

# 2022

## CORPORATE ASSET MANAGEMENT PLAN MUNICIPALITY OF BRIGHTON



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# Executive Summary

## Introduction

The Municipality of Brighton provides a range of services to its residents and businesses, including transportation services on local roads, sidewalks and trails; water and wastewater services; stormwater management; parks and recreation; fire protection; and municipal administration services, such as by-law enforcement and development planning.

To deliver these services, the Municipality relies on \$416.4 million of infrastructure assets, including 234 km of roadways, 40 bridges and culverts, 36 km of sidewalks and trails, 159 km of underground pipes, 6.34 hectares of parks, 20 buildings, and 48 vehicles. This Asset Management (AM) Plan describes the actions required to manage this portfolio of assets in a way that supports established service levels, while managing risks and costs. The 2022 AM Plan focuses on the 10-year period from 2022 to 2031. This AM Plan fulfils the year 2022 and 2024 requirements of Ontario Regulation (O.Reg.) 588/17 Asset Management Planning for Municipal Infrastructure.

In accordance with the requirements of O.Reg. 588/17, this AM Plan is publicly available on the Municipality's web site, along with its related background documents, such as condition assessments.

## State of the Infrastructure

As shown in Figure ES-1, 69% (\$245 million) of the Municipality's assets are in Fair condition or better, while 26% of assets are in Poor or Very Poor condition. The condition distribution is presented by service in Figure ES-2. The Figure shows that assets in Very Poor condition are primarily in the Transportation, Stormwater, Wastewater and Fire Service. Those assets include 2.55 km (centreline) of roads (mostly paved), four (4) culverts, 386 m of clay stormwater pipe, and various components at the Harbour St. Sewage Pump Station (SPS) and the Water Pollution Control Plant (WPCP). In addition, two emergency fire vehicles are in Very Poor condition, and the self-contained breathing apparatus (SCBA) units, extraction jaws have reached end-of-life, along with the roof, driers and generator at Fire Station #1 (South).

Figure ES-1: Condition Overview – All Services

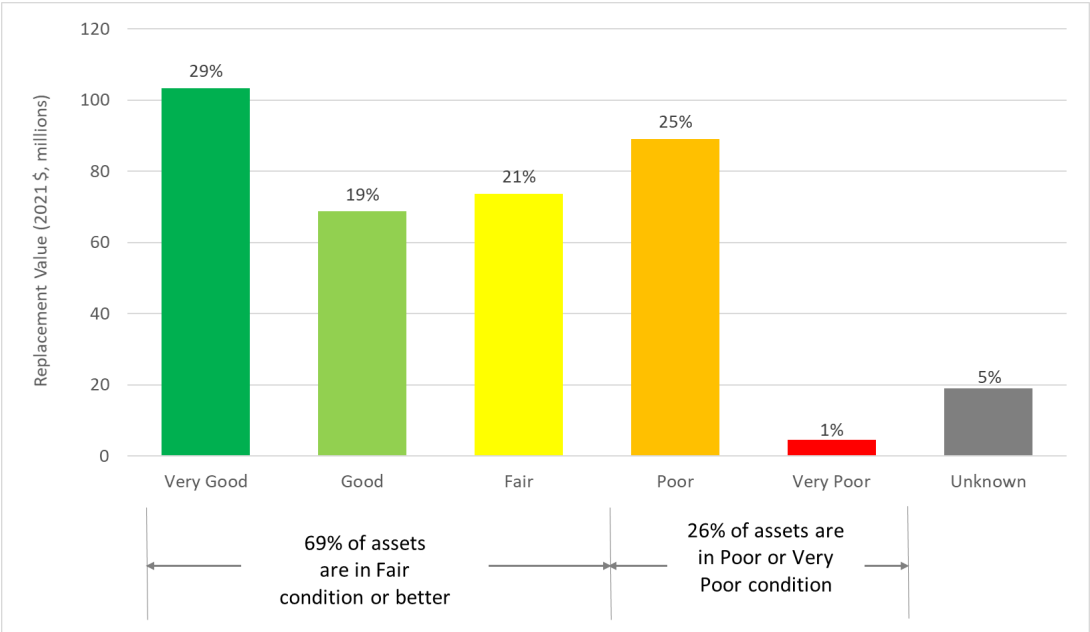
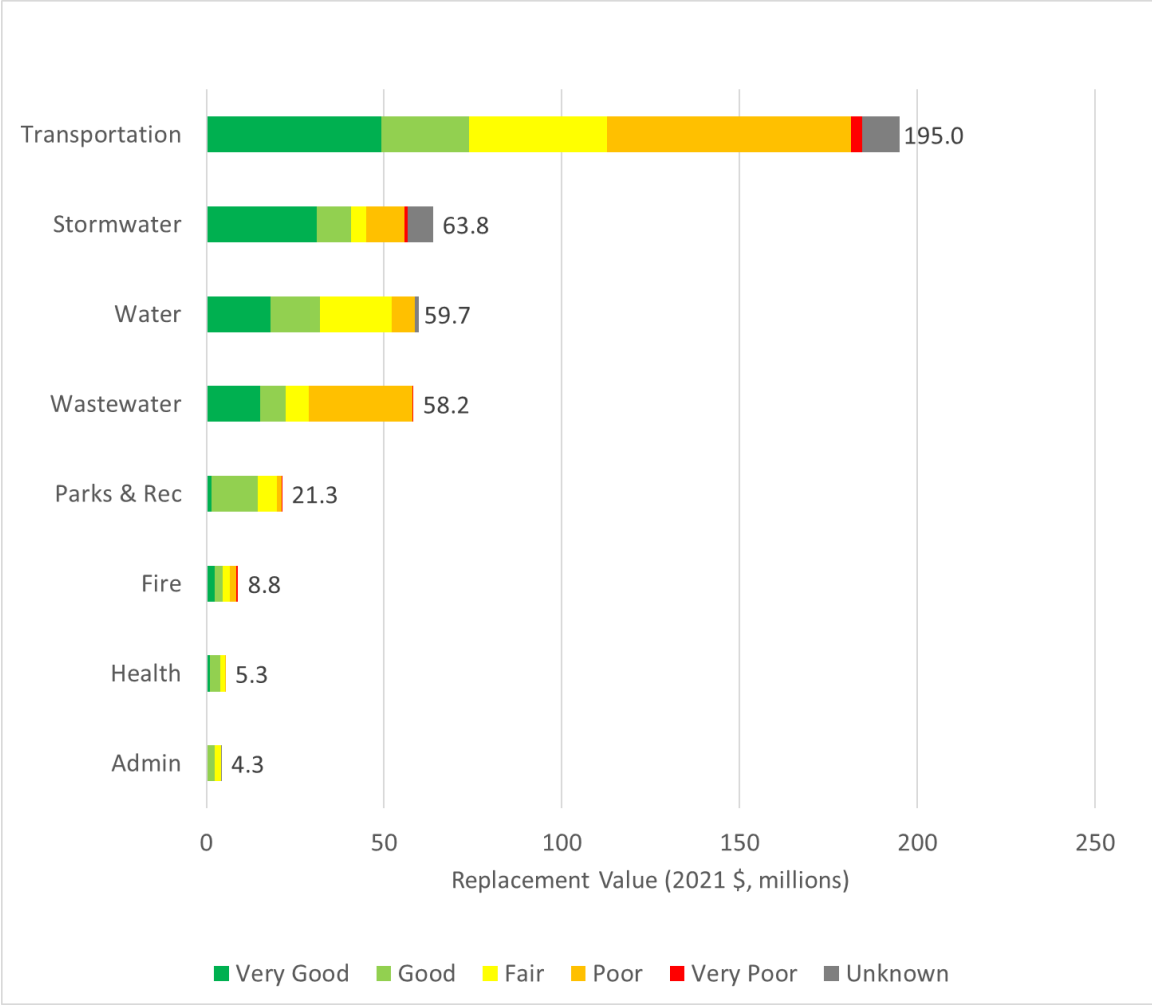


Figure ES-2: Condition Distribution by Service



Levels of Service

Formal targets were not set for most metrics for this iteration of the AM Plan. Instead, performance was reported, and will be monitored to support future target-setting. O.Reg. 588/17 requires proposed targets to be reported in the AM Plans for all services by July 1, 2025.

Key findings from the reported Level of Service (LOS) metrics were as follows:

- For Transportation Service:
  - Average road condition ranges from Good to Very Good. Paved roads have an average Pavement Condition Index (PCI) of 74.7 (Very Good), Surface Treated roads have an average PCI of 61.3 (Good) and Gravel roads have an average PCI of 58.4 (Good).
  - Load restrictions suggest that there is need to renew Monck St. bridge and Lord Rd. bridge
- For Stormwater Service:
  - 84.2% of 6,596 parcels are resilient to a 100-year storm

- The 2019 Stormwater Master Plan Master Plan (MP) reported on pipes and ponds that are resilient to a 5-year storm. For a future AM Plan, resiliency data should be merged into the asset inventory to enable calculation of percentage of assets (by replacement value) resilient to a 5-year storm. This performance metric is required by O.Reg. 588/17.
- For Water Service:
  - There were no boil water advisories during the previous three years (2018-2020).
  - There were four watermain breaks 2019-20, all along an 850m segment of Main St. west of Ontario St. This indicates a need for replacement.
- For Wastewater Service:
  - The system has exceeded Total Ammonia Nitrogen (TAN) limits 4, 5 and 3 months out of 12 for the years 2018 to 2020, respectively. The Municipality is aware of the issue, and is working on a design for Lagoon upgrades to address these exceedances and to provide for future treatment capacity.
  - There were two (2) sewer backup incidents in 2020, resulting in a total of 10 connection-hours lost. Sewer backups will continue to be monitored and tracked.
- For Fire Service:
  - In 2020, the Fire Service met dispatch and response time targets, but did not meet chute time target (time when a call is dispatched until the time an emergency vehicle begins continuous travel to a call). The slow chute time is likely affected by the time required for volunteer fire fighters to arrive at the station.
  - All equipment meet NFPA standards
- For all Service Areas:
  - Percentage of assets in Fair condition or better is reported and sets a benchmark for future comparison. Values are as follows:
 

A. Transportation	58%	E. Parks & Recreation	93%
B. Stormwater	71%	F. Fire Service	75%
C. Water	87%	G. Health Services	99.7%
D. Wastewater	49%	H. Municipal Administration	97%

### Risk Management Strategy

Table ES-1 shows the risk exposure map associated with renewal needs for all assets. The Table shows that \$11.1 million of the renewal needs are considered to be Very High risk. This includes the following assets:

- Transportation
  - 13 bridges & culverts, including Monck St. bridge and Lord Road bridge, which have load restrictions
  - 401 sign illumination equipment
  - One snow plow (2011 International Tandem)
- Stormwater
  - 200m of corrugated steel pipe along Applewood Dr., south of Stephen St.
- Wastewater

- Process pumps, piping, process HVAC, building generator, exterior doors, Exit lights and staircase handrail at Harbour St. Sewage Pump Station (SPS)
- Exterior doors, fire detection and sounding device, bypass chamber and berm 1 at the Water Pollution Control Plant (WPCP)
- Fire Service
  - 2 emergency vehicles
  - 30 of self-contained breathing apparatus (SCBA) units
  - Extraction jaws
  - Generator, roofing and furnaces at Fire Station #1 – South
- Health Services
  - Window and door caulking

Table ES-1: Renewal Risk Exposure – All Services

**Total value of assets in 2021 \$**                    **\$ 416.4**    **million**  
**Value included in Risk Exposure Table**   **\$ 280.7**    **million**

**PoF**

<b>5</b>	\$ 0.5	\$ 0.6	-	\$ 1.6	\$ 0.04
<b>4</b>	\$ 16.1	\$ 51.3	\$ 18.3	\$ 7.0	\$ 9.5
<b>3</b>	\$ 24.8	\$ 12.7	\$ 5.7	\$ 4.6	\$ 7.3
<b>2</b>	\$ 18.0	\$ 14.6	\$ 4.2	\$ 2.7	\$ 0.9
<b>1</b>	\$ 28.8	\$ 30.9	\$ 16.0	\$ 4.3	\$ 0.0
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

**Consequence of Failure**

Risk Legend

Very Low	Low	Moderate	High	Very High
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Life Cycle Management Strategy

The 10-year expansion, upgrade and renewal needs total \$163.2 million across all services. This includes costs regular updates of growth planning studies, construction of an overpass/underpass at John Street, construction of a Connecting Link between the Industrial Park and County Road 64, costs to establish a new water well for the drinking water system, upgrade of the Harbour St. sewage lift station, construction of a new part and recreation facility, construction of a new combined fire/ambulance station, and renewal of existing assets across all services.

Table ES-2: Expansion, Upgrade & Renewal Needs 2022-31, by Service

<b>Service</b>	<b>Expansion &amp; Upgrade Needs (2021 \$, millions)</b>	<b>Renewal Needs (2021 \$, millions)</b>	<b>Total Needs (2021 \$, millions)</b>
<b>A – Transportation</b>	6.0	52.7	58.7

Service	Expansion & Upgrade Needs (2021 \$, millions)	Renewal Needs (2021 \$, millions)	Total Needs (2021 \$, millions)
B – Stormwater	2.6	8.7	11.3
C – Water	3.5	15.9	19.4
D – Wastewater	12.0	17.5	29.5
E – Parks & Recreation	20.6	3.9	24.5
F – Fire Service	12.0	3.7	15.7
G – Health Services	--	0.4	0.4
H – Municipal Administration	1.9	1.9	3.8
<b>TOTAL</b>	<b>58.6</b>	<b>104.6</b>	<b>163.2</b>

Table ES-3 shows the operations & maintenance needs by service, along with anticipated impacts of growth. Based on these O&M needs, the projected operating budget need increases from \$8.98 million for 2022 to \$9.41 million for 2031.

