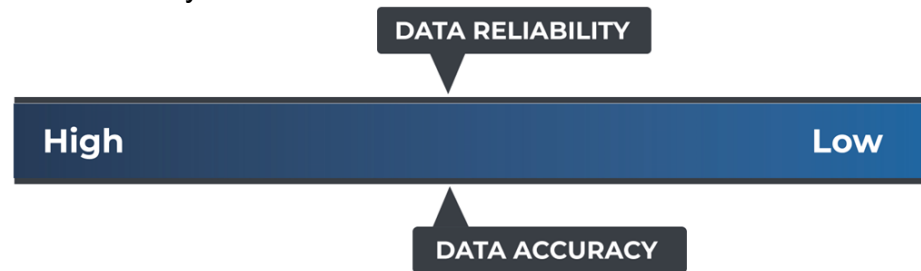

Figure 3.5 Accuracy Reliability Scale

Facility valuation and needs is based on recently updated VFA information and corroborated with Altus standard costing.

However, full implementation of VFA Facilities Management software within Facilities division operations is undergoing a phased approach, which was not complete at the point of AMP completion.

Remaining inventories are an amalgamation of data sources. Majority of valuation, condition, and investment actuals and forecasts are primarily based on expert opinion. Further processes, systems, and controls are required to improve these data sets.

A review of systems and processes that support RBC Place asset registries is recommended over the 2024-2027 MYB and beyond. Such investments will raise the reliability and accuracy of the data. The long-term goal is to have all asset registries within advanced asset management software applications.

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[5] This projected infrastructure gap is reduced by the forecasted reserve fund drawdown availability over the next decade.
[6] Source: Reinvestment rates based on expected useful life and achieve proposed LOS.

Section 4.   Conclusion and Recommendations

4.1: Conclusions

4.1.1: Key Findings

RBC Place infrastructure systems are an integral piece of social engagement services and play a key role in achieving RBC Place 2024-2027 Strategic Plan and the City's 2023-2027 Strategic Plan objectives and goals.

This AMP is a strategic document that describes the state of RBC Place's infrastructure and the approach to managing assets over their lifecycle to maintain current LOS and achieve approved LOS at the lowest lifecycle cost possible. It was produced through extensive efforts of RBC Place and City CAM staff leveraging the City's CAM Policy and Program as well as knowledge gained from the City's 2014, 2019, 2023 CAM Plans. Over time, each successive AMP will play a larger role in informing infrastructure and service decision-making.

The key findings of the AMP are:
- There is $107.6 million worth of infrastructure under the direct ownership of the City and control of the RBC Place team. This infrastructure represents a diverse array of assets including facilities, furniture, and equipment, culinary, and IT equipment.
- The overall condition of RBC Place assets is rated as Good.
- Good condition indicates that the infrastructure shows general signs of deterioration and requires attention, some elements exhibit significant deficiencies.
- Based on the existing RBC Place planned funding, the 10-year maintain current LOS infrastructure gap is approximately $11.6 million and the 10-year achieve proposed LOS infrastructure gap is approximately $13.6 million.

- Through the 2024-2027 MYB a significant portion of this gap was approved for funding by the Board and this budget is currently being deliberated by City of London Council.
- Future AMPs will be brought forward to align with the development of MYBs and will present financing strategies to mitigate remaining infrastructure gaps annual growth while balancing the impact of taxation affordability on the community.

4.1.2: Ontario Regulations 588/17 Compliance

O. Reg 588/17 has a phased approach with two timelines of July 1, 2024, and July 1, 2025, that are applicable to the City's agencies, boards, and commissions (ABCs). The July 1, 2024, timeline is where all City infrastructure assets, including those of ABCs, will have an AMP documenting maintain current LOS and financial strategies to fund these expenditures. The final deadline of July 1, 2025, builds on the July 1, 2024, deadline with the additional requirement to document achieve proposed LOS and financial strategies to fund these expenditures for all types of municipal infrastructure assets.

This AMP is compliant with the July 1, 2024, and July 1, 2025, O.Reg. 588/17 requirements. A detailed reconciliation of this AMP's compliance with the O. Reg. 588/17 requirements is contained in Appendix A. O.Reg.588/17 Asset Management Plan Requirements.

4.2: Recommendations

The City's CAM Program is founded on the principle of continuous improvement with the object of increasing line-of-sight quality of data/information and the tools and techniques that are used to inform services and asset management decision-making. This increased quality will lead to greater

confidence in the analysis documented and decisions formed through the AMP.