Table ES-3: Operations & Maintenance Needs, by Service

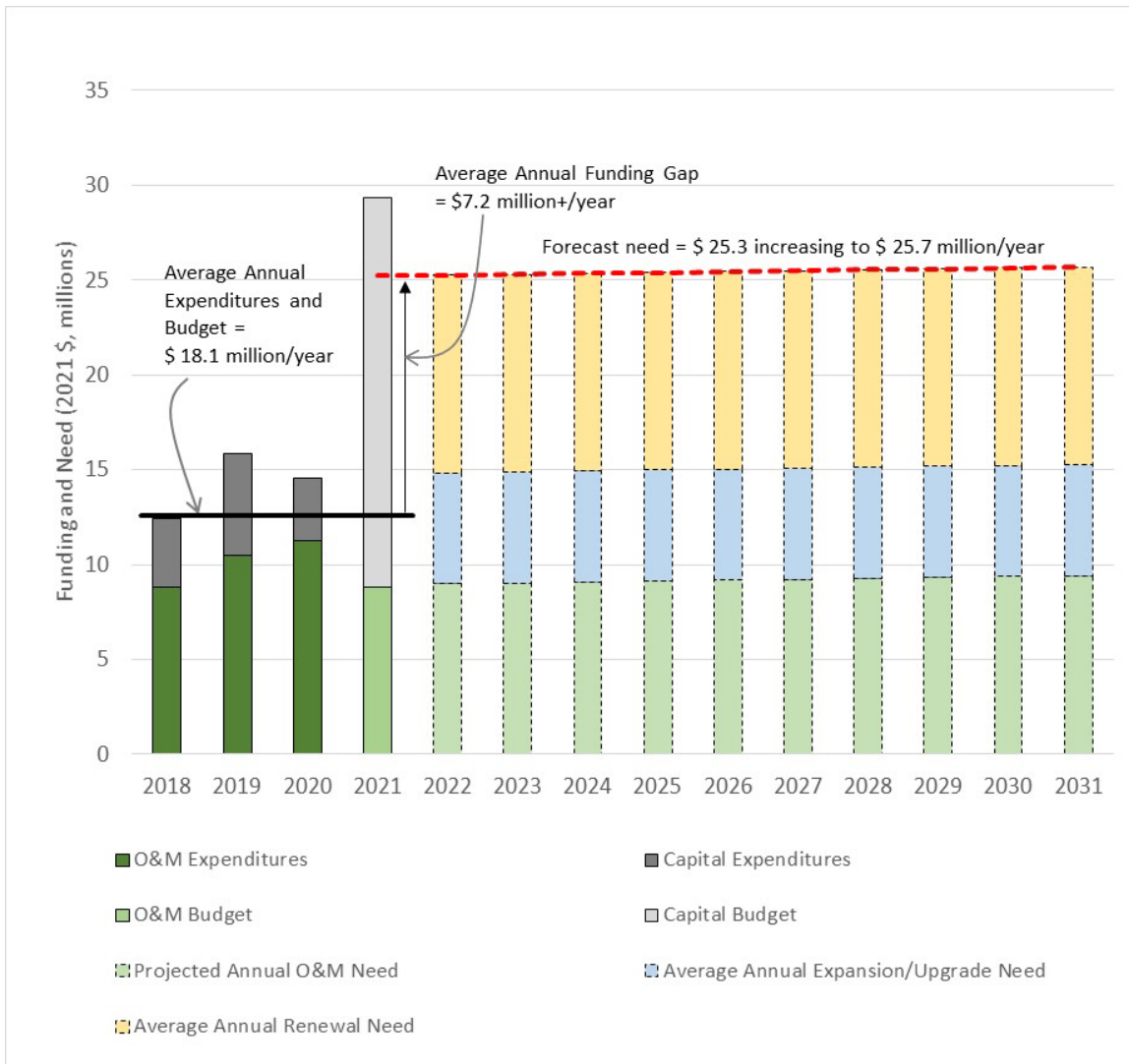
Service	2021 Budget (2021 \$/year, millions)	Needs associated with new activities (2021 \$/year, million)	Needs associated with new assets	Description of Growth (new assets)
A – Transportation	3.43		\$ 9,069 / year \$ 5,214 / year	707 m (centreline) roads/year 380 m sidewalks/year
B – Stormwater	0.29	0.05 (for CCTV program)	\$ 5,634 / year	717 m pipe/year
C – Water	1.00	--	\$ 11,346 / year	714 m pipe/year
D – Wastewater	1.11	--	\$ 13,526 / year	685 m pipe/year
E – Parks & Recreation	1.01	--	\$3,150 / year	1 ha./year
F – Fire Service	0.75	--	--	--***
G – Health Services	0.38	--	--	--

Service	2021 Budget (2021 \$/year, millions)	Needs associated with new activities (2021 \$/year, million)	Needs associated with new assets	Description of Growth (new assets)
H – Municipal Administration	0.78***	--	--	--
<b>TOTAL</b>	8.76	0.05	\$47,939 / year	

### Financial Impact

Figure ES-3 shows that for the period 2018-2021. The annual expenditures and budget (black line) for expansion, upgrade, renewal and O&M activities averaged \$18.1 million/year. This value excludes administrative programs and costs that are not related to assets, such as costs associated with Council, the Clerk’s Department, Economic Development, and Planning. The Figure also shows that for the next ten years (2022-2031), the average annual expansion, upgrade, renewal and O&M needs average a combined \$25.3 million/year in 2022, increasing to \$25.7 million/year by 2031 due to assumption of growth assets. This yields a funding gap of \$7.2 million/year in 2022, increasing to \$7.6 million/year by 2031.

Figure ES-3: Forecast Funding Gap 2022-31 – All Services



To close the funding gap, the Municipality may choose to:

- Seek additional revenues, for example, from grants, taxation, user rates or Development Charges or a stormwater charge
- Seek ways to reduce asset life cycle costs, for example through, the Road Maintenance Plan that has been identified in the 2021 Strategic Plan Refresh as a strategic priority
- Reduce service level targets (or service level norms, where formal targets have not been established) to reduce the identified needs.

## AM Plan Monitoring

This AM Plan will be reviewed during annual budget planning processes and amended to show:

- Status of expansion, upgrade and renewal needs and projects listed in Section 6
- Updated service level performance for LOS metrics listed in Section 4
- Service level targets as they are established (to be incorporated into Section 4)

The AM Plan will be updated every five years (or more frequently) to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long-term financial plan.

## AM Plan Improvement

The following improvements to asset data are recommended to support future iterations of the AM Plan, as well as to support the planned implementation of a work order management system:

1. Establish unique asset IDs for each asset.
2. Collect GIS data to enable geo-location and mapping.
3. Conduct stormwater analysis to report on LOS metrics required by O.Reg. 588/17.
4. Collect inventory data and assess condition of Water and Wastewater process equipment.
5. Establish a centralized listing of AM needs.

Ontario Regulation 588/17 requires proposed levels of service to be reported in an AM Plan update to be completed by July 1, 2025. To achieve compliance with those requirements, the AM Plan will need to

- Propose LOS targets for the next 10 years and provide an explanation of why those proposed LOS targets are appropriate.
- Identify the lifecycle activities that would need to be undertaken to provide the proposed LOS for each of the next 10 years, based on risk and lowest lifecycle cost analyses.
- Project annual funding projected to be available to undertake lifecycle activities and the options examined to maximize the funding projected to be available.
- Identify which lifecycle activities will be funded if there are funding shortfalls, and for those not funded, identify the risks of not undertaking them.
- Provide an overview of the risks associated with implementation of the AM Plan and any actions that would be proposed in response to those risks.

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# 1 Introduction

The Municipality of Brighton provides a range of services to its residents and businesses, including transportation services on local roads, sidewalks and trails; water and wastewater services; stormwater management; parks and recreation; fire protection; and municipal administration services, such as by-law enforcement and development planning.

To deliver these services, the Municipality relies on \$416.4 million of infrastructure assets, including 234 km of roadways, 40 bridges and culverts, 36 km of sidewalks and trails, 159 km of underground pipes, 6.34 hectares of parks, 20 buildings, and 48 vehicles.

Historically, the Municipality proactively and responsibly manages its infrastructure portfolio. As infrastructure ages and demands increase, so will the challenge of ensuring the needs of the community are effectively met with the limited resources available. This Asset Management Plan (Plan) seeks to address that concern by providing a framework for considering, prioritizing, and optimizing asset management efforts, and providing direction for effective management of the Municipal infrastructure to best achieve established goals and objectives. As an integrated Plan, it considers the life cycles and needs of all infrastructure assets and classes within the Plan's scope, providing a sustainable, holistic view of the asset portfolios. The Plan is not only focused on managing individual assets but considers the condition and performance of complete asset systems through a systematic, risk-based decision-making process. The resulting Plan is intended to provide the optimal allocation of resources towards meeting prescribed goals, objectives, and levels of service.

## 1.1 Purpose of the Plan

The 2022 Asset Management (AM) Plan is an update to the Municipality's 2013 AM Plan, and describes the actions required to manage this portfolio of assets in a way that supports established service levels, while managing risks and costs. The 2022 AM Plan focuses on the 10-year period from 2022 to 2031, and provides a framework for continuously improving the Municipality's asset management practices.

## 1.2 Alignment with Regulatory Requirements

This AM Plan fulfils the year 2022 and 2024 requirements of Ontario Regulation (O.Reg.) 588/17 Asset Management Planning for Municipal Infrastructure made under the Infrastructure for Jobs and Prosperity Act 2015. O.Reg. 588/17 requires that municipalities develop an AM Plan report current Levels of Service (LOS) and associated costs for core infrastructure by July 1, 2022, and for non-core infrastructure by July 1, 2024. Core assets include roads, bridges, and assets used to deliver water, wastewater and stormwater services; while non-core assets refer to all other assets. This AM Plan includes both core and non-core assets owned by the Municipality, and thus satisfies the requirements for 2022 and 2024.

O.Reg. 588/17 further requires that by July 1, 2025, municipalities update their AM Plans to plan for costs and risks associated with proposed LOS (including core and non-core assets). This AM Plan provides recommendations for closing data gaps to enable analysis and reporting on proposed LOS.

In accordance with the requirements of O.Reg. 588/17, this AM Plan is posted on the Municipality’s website, along with related background documents, such as condition assessments.

### 1.3 Relationship with Other Municipal Documents

AM Planning is a key tactical (medium term) planning activity that relies on input from strategic planning activities and informs shorter-term decision-making. The AM Plan provides a framework to validate the Municipality’s budgeting processes and assist in prioritizing work activities, including capital projects, based on risk. It also discusses levels of service that support goals in the Municipality’s 2021 Strategic Plan and life cycle management strategies intended to reduce the overall cost of asset ownership.

The AM Plan is intended to be read with other Municipality planning documents, including the following:

- Asset Management Policy (2019)
- Asset Management Strategy Process (2017)
- Council’s Strategic Plan Refresh (2021)
- Development Charges Background Study (2021)
- Master Plans, including the Stormwater Master Plan (2019)
- Road Needs Study (2017)
- Bridge Inspection Report (2021)
- Building Condition Assessments (2021)
- Water and Wastewater Rate Study (2017)
- Operating and Capital Budgets
- Tangible Capital Asset (Fixed Asset) Financial Statement

### 1.4 Scope

This AM Plan includes all assets owned by the Municipality and for which asset data was available, and provides recommendations for the period 2022-2031, inclusive. Where data gaps were encountered, recommendations for closing data gaps are provided. This will enable the Municipality to continually improve its AM Planning capabilities.

### 1.5 Asset Management Service Groups

This AM Plan includes eight (8) service areas, as follows:

#### **A. Transportation Service**

The Municipality’s transportation network comprises roads, bridges, culverts, sidewalks, traffic signals, traffic signs and LED streetlights. A fleet of vehicles support operations and maintenance, including heavy vehicles and equipment for road maintenance, winter control vehicles and equipment for roads and sidewalks, light vehicles (primarily pick-up trucks) for crew transport to inspection and job sites.

The service also relies on two Public Works Buildings, one in the north part of the Municipality (71 Chatten Road) and one in the south (67 Sharp Road). For storage of

winter maintenance materials, the each facility has a coverall, and the north facility also has a sand dome.

**B. Stormwater Management**

The Municipality's stormwater network includes storm sewers, dry ponds, wet ponds, catch basins and maintenance holes. A streetsweeper is used to remove sand, silt and other debris from roads before it can accumulate in the stormwater ponds.

**C. Water Service**

The Municipality provides drinking water to the community of Brighton and Presqu'île Provincial Park. Water service is provided from two (3) ground water wells, a Water Treatment Plant (WTP), two (2) Booster Pump Stations (BPS), a sampling station and four Pressure Reducing Valves (PRV). Network appurtenances include hydrants, valves, service connections and water meters. Operations and maintenance activities are enabled by three (3) light vehicles and an array of equipment, such as a leak detector, confined space equipment and a mower.

**D. Wastewater Service**

For wastewater services, the Municipality operates and maintains a Water Pollution Control Plant (WPCP) with three lagoons, two (2) pumping stations, and a collection system in the community of Brighton. Operations and maintenance activities are enabled by two (2) light vehicles and an array of equipment, such as a CCTV camera, confined space equipment and a mower.

**E. Parks & Recreation Service**

The Municipality provides indoor and outdoor leisure and recreation spaces to its residents. Indoor spaces include the King Edward Park Arena and Community Centre, Codrington Community Centre, Hilton Hall and Brighton & District Curling Club. Outdoor spaces include soccer fields, ball diamonds, pickleball courts, tennis courts, the King Edward Park arena, an outdoor rink at King Edward Park, a BMX trail outside the Codrington Community Centre, play structures, splash pads, picnic shelters, a skateboard park, a dog park, boating docks and a trail system in the urban area. The parks service also maintains the cemetery grounds.

**F. Fire Protection Service**

The Municipality provides fire protection throughout the Municipality out of two Fire Stations, one each in the north and south. The fire service relies on a fleet of eight (8) emergency vehicles and two (2) light vehicles, along with fire protection equipment, such as Self-Contained Breathing Apparatuses (SCBA), thermal cameras and extraction jaws.

**G. Health Services**

The Municipality owns and maintains the Brighton Health Centre building at 170 Main St., which is leased to health care providers who support the community's health needs. In addition, the Municipality recently purchased a single-storey building at 22 Dundas Street, which serves as a medical office, and is maintained by the tenant. This property was purchased late in development of the AM Plan, and is not included in this report. It will be incorporated into a future update of the AM Plan.

**H. Municipal Administration**

Under Municipal Administration, the AM Plan discusses assets that support the Municipality's remaining activities and services, such as Council activities, development planning, economic development, by-law enforcement, human resources, finance, legal and IT services. These services rely primarily on the Municipal Centre and Library building for office space. This section also includes all of the organization's IT assets, as well as two (2) light vehicles, one each to support development planning and by-law enforcement.

## 1.6 Assets Not Included

Due to lack of inventory data, this AM Plan does not include the following assets:

- Roadside guiderails and guide cables
- Roadside retaining walls and fences
- Street trees
- Oil/grit separators for stormwater
- Watermain valves
- Wastewater maintenance holes
- Medical office at 22 Dundas St.

These will be discussed in Section 8 as opportunities for improvement for the next iteration of the AM Plan.

## 1.7 Organization of the Document

The AM Plan is organized to meet the requirements of Ontario Regulation 588/17 (Current Levels of Service) and the Province's "Guide for Municipal Asset Management Plans". The contents of this AM Plan follow the recommended elements of a detailed AM Plan:

- Executive Summary: Summary of AM Plan
- 1 – Introduction: Outlines scope, background information, relationship to other Municipal documents and plans, and applicable legislation
- 2 – Inventory and Replacement Value: Summarizes the inventory and valuation of the Municipality's assets by service and asset type.
- 3 – State of the Infrastructure: Summarizes the condition and remaining life of the assets in the inventory by service and asset type
- 4 – Levels of Service: Defines levels of service through performance indicators, and presents current performance. Describes external trends or issues that may affect expected levels of service
- 5 – Life Cycle Management Strategy: Summarizes the asset management strategies (i.e., planned actions) that will enable the assets to provide the required levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost
- 6 – Expenditure Forecasts and Financing Plan: Summarizes the financial planning and budgeting associated with asset management planning
- 7 – AM Plan Monitoring and Improvement: Summarizes the next steps including monitoring of AM Plan implementation progress, and improving future iterations of the

AM Plan. Recommended improvements consider the 2025 requirements of Ontario Regulation 588/17.

The body of the AM Plan includes a general discussion on the relevant topics and provides a Municipality-wide summary. Details for each of the eight (8) service areas are provided as appendices and are to be read in conjunction with the general discussion included in the body of the AM Plan. The appendices are as follows:

- Appendix A – Transportation Service
- Appendix B – Stormwater Service
- Appendix C– Water Service
- Appendix D – Wastewater Service
- Appendix E – Parks & Recreation Service
- Appendix F – Fire Protection Service
- Appendix G – Health Services
- Appendix H – Municipal Administration

Next, Appendix I, demonstrates the AM Plan’s compliance with O.Reg. 588/17’s requirements for AM Plans meeting the 2022 deadline for Core assets and 2024 deadline for Non-Core assets, reporting the Current Levels of Service.

The final appendix, Appendix J, lists the capital needs identified for 2022-2031.

## 2 Inventory & Replacement Value

The Municipality of Brighton provides transportation, stormwater management, water, wastewater, parks & recreation, fire protection, health facilities and municipality administration services to the community. These services rely on a portfolio of assets with an estimated replacement value of **\$ 416.4 million** (2021 \$). The larger categories of assets include:

- \$ 172.4 million of roads and bridges
- \$ 164.1 million of underground pipes for water, wastewater and stormwater services
- \$ 37.8 million of buildings and vertical assets
- \$ 11.4 million of vehicles and equipment

Table 2-1 shows a breakdown of the inventory by service and asset type.

Table 2-1: Asset Inventory – All Services

Service	Asset Class	Quantity	Replacement Value (2021 \$, millions)
<b>A - Transportation</b>			<b>\$ 195.0</b>
	Roads	234.3 km (centreline)	\$ 153.7
	Bridges & Culverts	40	\$ 18.7
	Roadside Assets	Signals at 6 locations 980 streetlights 30.9 km of sidewalks	\$ 11.2
	Vehicles & Equipment	9 light vehicles 7 snow plows 9 maintenance vehicles other equipment	\$ 4.6
	Buildings & Facilities	2 Public Works Facilities	\$ 6.7*
<b>B – Stormwater Management</b>			<b>\$ 63.8</b>
	Storm sewer pipes	37.0 km	\$ 57.7
	Appurtenances	291 maintenance holes 667 catch basins 10 ponds, 6 oil-grit separators	\$ 5.6
	Vehicles	1 street sweeper	\$ 0.4
<b>C - Water</b>			<b>\$ 59.7</b>
	Watermains	62.8 km	\$ 52.4
	Appurtenances	382 hydrants 4 pressure reducing	\$ 5.4

Service	Asset Class	Quantity	Replacement Value (2021 \$, millions)
		valves 3464 water meters	
	Vertical Assets	2 booster pumping stations 3 well pumps 1 water treatment plant 1 sampling station	\$ 1.7*
	Vehicles and Equipment	3 light vehicles other equipment	\$ 0.2
<b>D - Wastewater</b>			<b>\$ 58.2</b>
	Wastewater Mains	56.2 km	\$ 54.1
	Appurtenances	no data	no data
	Vertical Assets	1 water pollution control plant 1 lift station	\$ 4.0*
	Vehicles and Equipment	2 light vehicles other equipment	\$ 0.1
<b>E - Parks &amp; Recreation</b>			<b>\$ 21.3</b>
	Outdoor Recreation Assets	9 sports fields / courts 7 play structures 1 splash pad 1 skateboard part picnic tables and shelters 5.4 km trails, 7 docks	\$ 3.9
	Vehicles and Equipment	5 light vehicles 20 units of other equipment	\$ 0.6
	Buildings	2 community centres 1 arena, 1 curling club 1 heritage building Parks & Recreation garage washrooms at parks	\$ 16.8*
<b>F – Fire Protection</b>			<b>\$ 8.8</b>
	Emergency Vehicles and Equipment	8 vehicles 42 units of equipment	\$ 5.2

Service	Asset Class	Quantity	Replacement Value (2021 \$, millions)
	Light Vehicles and Other Equipment	2 vehicles 4 units of equipment	\$ 0.2
	Buildings	2 fire stations	\$ 3.4*
<b>G – Health Facilities</b>			<b>\$ 5.3</b>
	Buildings	1 health centre	\$ 5.3*
<b>H – Municipal Administration</b>			<b>\$ 4.3</b>
	IT assets	58 cell phones & tablets 53 laptop and desktop computers 22 desktop printers 3 multi-function printers corporate systems*	\$ 0.4
	Vehicles	2 vehicles	\$ 0.1
	Buildings	2 buildings	\$ 3.9*
<b>TOTAL</b>			<b>\$ 416.4</b>

\* Value includes only building systems. No inventory data was available for specialized equipment within the buildings.

For the AM Plan, the Replacement Value represents the expected cost to replace an asset to the same functional standard, but with a new version (not aged), and based on current market conditions and construction standards. Moreover, RV estimates assume that replacements are conducted as part of large-scale planned capital projects, rather than as individual unplanned replacements, which would typically be more costly. Table 2-2 lists the sources used for estimation of replacement values presented in this AM Plan.

Table 2-2: Sources of Replacement Value Estimates

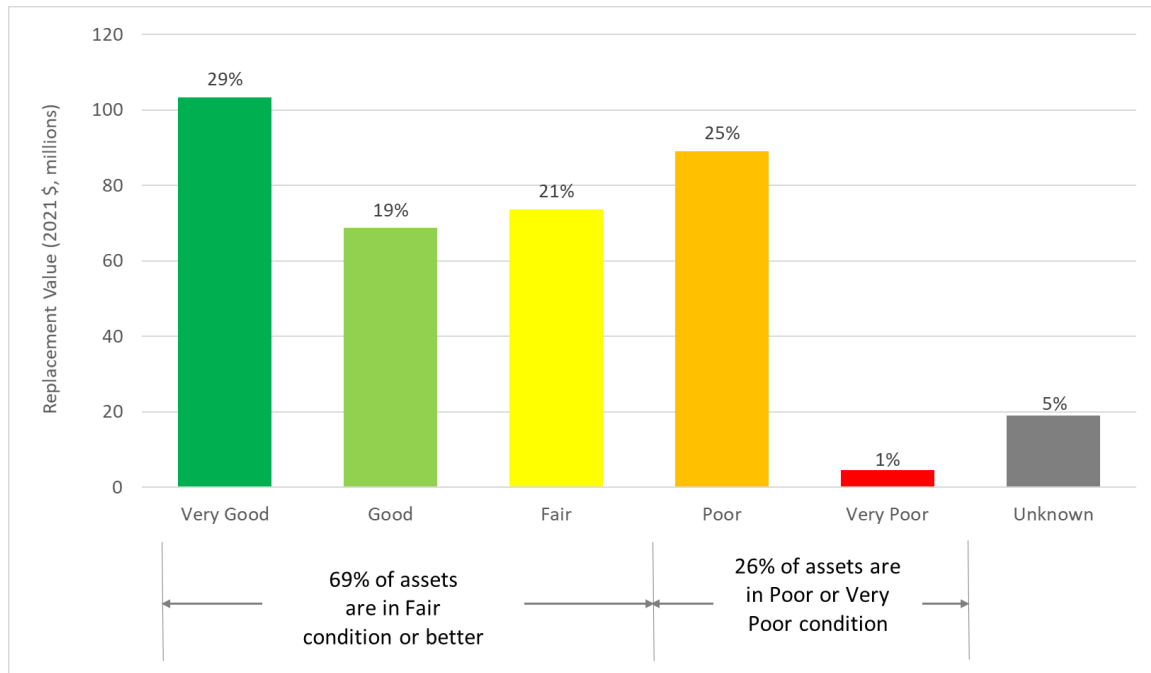
Asset Class	Source of Replacement Value
Roads	Unit costs based on recent procurements
Bridges & Culverts	2021 Bridge Condition Inspection
Roadside Assets	Unit costs based on recent procurements at similar-sized, Ontario municipalities
Mains, pipes and pipe network appurtenances	Unit costs from construction cost specialist
Stormwater ponds	Staff estimates based on recent procurements

Asset Class	Source of Replacement Value
Outdoor Recreation Assets	Staff estimates based on recent procurements
IT assets	Corporate systems: TCA data inflated to 2021 Other assets: Staff estimates
Vehicles & Equipment	Staff estimates based on recent procurements
Buildings & Vertical Assets	2021 Building Condition Assessment Process equipment values based on estimates

### 3 State of the Infrastructure

Of the assets whose replacement value and condition are known, 69% (\$245 million) of the Municipality’s assets are in Fair condition or better, while 26% of assets are in Poor or Very Poor condition. Five percent (5%) of the assets are of unknown condition, due to lack of observed condition data and lack of age (installation year) data. Figure 3-1 shows the condition distribution of the Municipality’s asset portfolio.

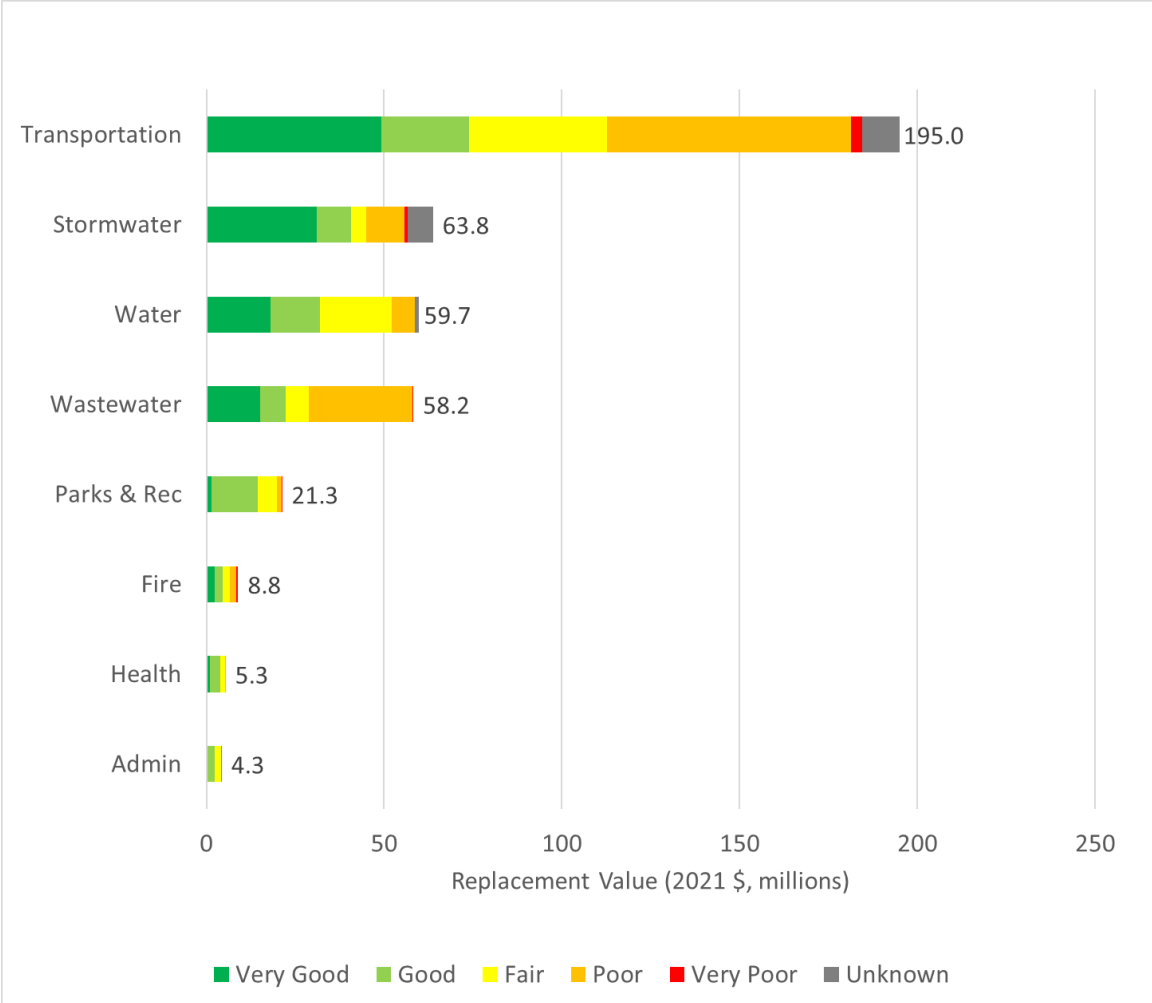
Figure 3-1: Condition Overview – All Services



The condition distribution is presented by service in Figure 3-2. The Figure shows that assets in Very Poor condition are primarily in the Transportation, Stormwater, Wastewater and Fire Service. Those assets include 2.55 km (centreline) of roads (mostly paved), four (4) culverts, 386 m of clay stormwater pipe, and various building components at the Harbour St. Sewage Pump Station (SPS) and the Water Pollution Control Plant (WPCP). In addition, two emergency fire vehicles are in Very Poor condition, and the self-contained breathing apparatus (SCBA) units, extraction jaws have reached end-of-life, along with the roof, driers and generator at Fire Station #1 (South).

Assets with unknown condition include 17.3 km (centreline) of road, 1.3 km of stormwater pipe, stormwater appurtenances (maintenance holes, catch basins, oil-grit separators), water meters and pressure reducing valve (PRV) chambers, and IT end-user devices.

Figure 3-2: Condition Distribution by Service



For this AM plan, condition assessment data was incorporated where available, specifically for:

- Roads (2017 Roads Needs Study)
- Bridges and culverts (2021 Bridge Condition Inspection), and
- Buildings (2021 Building Condition Assessment).

For the remaining assets, staff input and asset age were used to estimate consumption and remaining life.

To standardize the condition ratings across asset classes, the International Infrastructure Management Manual’s (IIMM) five-point condition scale is applied. As shown in Table 3-1, asset condition was rated from Very Good (VG) to Very Poor (VP), in accordance with the criteria listed.

Table 3-1: Condition Grading Criteria

Grade	Description	Condition Criteria
VG	Very Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are well within standards & norms. Typically, asset is new or recently rehabilitated.
G	Good	Asset is physically sound and is performing its function as originally intended. Required maintenance costs are within acceptable standards and norms but are increasing. Typically, asset has been used for some time but is within mid-stage of its expected life.
F	Fair	Asset is showing signs of deterioration and is performing at a lower level than originally intended. Some components of the asset are becoming physically deficient. Required maintenance costs exceed acceptable standards and norms and are increasing. Typically, asset has been used for a long time and is within the later stage of its expected life.
P	Poor	Asset is showing significant signs of deterioration and is performing to a much lower level than originally intended. A major portion of the asset is physically deficient. Required maintenance costs significantly exceed acceptable standards and norms. Typically, asset is approaching the end of its expected life.
VP	Very Poor	Asset is physically unsound and/or not performing as originally intended. Asset has higher probability of failure or failure is imminent. Maintenance costs are unacceptable, and rehabilitation is not cost effective. Replacement / major refurbishment is required.

Table 3-2 shows how the five-point scores from VG to VP were determined from the asset data available, specifically remaining useful life and other condition scoring systems, such as Pavement Condition Index (PCI) and Bridge Condition Index (BCI). Descriptions of condition scores for roads and bridges are provided in Tables 3-3 and 3-4, respectively.

For buildings, the Building Condition Assessment (BCA) scored condition using the five-point VG-VP scale, so the BCA data did not require conversion.