Based on these objectives, Table 4.1 recommendations will ensure that this process and AMP continues to help RBC Place manage its $107.6 million asset portfolio to provide affordable and sustainable service delivery and keep compliant with the regulatory requirements. These recommendations are structured to address short- and long-term objectives and are categorized according to distinct asset management knowledge areas, considering the current state, future needs, and overall RBC Place strategic objectives and goals. Short term objectives are those that are recommended for completion over the 2024-2027 MYB period. Long term objectives are those that are recommended for completion beyond the 2024-2027 MYB period. Each of these recommendations will be completed with leading support from the City's CAM staff per the approved asset management service level agreement, and within existing staff, other resources, and budgets.

Table 4.1 2024 RBC Place AMP Recommendations

Category	Improvement Initiative details	Key Benefits	Time Period
Asset Inventory/ Knowledge	Enhance data attributes and data accuracy of existing asset registries (asset inventory databases).	• Provides a sound basis for decision making on the asset base and enables more efficient reporting.	Short Term
	By asset type, develop a standardized methodology for determining asset conditions.	• Enables consistency of asset management practices across RBC Place assets and improves decision-making.	Long Term
Level of Service	Develop more asset related LOS metrics and their performance targets.	• Ensuring the consistent delivery of services at expected standards, thereby aligning operational performance with customer expectations and strategic objectives. • Lifecycle cost saving, better focused investment planning and more informed decision-making.	Long Term
Lifecycle Management and Decision Making	Develop and implement investment strategies for RBC PLACE infrastructure based on asset registries and strategic plans.	• Enables a clear understanding of the investment priorities for each asset type and investment period.	Short Term
	Incorporate and align the AMP into RBC Place strategic planning exercises to better reflect asset and service delivery capability.	• Strategic plans developed on a sound basis reflecting the actual capability of the asset base and required capital investments to achieve desired LOS.	Long Term
	Develop and implement a Maintenance Management Strategy incorporating enhanced maintenance practices.	• Lifecycle cost savings, and productivity and LOS improvements.	Long Term

Category	Improvement Initiative details	Key Benefits	Time Period
Risk Management	Enhance RBC Place asset risk framework in line with the City's CAM Risk Management Strategy.	• Better targeted asset interventions. • Increased ability to sustain service levels.	Long Term
Financial Management	Improve infrastructure funding through appropriate alignment of operating and capital budgets.	• Clarity in financial planning and reporting. • Enhanced investment strategies.	Short Term
	Explore opportunities to address the infrastructure gap through various financing strategies.	• Achieve service and financial sustainability.	Long Term
Systems and Technology	Leveraging either City or RBC Place software solutions, implement centralized asset registry technology.	• Implementation will streamline asset management, enhancing operational efficiency, decision-making accuracy, and compliance.	Long Term
People and Staff	Enhance asset management governance within each RBC Place service area.	• Enhances oversight of asset interventions and reporting.	Long Term
	Add asset management duties in relevant positions job description.	• Proactive identification of staff, skills, and qualifications. • Improved asset management.	Long Term
Monitoring and Reporting	Develop a comprehensive AMP every 4-years aligned with the City's multi-year budget process.	• Informed budget decision-making. • Regulatory compliance.	Short Term
	Annually the progress of this AMP. The annual progress review will address implementation of the recommendations and any factors impeding completion progress.	• Regulatory compliance.	Short Term
	With the support of City CAM staff, when possible incorporate infrastructure related data and public feedback opportunities in existing RBC Place public engagement practices.	• Enhanced adaptability to changing operational environments and community needs. • Improved customer satisfaction and engagement. • Increased efficiency and effectiveness in asset management operations.	Short Term

Appendix A. O.Reg.588/17 Asset Management Plan Requirements

A1. O.Reg.588/17 Asset Management Plan Compliance Reconciliation

Table A1.0.1 O.Reg.588/17 July 1, 2024, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
0	Summary of assets in each category	Sections - #3.1.1
5.(2) 3.	Replacement cost of assets in each category	Sections - #3.1.1
5.(2) 3.	Average age of assets in each category	Sections - #3.1.2
5.(2) 3.	Condition of assets in each category	Sections - #3.1.3
5.(2) 3.	Description of municipality's approach to assessing condition of assets in each category	Sections - #3.1.3
5.(2) 1.	Current levels of service	Sections - #3.2.1 and #3.2.2
5.(2) 2.	Current performance measures of assets in each category based on established metrics	Sections - #3.2.1 and #3.2.2
5.(2) 4.	Lifecycle activities needed to maintain current levels of service for 10 years	Sections - #3.3.2
5.(2) 4.	Costs of providing lifecycle activities needed to maintain current LOS, based on assessment of lifecycle, options, risks, lower cost	Sections - #3.3.3
5.(2) 4.	Link or description of assessment of current LOS lifecycle, options, risks, lower cost	Sections - #3.3.2
5.(2) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for current LOS	Not Applicable
5.(2) 6.i.	For population 25K or more, population and employment forecasts	Not Applicable
5.(2) 6.ii.	For population 25K or more, lower tier in Greater Golden Horseshoe (GGH), Sched 7 or portion of upper tier growth plan forecast, or assumptions	Not Applicable
5.(2) 6.iii.	For population 25K or more, upper/single tier outside GGH, population and employment forecasts, or assumptions	See City of London 2023 CAM Plan[7]
5.(2) 6.iv.	For population 25K or more, lower tier outside GGH, portion of upper tier growth plan forecast	Not Applicable
5.(2) 6.vi.	For population 25K or more, capital, and significant operating costs for each of 10 years, to maintain LOS to accommodate increase in demand cause by growth	Sections - #3.3.3
7.(1)	Date of review and update of AMP - within 5 years	Include once finalized
8.	Endorsement of AMP by executive lead	Include once finalized
8.	Approval of AMP by municipal Council resolution	Include once finalized
9.(1)	Date of municipal Council review of AM progress - before July 1, every year	Include once finalized
9.(2)	Annual municipal Council review includes progress, factors impeding implementation, strategy to address factors	Include once finalized
10	Website availability of policy and AMP, copy provided if requested	Include once finalized

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[7] https://london.ca/sites/default/files/2023-10/Corporate%20Asset%20Management%20Plan%202023.pdf

Table A1.0.2 O.Reg.588/17 July 1, 2025, Requirements

O.Reg.588/17 Section	Requirement	Mapping to AMP
6.(1) 1.	Proposed levels of service for each of 10 years	Sections - #3.2.1
6.(1) 2.	Explanation of why proposed LOS are appropriate, based on options, delta, achievability, affordability	Sections - #3.3
6.(1) 2.	Link or description of assessment of proposed LOS options, delta, achievability, affordability	Sections - #3.3
6.(1) 3.	Proposed performance measures of assets based on metrics established by the municipality (e.g., measures for energy usage, operating efficiency, etc.)	Sections - #3.2
6.(1) 4.	Lifecycle management strategy: Identification of lifecycle activities needed to provide proposed levels of service for a 10-year period, based on assessment of full lifecycle, options, risks, lowest cost	Sections - #3.3.3
6.(1) 4. i.	Link or description of assessment of proposed LOS lifecycle, options, risks, lower cost	Sections - #3.3.3
6.(1) 4. ii.	An estimate of annual costs for undertaking identified lifecycle activities over a 10-year period.	Sections - #3.3.3
6.(1) 4. iii.	Projections for annual funding to be available to undertake identified lifecycle activities over a 10-year period	Sections - #3.3.3
6.(1) 4. iii.	Explanation of the options examined to maximize the funding projected to be available	Sections - #3.3.3 and #3.4.1
6.(1) 4. iv.	Identification of funding shortfalls for lifecycle activities over a 10-year period	Sections - #3.4.1
6.(1) 4. iv.	Identification of lifecycle activities that will be undertaken if there is a shortfall	Sections - #3.3.3
6.(1) 4. iv.	Explanation of how risks associated with not undertaking any of the lifecycle activities will be managed.	Sections - #3.3.3
6.(1) 5.	For population <25K, description of population or economic forecast assumptions, and how these connect to lifecycle cost projections for proposed LOS	Not Applicable
6.(1) 6.	For population 25K or more, capital, and significant operating costs for each of 10 years, to achieve proposed LOS to accommodate increase in demand caused by growth	Sections - #3.3.3
6.(1) 6. ii.	For population 25K or more, funding projected to be available, by source, due to growth	Sections - #3.3.3
6.(1) 6. iii.	For population 25K or more, overview of the risks associated with implementation of the AMP	Sections - #3.5
6.(1) 7.	Explanation of other key assumptions	Sections - #2.4

Glossary

Definitions

Achieve Proposed Levels of Service: is defined as the strategic initiatives undertaken by an organization to modify its service levels represented in a new proposed standard of service provision. This could involve modifying the condition, scope, or accessibility of the services beyond their current levels, based on strategic goals (e.g., Regulation Requirements, Master Plans or Strategic Plan Targets). The achievement of these proposed service levels may require changes in frequency and/or scope of asset lifecycle activities.