Table 3-2: Conversion Table for Condition Grades

Condition Grade	% Remaining Useful Life (all asset types)	Pavement Condition Index (roads only, if available)	Bridge Condition Index (bridges & culverts only)
Very Good	80 – 100%	80.0 – 100.0	90 – 100
Good	60 – 79%	60.0 – 79.9	80 – 89
Fair	40 – 59%	40.0 – 59.9	65 – 79
Poor	20 – 39%	20.0 – 39.9	40 – 64
Very Poor	< 19%	< 19.9	< 39

Table 3-3: Descriptions Road Condition Scores

Scale	Scale	Pavement Condition Index	Asphalt or Surface Treated Roads	Gravel Roads
<b>Very Good</b>	<b>1</b>	80 – 100	The road segment is relatively new, or recently reconstructed. There are no visible cracks and no structural issues. The ride is smooth.	Excellent surface condition and ride. Excellent drainage. Dust controlled. No Distress.
<b>Good</b>	<b>2</b>	60 – 79	The road segment is starting to exhibit few, if any, signs of surface deterioration, random cracks, and rutting. The ride is relatively smooth.	Good crown and drainage throughout. Dust under dry conditions. Moderate loose aggregate. Slight washboarding.
<b>Fair</b>	<b>3</b>	40 – 59	The road segment is exhibiting signs of surface deterioration, random cracks, rutting, and some patching of surface defects. The ride is becoming rough.	Good crown (3" - 6"). Ditches present on more than 50% of roadway. Some culvert cleaning needed. Some loose aggregate (2" deep). Moderate washboarding (1" - 2"), over 10% - 25% of the area. Moderate dust, partial obstruction of vision. No or slight rutting (<1" deep). An occasional pothole (<2" deep).
<b>Poor</b>	<b>4</b>	20 – 49	The road segment shows signs of deterioration, cracks, rutting, and patching of surface defects that occurs over 50 percent of the surface. Some structural issues are starting to show. The ride is uncomfortable.	Little or no roadway crown (<3"). Adequate ditches on less than 50% of roadway, with portions of the ditches filled, overgrown and/or show erosion. Culverts partially full of debris. Severe loose aggregate (> 4"). Some areas (25%) with little or no aggregate.

Scale	Scale	Pavement Condition Index	Asphalt or Surface Treated Roads	Gravel Roads
				Moderate to severe washboarding (>3" deep) over 25% of area. Moderate rutting (1" - 3") and/or moderate potholes (2" - 4"), over 10% - 25% of area.
<b>Very Poor</b>	<b>5</b>	<b>0 – 19</b>	The road segment is reaching the end of its useful life. There are significant structural issues with large visible cracks, rutting and patching surface defects that occurs over 75 percent of the surface. The road is difficult to drive at the posted speed limit.	No roadway crown or road is bowl shaped with extensive ponding. Little if any ditching. Filled or damaged culverts. Many areas (over 25%) with little or no aggregate. Severe rutting (>3" deep) and/or severe potholes (>4" deep), over 25% of areas

Table 3-4: Bridge Condition Index scores and Associated Descriptions

Scale	Bridge Condition Index	Description
<b>Very Good</b>	90 – 100	Structure condition is as constructed, with no visible deterioration
<b>Good</b>	80 – 89	Minor defects are visible, but these do not affect overall performance and would not normally trigger remedial action. E.g. Light corrosion, light scaling, narrow cracks in concrete.
<b>Fair</b>	65 – 79	Medium defects are visible and may trigger preventive maintenance and remedial action. E.g. Medium corrosion with up to 5% section loss, medium cracks in concrete.
<b>Poor</b>	40 – 64	Medium defects are visible, requiring. E.g. Medium corrosion with up to 10% section loss, medium cracks in concrete.
<b>Very Poor</b>	0 – 39	Severe defects are visible, affecting the overall performance of the structure. E.g. severe corrosion with over 10% section loss, spalling, delamination.

## 4 Levels of Service

Levels of Service (LOS) are statements that describe the outputs and objectives the Municipality intends to deliver to its citizens, businesses, and other stakeholders. Developing, monitoring and reporting on LOS are all integral parts of an overall performance management program which is aimed at improving service delivery and demonstrating accountability to the Municipality's stakeholders.

In general, LOS are guided by a combination of customer expectations, legislative requirements, and internal guidelines, policies, and procedures. In many cases, LOS are also implied based on past service delivery, community expectations, and infrastructure system design. Effective asset management requires that LOS be formalized and supported through a framework of performance measures, targets, and timeframes to achieve targets, and that the costs to deliver the documented LOS be understood.

Figure 4-1 shows that Corporate LOS commitments, along with the legislated LOS referenced by them, drive the definition of more specific Community LOS. Community LOS can be categorized as relating to one of the following service attributes:

- **Capacity & Use:** Assessing whether services have enough capacity and are accessible to the customers
- **Function:** Assessing whether services meet customer needs while limiting health, safety, security, natural, environmental and heritage impacts
- **Quality:** Assessing whether services are reliable and responsive to customers
- **Affordability:** Assessing whether services are affordable and provided at the lowest cost for both current and future customers

Community LOS are in turn translated into Technical LOS, where Capacity & Use LOS drive assessment of the Growth needs; Function LOS drive assessment of Upgrade needs; Quality LOS drive assessment of renewal, operations and maintenance needs; and Affordability LOS drive assessment of Financial Sustainability needs. The risks of not failing to achieve the defined Community and Technical LOS are assessed, and life cycle activities are prioritized to address those risks. Life cycle activities may include expansion, upgrade, renewal, maintenance or operational activities, depending on the category of LOS to be addressed. The nature of the life cycle activity determines whether it should be funded as capital or operating, as well as eligible funding sources. As shown in the figure, even after the life cycle intervention, some residual risk may remain.

Figure 4-1: Levels of Service Framework

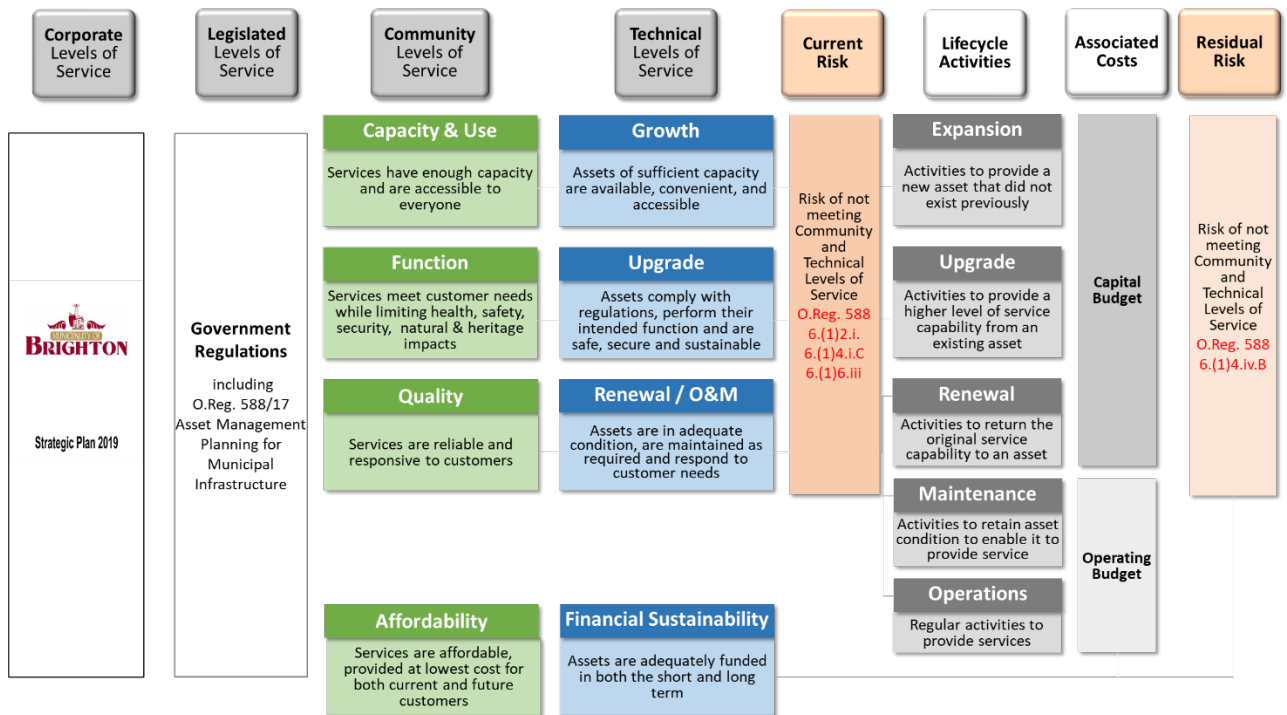


Table 4-1 lists the LOS metrics and current performance for each service. These will then drive the Risk and Life Cycle Management Strategies of this AM Plan. Levels of service targets (standards) are listed for some LOS for the Fire Service; however, for the services, current performance is reported only. It is expected that the Municipality monitor performance, to support future target-setting. O.Reg. 588/17 requires proposed targets to be reported in the AM Plans for all services by July 1, 2025.

Although there are few formal targets for most metrics, the following conclusions can be drawn from Table 4-1:

- For Transportation Service:
  - Average road condition ranges from Good to Very Good. Paved roads have an average Pavement Condition Index (PCI) of 74.7 (Very Good), Surface Treated roads have an average PCI of 61.3 (Good) and Gravel roads have an average PCI of 58.4 (Good).
  - Load restrictions suggest that there is need to renew Monck St. bridge and Lord Rd. bridge
- For Stormwater Service:
  - 84.2% of 6,596 parcels are resilient to a 100-year storm
  - The 2019 Stormwater Master Plan Master Plan (MP) reported on pipes and ponds that are resilient to a 5-year storm. For a future AM Plan, resiliency data should be merged into the asset inventory to enable calculation of percentage of assets (by replacement value) resilient to a 5-year storm. This performance metric is required by O.Reg. 588/17.
- For Water Service:
  - There were no boil water advisories during the previous three years (2018-2020).

- There were four watermain breaks 2019-20, all along an 850m segment of Main St. west of Ontario St. This indicates a need for replacement.
- For Wastewater Service:
  - The system has exceeded Total Ammonia Nitrogen (TAN) limits 4, 5 and 3 months out of 12 for the years 2018 to 2020, respectively. The Municipality is aware of the issue, and is working on a design for Lagoon upgrades to address these exceedances and to provide for future treatment capacity.
  - In 2020, there were two (2) sewer backup incidents in 2020 (one on Loyalist Dr. and one on Harbour St.), resulting in a total of 10 connection-hours lost. Sewer backups will continue to be monitored.
- For Fire Service:
  - In 2020, the Fire Service met dispatch and response time targets, but did not meet chute time target (time when a call is dispatched until the time an emergency vehicle begins continuous travel to a call). The slow chute time is likely affected by the time required for volunteer fire fighters to arrive at the station.
  - All equipment meet NFPA standards
- For all Service Areas:
  - Percentage of assets in Fair condition or better is reported and sets a benchmark for future comparison. Values are as follows:
 

A. Transportation	58%	E. Parks & Recreation	93%
B. Stormwater	71%	F. Fire Service	75%
C. Water	87%	G. Health Services	99.7%
D. Wastewater	49%	H. Municipal Administration	97%

Table 4-1: Levels of Service Framework

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
A – Transportation	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Description, which may include maps, of the road network in the municipality and its level of connectivity.*	See Section A.1 for description and maps of the Municipality’s road network.
A – Transportation	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Number of lane-km of each of arterial roads, collector roads and local roads as a proportion of km <sup>2</sup> of land area of the municipality.*	Number of Lane-km / km <sup>2</sup> <ul style="list-style-type: none"> <li>• Local Roads: 1.86</li> <li>• Rural Highways: 0.03</li> <li>• Collectors: 0.09</li> <li>• Arterials: 0.08</li> </ul> For details, see Table A-5.

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
A – Transportation	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).*	The Municipality has 6 bridges and 34 culverts. With the exception of 2 bridges with load restrictions, these structures support motor vehicles, including heavy transport and emergency vehicles.
A – Transportation	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Percentage of bridges in the municipality with loading or dimensional restrictions.*	33% (2 of the 6 bridges have load restrictions: Monck St. Bridge Lord Rd. Bridge)
A – Transportation	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	% sidewalks 1.5m wide	Data not available (Performance to be reported in future AM Plan)
A – Transportation	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Length of sidewalks with tactile plates	Data not available (Performance to be reported in future AM Plan)
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	Description or images that illustrate the different levels of road class pavement condition.*	See Table 3-3.
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	Description or images of the condition of bridges and how this would affect use of the bridges.*	See Table 3-4.
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	For paved roads in the municipality, the average pavement condition index value.*	Paved: 74.7 (Very Good) Surface Treated: 61.3 (Good)

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	For unpaved roads in the municipality, the average surface condition (e.g., excellent, good, fair or poor).*	58.4 (Good)
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	For bridges in the municipality, the average bridge condition index value.*	71.0 (Good)
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	For structural culverts in the municipality, the average bridge condition index value.*	64.2 (Good)
A – Transportation	<b>Quality:</b> Services are reliable and responsive to customers	% of assets in Fair condition or better	58%
B – Stormwater	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.*	Stormwater pipes have been installed in the urban area, as shown in Figure B-1. In the rural areas, drainage is supported by roadside ditches.
B – Stormwater	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Percentage of properties in municipality resilient to a 100-year storm*	84.2% of 6,596 parcels are resilient to a 100-year storm
B – Stormwater	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Percentage of the municipal stormwater management system resilient to a 5-year storm*	Data not available

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
B – Stormwater	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	71%
C – Water	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.*	See Section C.1 for description and maps.
C – Water	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Description, which may include maps, of the user groups or areas of the municipality that have fire flow.*	For this AM Plan, properties with access to a fire hydrant are assumed to have fire flow. For future AM Plans, the Water Model will be used to estimate fire flow.
C – Water	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Percentage of properties connected to the municipal water system*	53% (3,280 connections / 6,216 properties)
C – Water	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Percentage of properties where fire flow is available*	57% (3,533 / 6,216 properties with access to fire hydrants)
C – Water	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.*	No boil water advisories for at least the past 3 years (2018-2020)
C – Water	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Description of service interruptions due to boil water advisories.*	N/A – no boil water advisories

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
C – Water	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Number of complaints due to issues originating from Municipality’s water system (issues originating from customer’s assets or appliances are not included)	2020: none 2019: none 2018: 1 complaint (low pressure caused by power outage at Dundas Street booster pump)
C – Water	<b>Quality:</b> Services are reliable and responsive to customers	The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.*	2020: 0.036 connection-days lost / customer 2019: 0.008 connection-days lost / customer 2018: no breaks
C – Water	<b>Quality:</b> Services are reliable and responsive to customers	Description of service interruptions due to watermain breaks.*	See Table C-4, Figure C-8 and accompanying text in Section C.3.
C – Water	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	93%*
D – Wastewater	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.*	See Section D.1 for description and maps.
D – Wastewater	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Percentage of properties connected to the municipal wastewater system.*	53% (3,280 connections / 6,216 properties)

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
D – Wastewater	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system*	Number of violations: 2021: 5 (Jan-Jun) 2020: 3 2019: 5 2018: 4  As a ratio of 6,216 connections: 2021: 0.016 (extrapolated) 2020: 0.005 2019: 0.008 2018: 0.006
D – Wastewater	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.*	N/A – wastewater and stormwater sewers are not combined
D – Wastewater	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.*	N/A
D – Wastewater	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.*	Inflow and infiltration

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
D – Wastewater	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in the item above.*	See Municipality’s engineering standards.
D – Wastewater	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.*	In accordance with Environmental Compliance Approval for the Water Pollution Control Plant.
D – Wastewater	<b>Quality:</b> Services are reliable and responsive to customers	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system*	0.0003 connection-days lost / year / connection (2 connection-days lost for 6216 connections in 2020)
D – Wastewater	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	49%
E – Parks & Recreation	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Hectares of parkland per resident	6.34 hectares
E – Parks & Recreation	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Number of residents per recreation buildings	2,369 people/building 11,844 pop (2016) / 5 community buildings

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
E – Parks & Recreation	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Number of safety incidents related to indoor recreation assets	2-3 incidents per year
E – Parks & Recreation	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Number of safety incidents related to outdoor recreation assets	1-2 incidents per year
E – Parks & Recreation	<b>Quality:</b> Services are reliable and responsive to customers	Number of customer complaints related to parks and recreation assets	6-8 complaints per year
E – Parks & Recreation	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	93%
F – Fire Protection	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Average dispatch time (target is 90 sec)	2020 results: 66 seconds (meets standard)
F – Fire Protection	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Average chute time (standard is 2 minutes)	2020 results: 4:29 (does not meet standard)
F – Fire Protection	<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Average response time (standard is 10 minutes)	2020 results: 9:58 (meets standard)

Service	Service Attributes	Community & Technical Levels of Service	Current Performance
<b>F – Fire Protection</b>	<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Equipment meets NFPA standards	100%
<b>F – Fire Protection</b>	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	75%
<b>G – Health Services</b>	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	99.7%
<b>H – Municipal Administration</b>	<b>Quality:</b> Services are reliable and responsive to customers	Percentage of assets in fair or better condition	96.5%

*\* Indicates that the metric is required by O.Reg. 588/17 to be reported in the AM Plan.*

## 5 Risk Management Strategy

Risk exposure associated with renewal needs are shown in Table 5-1 for all services. For bridges and culverts, the table lists the cost of repairs for the AM Plan period, 2022-31. Similarly, for buildings, the table lists the cost of repairs recommended within 2022-31; however, building repair costs of \$5,000 or less are excluded, because these will be addressed through regular maintenance activities. For all other asset types, the table lists the full replacement value of the asset in the appropriate cell, based on Probability of Failure (condition) and Consequence of Failure. This reflects the assumption that the risk would be mitigated by replacement of the asset.