Asset: Non-financial assets having physical substance that are acquired, constructed, or developed and:

- are held for use in the production or supply of goods and services for rental to others, for administrative purposes or for the development, construction, maintenance, or repair of other tangible assets;
- have useful economic lives extending beyond an accounting period of one year;
- are to be used on a continuing basis; and
- are not for resale in the ordinary course of operations.

For the RBC Place London, capital assets have the following characteristics:

- Beneficial ownership and control clearly rests with RBC Place London, and
- The asset is utilized to achieve RBC Place London plans, objectives, and services with the intention of being used on a continuous basis and is not intended for sale in the ordinary course of business.

Asset Management: is an integrated approach, involving all organization departments, to effectively manage existing and new assets to deliver services to customers. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

AMP: The RBC Place London Asset Management Plan which combines multi-disciplinary management techniques (technical and financial) over the life cycle of infrastructure assets to provide a specific level of service in the most cost-effective manner and manage risks associated with municipal infrastructure assets. This typically includes plans to invest, design, construct, acquire, operate, maintain, renew, replace, and decommission assets.

CAM Program: A set of interrelated or interacting components of the City and its agencies, boards, and commissions that establishes asset management policies and objectives and the processes needed to achieve those objectives. An asset management program also includes the organization structure, roles, responsibilities, business processes, plans, and operations of asset management practices.

Capitalization Threshold: The threshold represents the minimum cost an individual asset must have before it is to be recorded as a capital asset on the statement of financial position.

City: The Corporation of the City of London.

Consequence of Failure: A measure of the direct and indirect impacts on the city in the event of an asset failure.

Core Municipal Infrastructure Asset: Defined by O.Reg 588/17, any municipal infrastructure asset that is a, Water asset that relates to the collection, production, treatment, storage,

supply or distribution of drinking water; Wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater; Stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater; Road; or Bridge or culvert.

Critical Asset: An asset for which the financial, business, or service level consequences of failure are sufficiently severe to justify proactive inspection, rehabilitation, or replacement, and is considered a municipal infrastructure asset.

Customer: Any person or entity who from the municipal infrastructure asset or service, is affected by it or has an interest in it either now or in the future.

Direct Levels of Service: Levels of service that are most representative of a municipal service and can be costed over a 10-year projected period.

Green Infrastructure Asset: Defined by O.Reg. 588/17, means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.

Infrastructure Asset: All or part of physical structures and associated facilities that form the foundation of development, and by or through which a public service is provided to the city, such as highways, bridges, bicycle paths, drinking water systems, social housing, hospitals, courthouses, and schools, as well as any other thing by or through which a public service is provided to the city.

Maintain Current Levels of Service: is defined as the persistent efforts of an organization to manage its assets through comprehensive lifecycle activities and effectively allocating necessary financial resources with the aim of consistently delivering its services at the current established service levels.

Metrics: Information than supplements levels of service (whether direct, related, or required under Ontario Regulation 588/17). Considered useful but a lagging indicator, meaning they do not readily provide strategic insight or can be easily costed to a municipal service.

Municipal Infrastructure Asset: An infrastructure asset (core and non-core municipal infrastructure assets), including a green infrastructure asset, directly owned by a municipality, or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board.

Public: Residential, commercial, industrial, and institutional partners, and any other party that rely on municipal infrastructure assets.

Related Levels of Service: Levels of service that have a causal relationship with direct levels of service but cannot be easily costed over 10-year projected period.

Replacement Value: The cost RBC Place would incur to completely replace a municipal infrastructure asset, at a selected point in time, at which a similar level of service would be provided. This definition can also be referred to as 'Replacement Cost'.

Tangible Capital Assets (TCA): A legislative reporting requirement specified by Section PS 3150 in the Public Sector

Accounting Board Handbook to identify asset inventories, additions, disposals, and amortization on an annual basis.

Acronyms

ABC: Agencies, Boards, and Commissions

AMP: Asset Management Plan

AODA: Accessibility for Ontarians with Disabilities Act

CAM: Corporate Asset Management

CAM Plan: Corporate Asset Management Plan

CEAP: Climate Emergency Action Plan

DC: Development Charges

FCI: Facilities Condition Index

GHG: Green House Gases

IT: Information Technology

kWH/sf: Kilowatt hours per square foot

LCR: Lifecycle Renewal

RBC Place: RBC Place London

Board: RBC Place London's Board of Directors

LOS: Levels of Service

MESL: Maintain Existing Service Levels

m3/sf: Cubic Meters per Square Foot

MYB: Multi-Year Budget

O. Reg.: Ontario Regulation

RF: Reserve Fund

RV: Replacement Value

TCA: Tangible Capital Asset

VFA: Facilities Management Software

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