Table 5-1: Renewal Risk Exposure – All Services

	<b>Total value of assets in 2021 \$</b>		<b>\$ 416.4</b>	<b>million</b>	
	<b>Value included in Risk Exposure Table</b>		<b>\$ 280.7</b>	<b>million</b>	
<b>PoF</b>					
<b>5</b>	\$ 0.5	\$ 0.6	-	\$ 1.6	\$ 0.04
<b>4</b>	\$ 16.1	\$ 51.3	\$ 18.3	\$ 7.0	\$ 9.5
<b>3</b>	\$ 24.8	\$ 12.7	\$ 5.7	\$ 4.6	\$ 7.3
<b>2</b>	\$ 18.0	\$ 14.6	\$ 4.2	\$ 2.7	\$ 0.9
<b>1</b>	\$ 28.8	\$ 30.9	\$ 16.0	\$ 4.3	\$ 0.0
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Consequence of Failure</b>				

Risk Legend

Very Low	Low	Moderate	High	Very High
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The Table shows that \$11.1 million of the renewal needs are considered to be Very High risk. This includes the following assets:

- Transportation
  - 13 bridges & culverts, including Monck St. bridge and Lord Rd. bridge, which have load restrictions
  - 401 sign illumination equipment
  - One snow plow 2011 International Tandem
- Stormwater
  - 200m of corrugated steel pipe along Applewood Dr., south of Stephen St.
- Wastewater
  - Process pumps, piping, process HVAC, building generator, exterior doors, Exit lights and staircase handrail at Harbour St. Sewage Pump Station (SPS)
  - Exterior doors, fire detection and sounding device, bypass chamber and berm 1 at the Water Pollution Control Plant (WPCP)
- Fire Service
  - 2 emergency vehicles

- 30 of self-contained breathing apparatus (SCBA) units
- Extraction jaws
- Generator, roofing and furnaces at Fire Station #1 – South
- Health Services
  - Window and door caulking

The probability of physical failure was determined based on condition. Specifically, the five-point condition scale is mapped to the five-point Probability of Failure (PoF) scale shown in Table 5-2.

Table 5-2: Mapping of Probability of Failure to Condition

Probability of Failure (PoF)	PoF Rating	Event-Based Failure Description	Corresponding Condition Rating
Rare	1	An occurrence / situation is not likely to occur <b>within 10 years</b>	Very Good
Unlikely	2	An occurrence / situation is not likely to occur <b>within 5 years but possibly within 10 years</b>	Good
Possible	3	An occurrence / situation might occur <b>within 5 years</b>	Fair
Likely	4	An occurrence / situation might occur <b>within 2 years</b>	Poor
Certain	5	An occurrence / situation that is happening or imminent and / or will probably occur <b>within 1 year</b>	Very Poor

Asset criticality, or Consequence of Failure (CoF), is also rated on a five-point scale based on the importance of an asset to the Municipality’s delivery of services or, in technical terms, the potential consequences of the asset failing and therefore failing to provide the required service levels. Asset criticality is determined based on the degree to which the failure of the asset would impact the following considerations:

- **Financial** impact considerations such as asset replacement cost, damages to Municipality or private property and infrastructure, loss of revenue, and fines
- **Health & Safety** considerations such as degree and extent of injury, from negligible injuries to loss of life
- **Availability and Reliability of service delivery**, such as disruption of non-essential service to widespread and long-term disruption of essential service
- **Environmental** considerations, such as length and extent of damages to the natural environment.
- **Reputational** considerations, such as negative media coverage.

Table 5-3 lists the asset criticality profiles for the four considerations above. For each asset, the criticality is assessed against the four considerations, and the highest criticality rating is assigned as the asset’s overall CoF, which is used to determine the Risk Exposure in Figure 5-1.

Table 5-3: Asset Criticality (Consequence of Failure)

Consequence Categories	CoF = 1 Insignificant	CoF = 2 Minor	CoF = 3 Moderate	CoF = 4 Major	CoF = 5 Catastrophic
Financial	Damages, losses (including 3rd party) or fines of < \$1k	Damages, losses (including 3rd party) or fines from \$1k to \$5k	Damages, losses (including 3rd party) or fines from \$5k to \$25k	Damages, losses (including 3rd party) or fines from \$25k to 100k	Damages, losses (including 3rd party) or fines > \$100k
Health & Safety	No obvious potential for injury or affects to health.	Potential for minor injury or affects to health of an individual. Full recovery is expected; or minor medical attention may be required	Potential for serious injury or affects to health. May affect many individuals and / or result in short-term disability; or hospitalization may be required for a short period of time.	Potential for serious injury or affects to health of one or more individuals with a possibility of loss of a life and the certainty of long-term disability; or emergency hospitalization required for one or more individuals.	Potential for death or multiple deaths with probable permanent damage; or emergency and long-term hospitalization required for several individuals.
Availability/ Reliability	Small number of customer experiencing disruption / impact (less than 50 people or up to a few hours)	Localized service disruption / impact (50 to 100 people or up to 1 day)	Significant localized disruption / impact (500 to 1,000) people or less than 1 week)	Major service disruption / impact (1,000 to 2,500) people or for more than a week)	Area wide service disruption / impact (greater than 2,500 people or permanent loss of services)
Environment	Very negligible impact or can	Minor (within 1 week) very isolated damage /	Significant short-term impact (up to	Significant long-term impact (up to 1 month),	Major long-term impact (greater than 1 month),

Consequence Categories	CoF = 1 Insignificant	CoF = 2 Minor	CoF = 3 Moderate	CoF = 4 Major	CoF = 5 Catastrophic
	be restored <b>within 1 day</b>	impact to the environment, local importance	<b>2 weeks</b> ), local importance	Provincial importance.	Federal importance.
Reputational	No media exposure	Minor or no media exposure	Moderate local media exposure lasting for several days	Intense local media exposure lasting several days and/or Municipality wide exposure	Significant provincial exposure lasting several days or weeks

## 6 Life Cycle Management Strategy

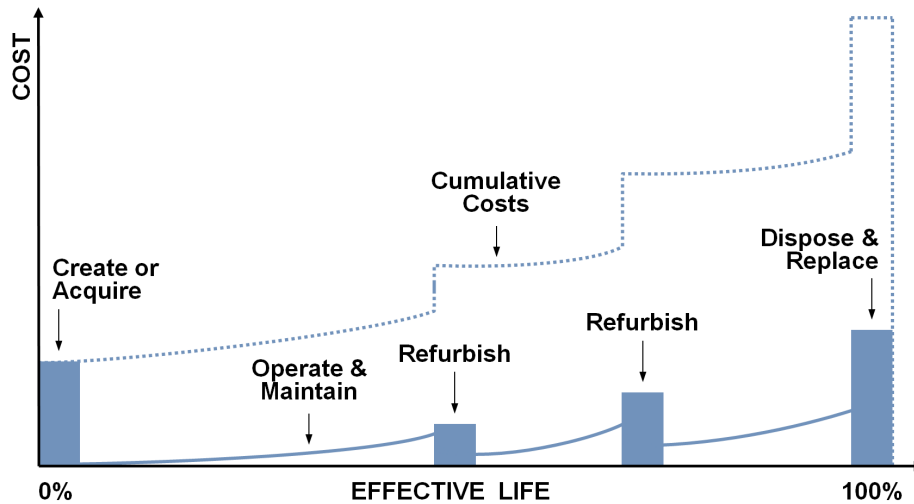
### 6.1 Overview of Life Cycle Management

The Municipality uses its understanding of service delivery gaps and risk exposure to inform the timing and amount of needed investments in infrastructure assets. The Municipality aims to provide sufficient service capacity to meet demand and manages the upgrade and renewal of assets to meet defined service levels, including legislated and other corporate requirements. Asset life cycle management strategies are typically organized into the following categories:

- **Operations and Maintenance activities** – Operations refers to regular activities during the process of utilising an asset which consume resources such as person-power or labour, equipment rental and purchase, energy, chemicals and materials. Maintenance refers to activities including regularly scheduled inspection and maintenance, or more significant repair and activities associated with unexpected events to retain an asset as near as practicable in an appropriate service condition.
- **Renewal activities** – Significant rehabilitation designed to extend the life of the asset and replacement activities that are expected to occur once an asset has reached the end of its useful life and rehabilitation is no longer an option.
- **Upgrade activities** – Planned activities to increase the level of service or meet other requirements such as changes in functional requirements or legislation.
- **Expansion activities** – Planned creation or acquisition of assets required to extend services to previously unserved areas or expand services to meet growth demands. Also includes redevelopment activities.
- **Disposal activities** – The 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.
- **Non-asset solutions** – Actions or policies that can lower costs, lower demands, or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, education of public).

The Municipality assesses the costs of potential life cycle activities to determine the lowest life cycle cost strategy to manage each asset type while still meeting LOS. The sum of life cycle activity costs informs the minimum cost to sustain each asset type over the asset life cycle. Sufficient investment of the right type and at the right time minimizes the total cost of ownership for that asset and also prevents other potential impacts (i.e., risks) such as interruption to service delivery or damage to other infrastructure. Maintenance and renewal activities are timed to reduce the risk of service failure from deterioration in asset condition, and are part of the total cost of ownership. The conceptual life cycle model is illustrated in the figure below in Figure 6-1 where the costs associated with creating and sustaining the asset over time are depicted.

Figure 6-1: Conceptual Life Cycle Cost Model



Maintenance and renewal work directly enable the Municipality to meet state of good repair service levels (percentage of assets in fair/good/very good condition). In principle, maintenance activities ensure that an asset continues to deliver defined levels of services, while renewals extend the asset useful life; however, in practice, the distinction between renewals (capital programs) and maintenance (operating expenses) is typically set by accounting practices and standard operating procedures.

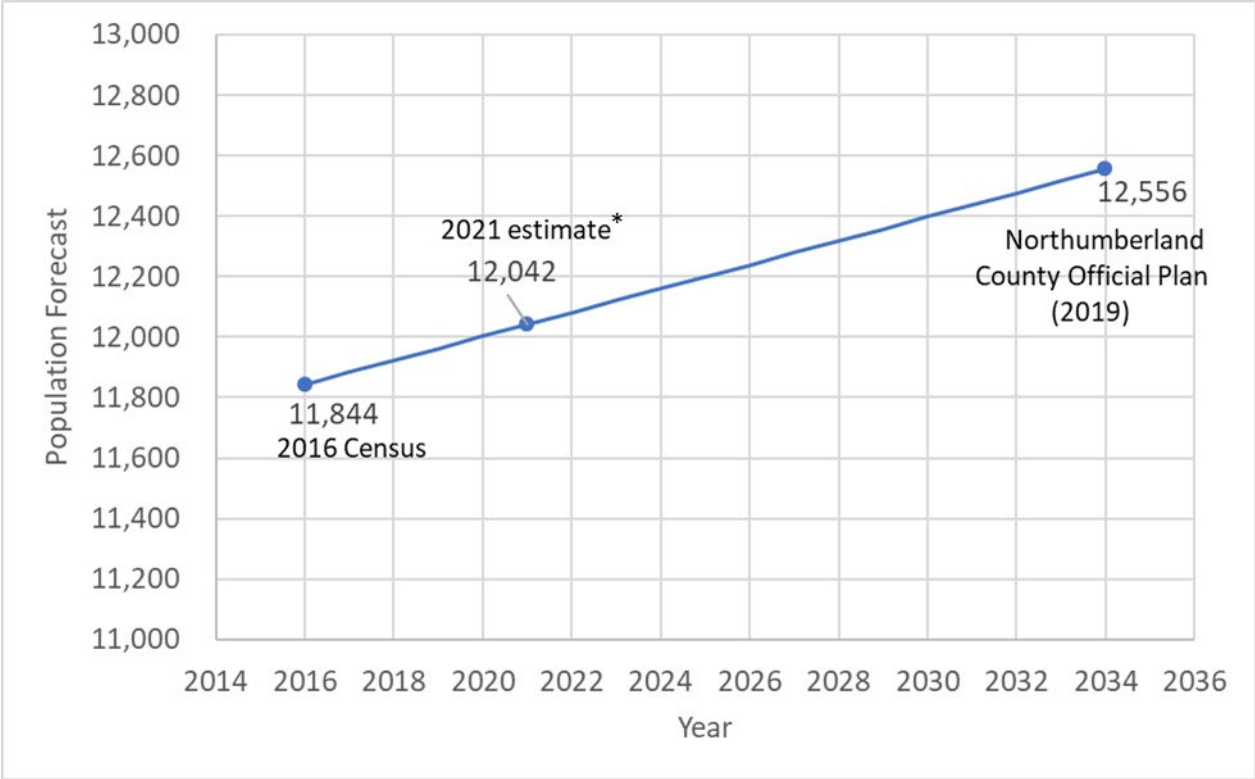
Renewals and maintenance are strongly linked; maintenance strategies can accelerate or delay the need for renewals, and if renewals are deferred, maintenance needs will often increase to ensure that assets are kept in a state of good repair. Finding the right balance of operation, maintenance, rehabilitation and renewal activities is the objective of AM. That balance be one that minimizes asset life cycle costs, while managing risks and enabling the required level of service delivery.

The AM Plan presents the Municipality's current operation, maintenance, rehabilitation and renewal strategies. As the Municipality matures its AM processes and technologies, it will begin collecting more detailed data on asset operations, maintenance and repair costs, and asset failure data. This data will allow the Municipality to adjust and optimize its asset life cycle strategies.

## 6.2 Forecast Needs – Expansion

According to the Northumberland County Official Plan (2016), the Municipality of Brighton will grow in population to 12,556 in 2034 from its 2016 population of 11,844 (2016 Census). This represents an increase of 712 residents, or 6% over 18 years. The annual average population increase is thus 39.6 residents/year, which results in a 2021 population estimate of 12,042, as shown in Figure 6-2.

Figure 6-2: Population Growth Forecast



\* The 2021 Census reported the Municipality’s actual population to be 12,108, which shows that the estimate was within 0.6% of the actual value.

To meet the needs of this growing population, Table 6-1 lists studies that are required for growth planning, along with anticipated delivery years, corresponding years that funding will be required, and the estimated amount of funds required. Table 6-2 lists similar information for system capacity/expansion needs.

Table 6-1: Growth Planning Studies

#	Growth Planning Study	Next Delivery Years	Years Funding Required	Estimated Cost (2021 \$)	Justification/ Source of Need	Comment
Municipal Administration						
1	Development Charges Background Study	2024, 2029	2024, 2029	35 k 35 k	Update required every 5 years	
2	Official Plan Review	2024, 2029	2024, 2029	200 k 200 k	Update required every 5 years	
3	Zoning By-Law Update	2025, 2030	2025, 2030	200 k 200 k	Required following OP update	
4	Community Improvement Plan (brownfields)	2022	Each year 2022 - 31	30k/year x 10 years	2021 Capital Plan	
5	Secondary Plan	2023	2021 & 2022	250 k	2021 Capital Plan	\$125k funded in 2021 another \$125k required
Stormwater Service						
6	Stormwater Master Plan Update	2023, 2028	Same as delivery year	30 k 30 k	2019 SWM MP	In the 2023 SWM MP Update, include new development and changing weather patterns. Ensure that asset IDs in stormwater analysis are consistent with Municipality's asset inventory/GIS IDs
7	Wetland Study	2022	2021	20 k	2021 Capital Plan	Funded in 2021; Carry over to 2022F
Parks & Recreation Service						

#	Growth Planning Study	Next Delivery Years	Years Funding Required	Estimated Cost (2021 \$)	Justification/ Source of Need	Comment
8	Recreation Master Plan Update Study	2022	2022	75 k	2019 DCBS	
	Fire Service					
9	Fire Master Plan	2022	Same as delivery year	80 k	2019 DCBS	
10	Community Risk Assessment	2022	2022	80 k	2019 DCBS	
TOTAL				\$ 1,735 k		

Table 6-2: Capacity/Expansion Needs

#	Expansion Project	Proposed Year of Work	Estimated Cost (2021 \$)	Justification/ Source for Need	Comment
	Transportation Service				
1	Plan for an overpass/underpass at John Street east of No Frills	TBD	\$3 M	2021 Strategic Plan Refresh	Plan due November 2026
2	Develop design for a Connecting Link between Industrial Park and County Road 64	2022	\$3 M	2021 Strategic Plan Refresh	Design due December 2022
	Water Service				

#	Expansion Project	Proposed Year of Work	Estimated Cost (2021 \$)	Justification/ Source for Need	Comment
3	New 150mm watermain on Applewood to connect Loyalist to Stephen (145m)	2026	\$ 160 k	2019 DCBS	In coordination with 2026 road re-construction from Loyalist St. northward. Also, consider reconstructing metal SWM main on Applewood Dr. south of Stephen St. (first check condition with CCTV).
4	Replace 150mm with 250mm on Main St from Prince Edward St. to Ontario St.	2025	\$ 940 k	2019 DCBS	In coordination with 2025 road re-construction
5	Replace 100 mm with 250 mm on Main St from Ontario St to service boundary	2024	\$ 1,180 k	2019 DCBS	In coordination with 2024 road re-construction (cost estimate from Public Works' 6-year plan)
6	Replace 100mm with 150mm on Lyons St from Prince Edward St. to Division St S (160m)	Development-dependent	\$ 165 k	2019 DCBS	
7	Replace 100mm with 150mm on Division St S from Lyons St to Butler St (115m)	Development-dependent	\$ 270 k	2019 DCBS	
8	Expand the 50mm (2") service connection at County Road 30 at Spring	2022	\$ 45 k	2019 DCBS	Funded in 2021 capital. Carry over to 2022
9	Develop additional well: <ul style="list-style-type: none"> <li>• Exploration &amp; EA</li> <li>• Design</li> <li>• Construction</li> </ul>	2022 2024 2025	\$ 75 k \$ 75 k \$ 350 k	Newly identified need	
Wastewater Service					

#	Expansion Project	Proposed Year of Work	Estimated Cost (2021 \$)	Justification/ Source for Need	Comment
10	Upgrade lift station / Harbour St. SPS and upsize force main	2021-22	\$ 3,000 k	2019 DCBS	Funded in 2021 capital. Carry over to 2022
11	Construct garage at lagoon	2024	\$ 65 k	2019 DCBS	Funded in 2021 capital. Carry over to 2024
12	Establish Inflow & infiltration reduction program to recapture capacity	2022-25	\$ 150 k	2021 Strat Plan	Strat Plan Deadline: Demonstrate progress by June 2023
Parks & Recreation Service					
13	New park and recreational facilities on newly purchased land	2025	\$20 M	2019 DCBS	Land has been purchased
14	Trail expansion - Grimes / Simpsons	2023	\$ 272 k	2019 DCBS	
15	Trail expansion - Stalwood Property section	TBD	\$ 27 k	2019 DCBS	
16	4 Pickleball Courts	2022	\$ 150 k	2019 DCBS	
17	Curling Club & Arena – Design Study	2022	\$ 54 k	2019 DCBS	
Fire Service					

#	Expansion Project	Proposed Year of Work	Estimated Cost (2021 \$)	Justification/Source for Need	Comment
18	New combined fire/ambulance station:				
	• Purchase land	2022	\$ 300 k	2021 Strat Plan	Anticipated range of \$8 – \$12 million Anticipated range of \$1.2 – \$1.5 million
	• Design & Construction	2023-2024	\$10.0 M		
• New vehicles & equipment	2024	\$1.35 M			
	Library				
19	Additional library collection materials	2020-2029	\$ 329 k	2019 DCBS	Assume same funding amount for 10-year period from 2022-31
<b>TOTAL</b>			<b>\$44.95 M</b>		

In addition to these capital needs, the following needs should also be considered:

- Monitor Wastewater main along Cedar St.:**  
 The wastewater main along Cedar St. may be nearing capacity. This concern requires further investigation using the hydraulic wastewater model that the Municipality is developing. The model is expected to be ready to support analysis in 2022.
- Develop Salt & Sand Storage Plan:**  
 Complete a salt & sand storage capacity plan before coveralls require renewal. This analysis may be completed from the operating budget.
- Collect sidewalk accessibility data:**  
 In conjunction with the next annual sidewalk inspection (funded by operating budget), collect data on sidewalk width and locations of tactile plates. This will then be used to update the table of LOS metrics, and to identify and prioritize locations for sidewalk widening and addition of tactile plates.

### 6.3 Forecast Needs – Upgrade

Assets may require upgrade if they are no longer fulfilling the requirements or if requirements have changed. Upgrade needs are listed in Table 6-3.

Table 6-3: Upgrade Needs

#	Expansion Project	Proposed Year of Work	Estimated Cost per Study (2021 \$)	Justification/Source for Need	Comment
	Municipal Administration				
1	Implement Work Order Management System (AM Technology System)	2022	\$ 147 k	2021 Capital Plan	Recommend adding funds for data collection and process improvement
	Wastewater Service				
2	Improve WPCP: <ul style="list-style-type: none"> <li>i. Remove all existing aerators and infrastructure. (complete)</li> <li>ii. Purchase and install of a Triplepoint aeration system to provide adequate mixing energy and oxygen supply.</li> <li>iii. Relocate Arena Creek to prevent further erosion of the aeration pond north east berm.</li> <li>iv. Construct a secondary clarifier with a future</li> </ul>	Complete   2022  2022	\$8,800 k	Report to Council dated 16 Aug 2021	Using \$8.8 million capital budget that was allocated to lagoon upgrades.

#	Expansion Project	Proposed Year of Work	Estimated Cost per Study (2021 \$)	Justification/Source for Need	Comment
	capacity to treat 6000 m3/day.	2023			
	v. Install a filtration system between aeration pond and secondary clarifier to remove unwanted debris.	2023/24			
	vi. Construct a waste sludge area, such as a Geotube type device.	2024			
	Fire Service				
3	Upgrade of the Fire Service communication system	2022	\$ 35 k	2019 Capital Plan	Funded in 2019 capital. Carry over to 2022

## 6.4 Forecast Needs – Renewal

Table 6-4 lists the renewal needs by service and asset type. The total renewal need for 2022-31 is \$104.6 million. Details on renewal needs by are provided by service area in Appendices A-H.

Table 6-4: Renewal Needs

<b>Asset Class</b>	<b>Renewal Needs to 2031 (2021 \$, millions)</b>
<b>A – Transportation</b>	<b>\$ 52.7</b>
Roads – Paved	\$ 22.6
Roads – Surface Treated	\$ 10.7
Roads – Gravel	\$ 2.7
Bridges & Culverts	\$ 5.3
Traffic Signals	\$ 0.3
Sidewalks	\$ 5.8
Streetlights	\$ 0.4
Vehicles and Equipment	\$ 3.5
PW Buildings, sheds and salt dome	\$ 1.5
<b>B – Stormwater</b>	<b>\$ 8.7</b>
Stormwater pipes	\$ 7.9
Stormwater ponds	\$ 0.9
Street sweeper	\$ 0.4
<b>C – Water</b>	<b>\$ 15.9</b>
Watermains	\$ 13.9
Appurtenances	\$ 1.4
Vertical Assets	\$ 0.3
Vehicles & Equipment	\$ 0.2
<b>D – Wastewater</b>	<b>\$ 17.5</b>
Watermains	\$ 15.1
Harbour St. SPS	\$ 2.1
WPCP	\$ 0.1
Vehicles & Equipment	\$ 0.1
W-WW Financial Plan	\$ 0.1
<b>E – Parks &amp; Recreation</b>	<b>\$ 3.9</b>
Park assets	\$ 1.3
Vehicles & Equipment	\$ 0.7
Buildings	\$ 2.2

Asset Class	Renewal Needs to 2031 (2021 \$, millions)
<b>F – Fire Service</b>	<b>\$ 3.7</b>
Emergency Vehicles	\$ 2.6
Emergency Equipment	\$ 0.4
Light Vehicles and Other Equipment	\$ 1.5
Buildings	\$ 0.5
<b>G – Health Services</b>	<b>\$ 0.4</b>
Brighton Health Centre	\$ 0.4
<b>H – Municipal Administration</b>	<b>\$ 1.9</b>
IT Assets	\$ 0.9
Vehicles	\$ 0.1
Municipal Centre and Library	\$ 0.9
<b>TOTAL</b>	<b>\$ 104.6</b>

## 6.5 Forecast Needs – Operations & Maintenance

Operations costs include day-to-day costs associated with delivering services and programs. Maintenance activities include inspection, preventive maintenance and minor repairs. Operations and Maintenance (O&M) are both funded by the operating budget.

Figure 6-5 shows the 2021 operating budget by service. For most services, staff indicated that the 2021 budget amount is sufficient for current service levels and O&M activities. In other words, the existing budget reflects the future O&M need, with the following exception:

- In the Stormwater service, there is a need to begin a CCTV inspection program, which is expected to cost \$50k/year.

Table 6-5 summarizes the operating budget needs for each service area, beginning with the 2021 operating budget as a base. Next the additional funds needed to manage existing assets and programs are listed, specifically related to the CCTV program.

In addition, each service area takes on additional assets each year as the Municipality assumes ownership of subdivisions. Table 6-5 lists the quantities of growth assets expected to be assumed each year, based on assumptions recorded for 2016-2020 and estimated for 2021. The Table also lists the O&M cost impact of these additional assets, estimated based on the unit cost of O&M, calculated from 2021 operations budget divided by the 2021 inventory of relevant asset type.

Table 6-5: Operations & Maintenance Needs, by Service

Service	2021 Budget (2021 \$/year, millions)	Additional funds needed to manage existing assets and programs (2021 \$/year, million)	Additional Funds Needed to manage growth assets (2021 \$/year)*	Description of Growth (new assets added /year)**
<b>A – Transportation</b>	3.43		\$ 9,069 / year \$ 5,214 / year	707 m (centreline) roads/year 380 m sidewalks/year
<b>B – Stormwater</b>	0.29	0.05 (for CCTV program)	\$ 5,634 / year	717 m pipe/year
<b>C – Water</b>	1.00	--	\$ 11,346 / year	714 m pipe/year
<b>D – Wastewater</b>	1.11	--	\$ 13,526 / year	685 m pipe/year
<b>E – Parks &amp; Recreation</b>	1.01	--	\$3,150 / year	1 ha./year
<b>F – Fire Service</b>	0.75	--	--	--***
<b>G – Health Services</b>	0.38	--	--	--
<b>H – Municipal Administration</b>	0.78* **	--	--	--
<b>TOTAL</b>	<b>8.76</b>	<b>0.05</b>	<b>\$47,939 / year</b>	

\* Estimated based on unit cost of O&M, calculated from 2021 operations budget divided by the 2021 inventory of relevant asset type.

\*\* Quantities of growth assets are estimated based on annual asset assumptions for the years 2016-2021. Quantities for 2021 are estimated based on quantities recorded to September.

\*\*\* Insufficient information on future new/expanded fire station to include operational cost impacts.

\*\*\*\* Excludes costs related to delivery of administrative programs that are not related to asset management, such as Council costs, Economic Development, Planning, and Clerk's Department.

Table 6-6 lists the overall operating budget needed for the eight service areas for each year from 2022 to 2031. The annual amounts are broken down to the 2021 budget amount, which represents the status quo level of funding, the additional amount needed to manage current assets and programs, and the additional amount needed to manage growth assets. The Table shows that amount needed to manage current assets and programs is expected to remain stable at \$50,000, while the amount needed to manage growth assets is expected to increase each year, since more assets will be assumed each year. The Table shows that the projected

operating budget need increases from \$8.93 million for 2022 to \$9.36 million (in 2021 dollars) for 2031.

The projected operating budget estimates exclude costs associated with administrative programs that are not related to asset management, such as Council costs, Economic Development, Planning, and Clerk’s Department.

Table 6-6: Projected Annual Operating Budget Need – All Services

Year	Status Quo Operating Costs (based on 2021 Budget, in 2021 \$)	Additional Funding Needed to manage existing assets and programs (in 2021 \$)	Funding Needed for O&M of Growth Assets (in 2021 \$)	Projected Operating Budget Need by Year (in 2021 \$)
2021	\$ 8,834,898			
2022	\$ 8,834,898	\$ 50,000	\$ 47,939	\$ 8,932,837
2023	\$ 8,834,898	\$ 50,000	\$ 95,878	\$ 8,980,776
2024	\$ 8,834,898	\$ 50,000	\$ 143,817	\$ 9,028,715
2025	\$ 8,834,898	\$ 50,000	\$ 191,756	\$ 9,076,654
2026	\$ 8,834,898	\$ 50,000	\$ 239,695	\$ 9,124,593
2027	\$ 8,834,898	\$ 50,000	\$ 287,634	\$ 9,172,532
2028	\$ 8,834,898	\$ 50,000	\$ 335,573	\$ 9,220,471
2029	\$ 8,834,898	\$ 50,000	\$ 383,512	\$ 9,268,410
2030	\$ 8,834,898	\$ 50,000	\$ 431,451	\$ 9,316,349
2031	\$ 8,834,898	\$ 50,000	\$ 479,390	\$ 9,364,288

## 7 Financial Impact

Figure 7-1 compares the costs of the life cycle needs presented in Section 6.5 with the Municipality's historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes the additional \$50k needed for the stormwater CCTV program, as well as the annual increases needed to operate and maintain growth assets.

Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$ 20.5 million of capital funding budgeted in 2021, \$14.85 million will not be completed in 2021, and will be carried over to 2022. This includes the \$8.8 million for the wastewater lagoon upgrades, and \$1.0 million for the re-construction of Loyalist Dr. (Prince Edward Dr. to Applewood Dr.), including road, water, wastewater and stormwater components, as well as various smaller projects.

The annual expenditures and budget (black line) for expansion, upgrade, renewal and O&M activities average \$18.1 million/year for the period 2018-2021.

For the years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). The Figure shows expansion and upgrade needs average \$5.9 million/year and renewal needs average \$10.4 million/year. The annual O&M needs are projected at \$9.0 million/year in 2022, increasing to \$9.4 million/year in 2031. The total need is thus \$25.3 million/year in 2022, increasing to \$25.7 million/year, which yields a funding gap of \$7.3 million/year in 2022, increasing to \$7.7 million by 2031.

The estimated needs exclude operating costs associated with the planned new fire station, as well as the planned new park and recreation facility. These new facilities will require utilities, fuel and maintenance for vehicles and equipment, and staff labour costs. These costs will be included in a future update of the AM Plan when more detail is available on these planned assets.

The renewal needs include road renewal, with an expected average need of \$3.6 million/year. There may be opportunities to reduce this cost by adjusting life cycle strategies used for roads. The 2021 Strategic Plan Refresh directs staff to develop an infrastructure maintenance plan for roads, which may explore ways to minimize life cycle costs of roads.

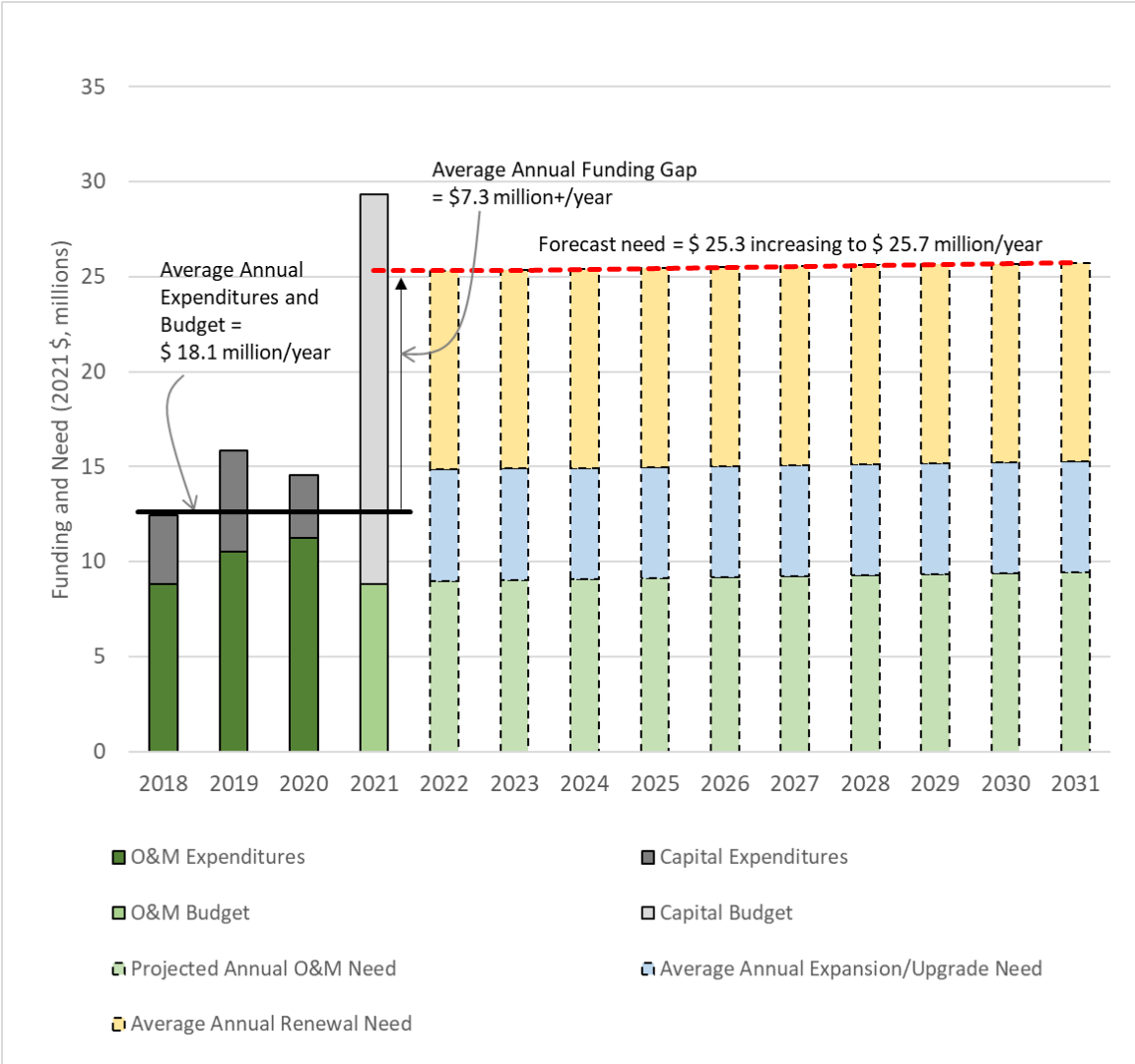
Other significant needs driving the funding gap include construction of new assets, including an overpass/underpass at John St. east of No Frills (\$3 million), a Connecting Link between Industrial Park and County Rd. 64 (\$3 million), construction of a new fire station (estimated at \$9.5-13.8 million for land, design, construction, vehicles and equipment), and construction of a new park and recreation facility on a recently purchased piece of land (\$20 million).

For costs related to stormwater assets, the Municipality may consider establishing a stormwater charge. This would provide an alternative funding source to cover the cost of the stormwater service, which is estimated at \$1.47 million/year in 2022, increasing to \$1.52 million/year by 2031 due to growth.

Construction of new assets, as well as asset expansion, may be funded by Development Charges if the additional capacity is needed to support development. During the next update of the DC Background Study, the appropriate allocation of DC-funding will be determined for each expansion project.

Similarly, appropriate funding for water and wastewater system needs will be established during the next update of the Water-Wastewater Financing Plan and User Rate Study.

Figure 7-1: Forecast Funding Gap 2022-31 – All Services



To close the funding gap, the Municipality may choose to:

- Seek additional revenues, for example, from grants, taxation, user rates, Development Charges or a stormwater charge
- Seek ways to reduce asset life cycle costs, for example through the Road Maintenance Plan that has been identified in the 2021 Strategic Plan Refresh as a strategic priority
- Reduce service level targets (or service level norms, where formal targets have not been established) to reduce the identified needs.

## 8 AM Plan Monitoring & Improvement

### 8.1.1 AM Plan Monitoring

This AM Plan will be reviewed during annual budget planning processes and amended to show:

- Status of expansion, upgrade and renewal needs and projects listed in Section 6
- Updated service level performance for LOS metrics listed in Section 4
- Service level targets as they are established (to be incorporated into Section 4)

The AM Plan will be updated every five years (or more frequently) to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the long-term financial plan.

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this asset management plan are incorporated into the long-term financial plan
- The degree to which the current one-year budget and four-year forecast take into account the forecast needs provided by the AM Plan
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into Council's Strategic Plan and associated plans
- The Asset Funding Ratio achieving the target of 1.0.

### 8.1.2 AM Plan Improvement

Development of AM Plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. This section provides an overview of the compliance of this AM Plan with Ontario Regulation 588/17 for current levels of service and the improvements required to become compliant with Regulation 588/17 for proposed levels of service by July 1, 2025.

The following improvement activities are planned to enable the Municipality to comply with Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure, Proposed Levels of Service by July 1, 2025.

- **State of Infrastructure:** Continue to improve knowledge of asset replacement costs and current condition of the assets based on asset criticality, with a focus on vertical assets.
- **Levels of Service:** Continue to assess current performance and, for each asset category, document the LOS that the Municipality proposes to provide for the next 10 years and an explanation of why the proposed LOS targets are appropriate.
- **Asset Management Strategy:** For each asset category, identify the lifecycle activities that would need to be undertaken to provide the proposed LOS for each of the next 10 years, based on risk and lowest lifecycle cost analyses.
- **Financing Strategy:** For each asset category, provide the costs of the lifecycle activities that would need to be undertaken to achieve the proposed LOS for each of the next 10

years, separated into capital expenditures and significant operating costs. Also provide the annual funding projected to be available to undertake lifecycle activities and the options examined to maximize the funding projected to be available. For any funding shortfalls, identify which lifecycle activities will be funded and, for those not funded, the risks of not undertaking them.

- **Other:** Provide an overview of the risks associated with implementation of the AM Plan and any actions that would be proposed in response to those risks. Provide an explanation of any other key assumptions underlying the plan that have not previously been explained.

The following improvements to asset data are recommended:

**1. Establish unique asset IDs for each asset.**

The asset IDs will be essential for integrating and cross-referencing asset data stored in different systems and data sets, including the GIS, the future work order system, and the Fixed Asset Register.

**2. Collect GIS data to enable geo-location and mapping.**

GIS data is needed for the following asset types:

- Buildings - as points or polygons; consider also capturing parking lots and driveways for snow clearing planning, and grassy areas for grass cutting planning
- Boating Facilities – as points
- Water and Wastewater vertical facilities – as points

GIS data will be needed in the future work order system to enable operations staff to locate specific assets. It will also support AM planning and communication.

**3. Assess condition and remaining life of streetlight poles.**

Assess condition and remaining life of Brighton-owned streetlight poles to enable forecasting of future renewal need.

**4. Merge storm resiliency data to asset inventory for LOS reporting.**

O.Reg. 588/17 requires reporting of

- Percentage of the municipal stormwater management system resilient to a 5-year storm

Appendix C of the 2019 Stormwater Master Plan reports the pipes and ponds that have insufficient capacity for different storm severity levels. However, that data set was not available to merge with the asset inventory and asset replacement values, as would be required to report percentage of assets (by replacement value) resilient to a 5-year storm. To enable reporting on this LOS metric in the next iteration of the AM Plan, it is recommended that the storm resiliency data be merged into the asset inventory.

**5. Collect inventory data and assess condition of Water and Wastewater process equipment.**

Building Condition Assessments were conducted on non-process building components in 2021. A similar exercise should be completed for process components within Water and

Wastewater vertical facilities. Asset inventory data can be collected at the same time to populate the work order system.

**6. Establish a centralized listing of AM needs.**

As asset needs are identified, they should be recorded in a centralized location for tracking, prioritization and resourcing. Each identified need should indicate the source or justification of the need (for example Strategic Plan, Master Plan, Council direction or public complaints), an estimated cost to resolve the need, the risk exposure associated with not addressing the need, and the estimated cost of resolving the need. A status field should indicate whether needs have been resourced (turned into projects) or resolved.

This AM needs registry will support future iterations of the AM Plan, annual AM Plan monitoring, and annual budgeting and prioritization.

**7. Proceed with implementation of the Enterprise Asset Management System.**

In 2021, the Municipality initiated a project to implement an Enterprise Asset Management System (EAMS), which will be used to track and manage operations and maintenance work orders. The data accumulated in the system will be used to improve the Municipality's understanding of lifecycle cost and performance by asset, and to improve asset lifecycle decisions. The EAMS will be a core system supporting the Municipality's AM activities, and it is recommended that this important initiative be completed, and that the effectiveness of the EAMS be monitored for continuous improvement opportunities.

# Appendix A Transportation Service

## A.1 Inventory

The Municipality provides transportation services on a network of 234.3 km of local roads, six (6) bridges, 34 culverts, and 30.9 km of sidewalks. Illumination is provided by 981 energy-efficient LED streetlights on a combination of Municipally-owned poles and poles owned by partner utilities. The Municipality operates traffic signals at five intersections, along with one pedestrian cross-over signal. To maintain these transportation assets, the Municipality owns seven (7) snow plows, two (2) sidewalk plows, a street sweeper, nine (9) pick-up trucks and various pieces of road construction equipment, such as a grader, backhoe and excavator. The Municipality has two Public Works (PW) Buildings, one in the north at 71 Chatten Rd. and one in the south at 67 Sharp Rd. The north PW Building uses a coverall shed for sand and salt, and the south PW Building has a sand dome and a coverall shed for salt.

As shown in Table A-1, the replacement value of these assets is \$195.0 million (in 2021 dollars). This value excludes fixed equipment within the PW Buildings, as well as signs, guiderails, retaining walls, roadside fences and street trees. Exclusions were due to lack of data.

Table A-1: Transportation Asset Inventory

Asset Class*	Quantity	Replacement Value (2021 \$, millions)
Roads	234.3 km (centreline)	\$ 153.7
Bridges & Culverts	40	\$ 18.7
Traffic Signals	5 intersections + 1 cross-over signal	\$ 1.7
Streetlights	980 luminaires + 344 poles	\$ 1.5
Sidewalks	30.9 km	\$ 8.0
Vehicles & Equipment	9 light vehicles + 7 snow plows + 9 maintenance vehicles + other equipment	\$ 4.6
Buildings & Facilities	2 Public Works Facilities + 1 sand dome + 2 coverall sheds	\$ 6.7**
<b>TOTAL</b>		<b>\$ 195.0</b>

\* No data available on other roadside assets, such as signage, guiderails and retaining walls.

\*\* Value includes only building systems. No inventory data was available for specialized equipment within the buildings.

As shown in Table A-1, the most significant portion of the transportation asset inventory are the roads. Table A- shows that by length, 55% (129.8 km) of those roads are surface treated and

31% (73.3 km) are paved. The remainder are gravel. Table A-2 also shows the replacement values for these different road types. The unit costs for each surface type include material and construction costs for the surface and base. The surface area of the roadways has been estimated based on each road being two lanes wide (one lane per direction). Lane widths were estimated based on speed limit, specifically, 4.3m/lane for 80km/h segments, 3.5m/lane for 60km/h, and 3.3m/lane for 50km/h or less.

Table A-2: Road Assets by Surface Type

Type	Quantity (centreline km)	Estimated Unit Cost for surface and base (2021 \$ / m <sup>2</sup> )*	Replacement Value (2021 \$, millions)
Paved (90 mm asphalt)	73.3 km	\$ 110 /m <sup>2</sup>	\$ 54.5
Surface Treated (double)	129.8 km	\$ 85 /m <sup>2</sup>	\$ 85.0
Gravel	31.3 km	\$ 56 /m <sup>2</sup>	\$ 14.4
TOTAL	234.3 km	n/a	\$ 153.7

*\* Road width is assumed to be 3.3m/lane for roads with posted speed limit of 50km/h or less, 3.5m/lane for posted speed limit of 60km/h and 4.3m/lane for posted speed limit of 80km/h. All roads are two (2) lanes wide (one lane per direction), except one segment of Main St. in downtown Brighton that also has one parking lane in each direction.*

Figure A-1 shows a map of the roads owned and maintained by the Municipality, coloured based on surface type. The Figure shows that the Municipality’s rural areas are primarily served by surface treated roads, along with some gravel roads, and some paved segments in the south.

Figure A-2 shows a detailed view of road surface types in Brighton’s urban area. The Figure shows that roads in the urban area are primarily paved.

Figure A-1: Map of Roads by Surface Type

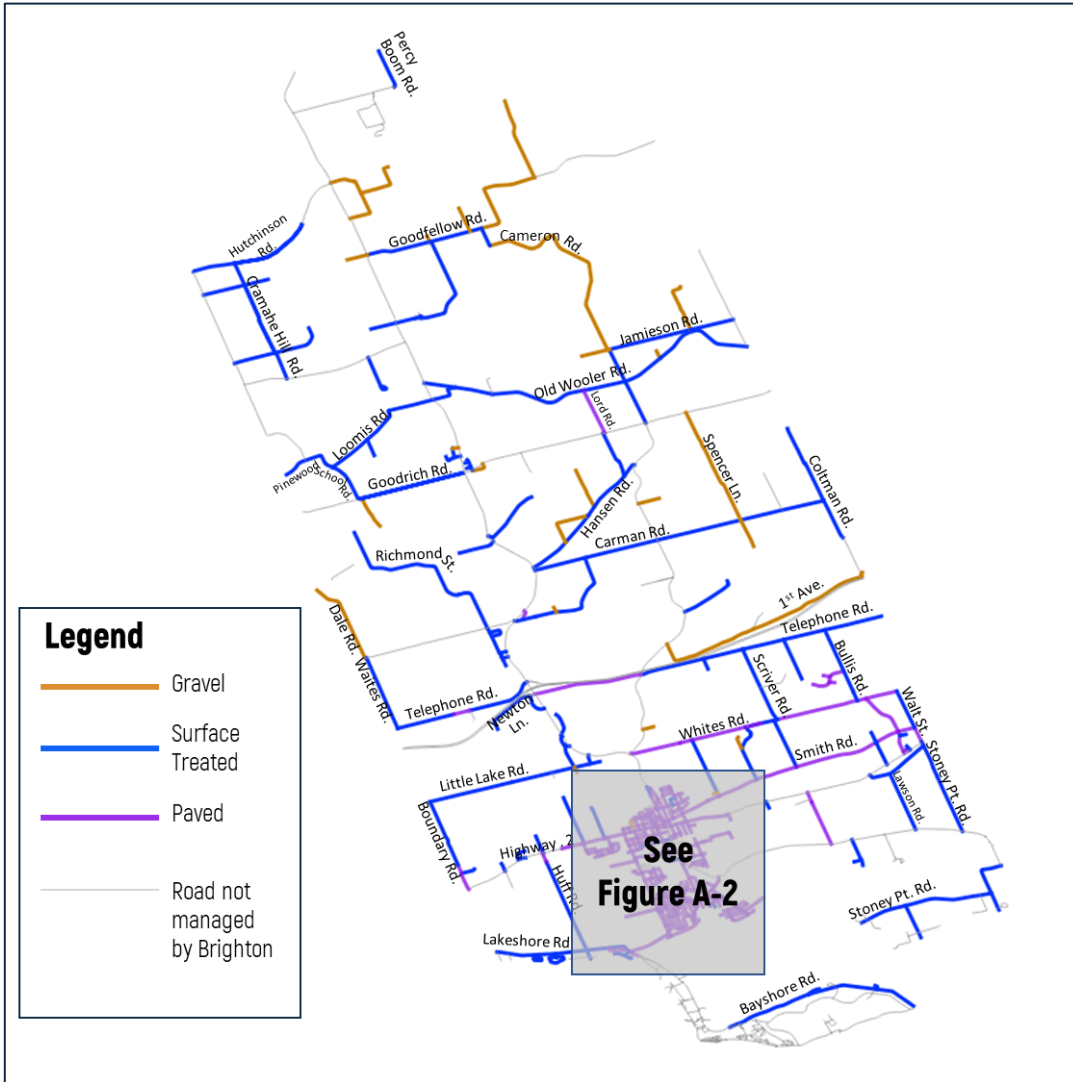
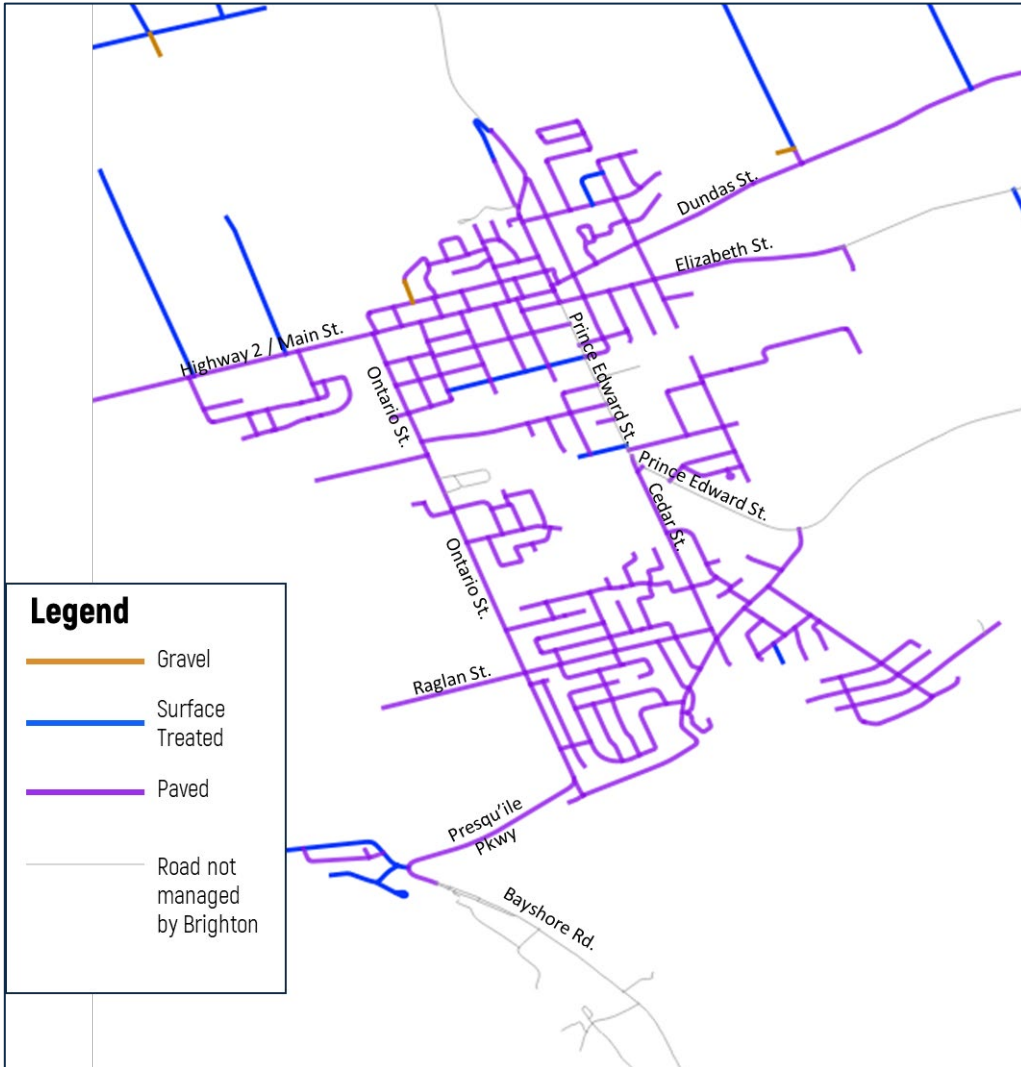


Figure A-2: Map of Roads by Surface Type – Urban Area

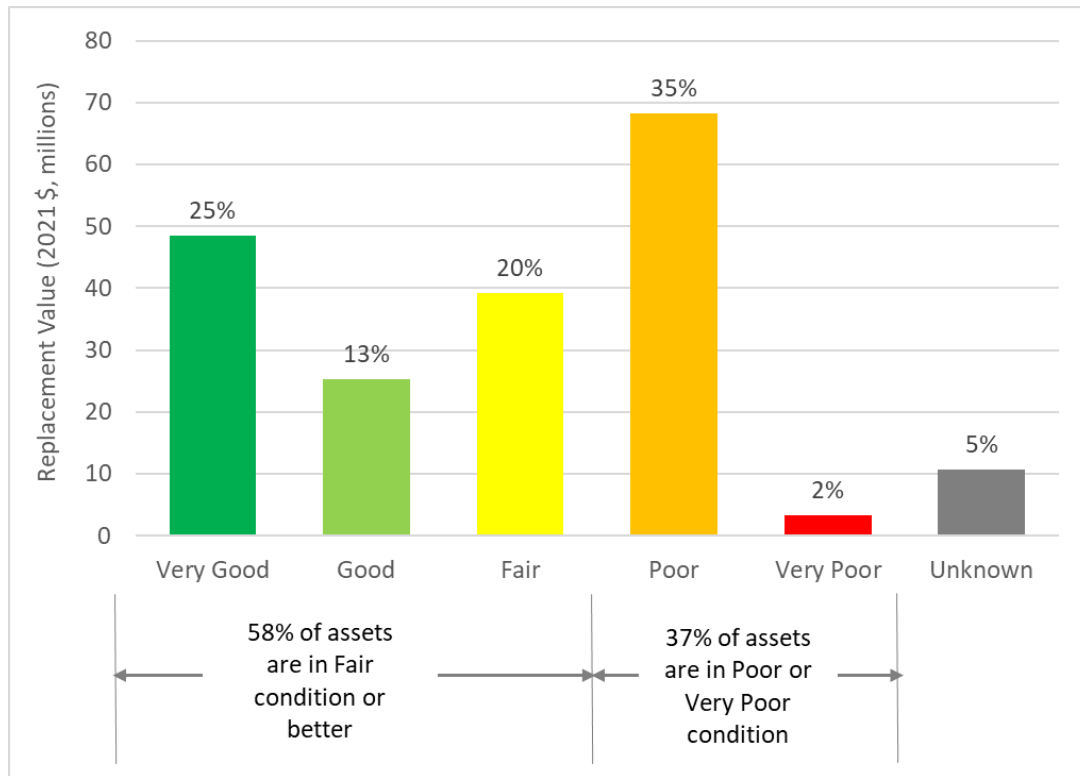


## A.2 State of the Infrastructure

Fifty-eight percent (58%) of transportation assets are in Fair condition or better, while 37% are in Poor condition and 2% are in Very Poor condition. The condition distribution is shown in Figure A-3. The Figure also shows that condition is unknown for 5% of transportation assets. Assets with unknown condition consist of road assets.

Assets in Very Poor condition consist of 1,880m of paved roads, 400m of gravel road, 270m of surface treated road, four (4) culverts and 380m of concrete sidewalks.

Figure A-3: Condition Overview – Transportation Assets



Condition ratings for roads was determined from Pavement Condition Index (PCI) scores from the 2019 Road Needs Study. Similarly, condition of bridges and culverts was determined from Bridge Condition Index (BCI) scores from the 2021 Bridge Inspection. Table A-3 shows how PCI and BCI were converted to the AM Plan’s 5-point scale (Very Good to Very Poor).

Table A-3: Condition Rating Conversion

Condition Grade	Roads Pavement Condition Index	Bridges & Culverts Bridge Condition Index	Other Asset Types % Remaining Useful Life
Very Good	80.0 – 100.0	90 – 100	80 – 100%
Good	60.0 – 79.9	80 – 89	60 – 79%
Fair	40.0 – 59.9	65 – 79	40 – 59%
Poor	20.0 – 39.9	40 – 64	20 – 39%

Condition Grade	Roads Pavement Condition Index	Bridges & Culverts Bridge Condition Index	Other Asset Types % Remaining Useful Life
Very Poor	< 19.9	< 39	< 19%

For sidewalks, condition data from 2020 was used. The data was collected on a 5-point scale of Very Good to Very Poor, so no conversion was required. For traffic signals, staff-reported condition was used (reported on 5-point scale Very Good to Very Poor).

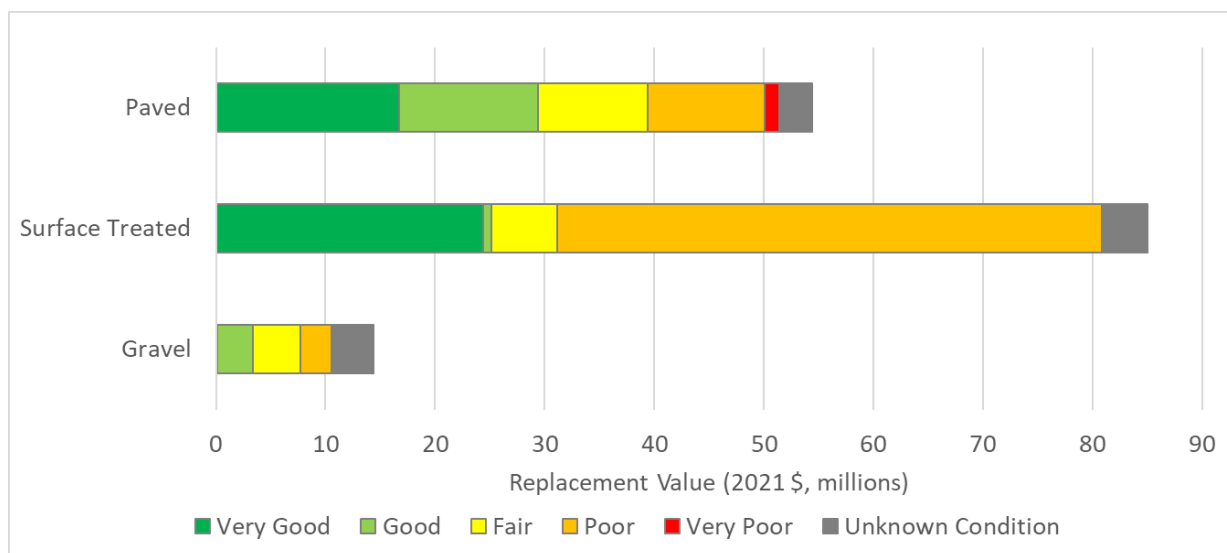
For streetlights, condition was determined based on age. The Municipality converted all streetlights to LED in 2014. As such, light fixtures and Municipally-owned poles are now 7 years old. With an estimated 30-year service life for both fixtures and poles, these assets have 77% of their life remaining, and are thus in Good condition, in accordance with Condition Rating Conversion in Table A-3.

Condition of vehicles and equipment was determined based on staff input. In general, light vehicles and snow plows have an estimated service life of 10 years, heavy vehicles have a service life of 20 years, and other equipment (reflectometer, radar speed signs, 401 illumination) have a service life of 15 years. However, deterioration rates vary widely, so staff observation is considered more reliable than age-based condition estimation.

For the PW North and South buildings, condition was assessed in the 2021 Building Condition Assessment (BCA) project, which assigned condition scores to building components using the 5-point scale Very Good to Very Poor scale. As such, no conversion was required.

Figure A-4 shows the condition distribution of roads, which are the largest category of transportation assets. The Figure shows condition by surface type, specifically, paved, surface treated and gravel.

Figure A-4: Condition Detail – Roads by Surface Type



Roads in Very poor condition are as follows:

- Paved segments
  - Platt St. – 120m from Sanford St. to Main St.

- Cheer Dr. – 230m from Kingsley Ave. to Dorman St.
- North Dr. – 110m from Cheer Dr. to dead end
- Sanford St. – 380m from Young St. to Platt St.
- Raglan St. – 1040m from Shewman Rd. to dead end
- Surface Treated segments
  - Lisgar St. – 270m from Smith St. to dead end
- Gravel segments
  - Goodfellow Rd. – 400m

Road condition is mapped in Figure A-5 for the overall Municipality, and Figure A-6 shows the road condition map of the urban area.

Figure A-5: Map of Roads by Condition

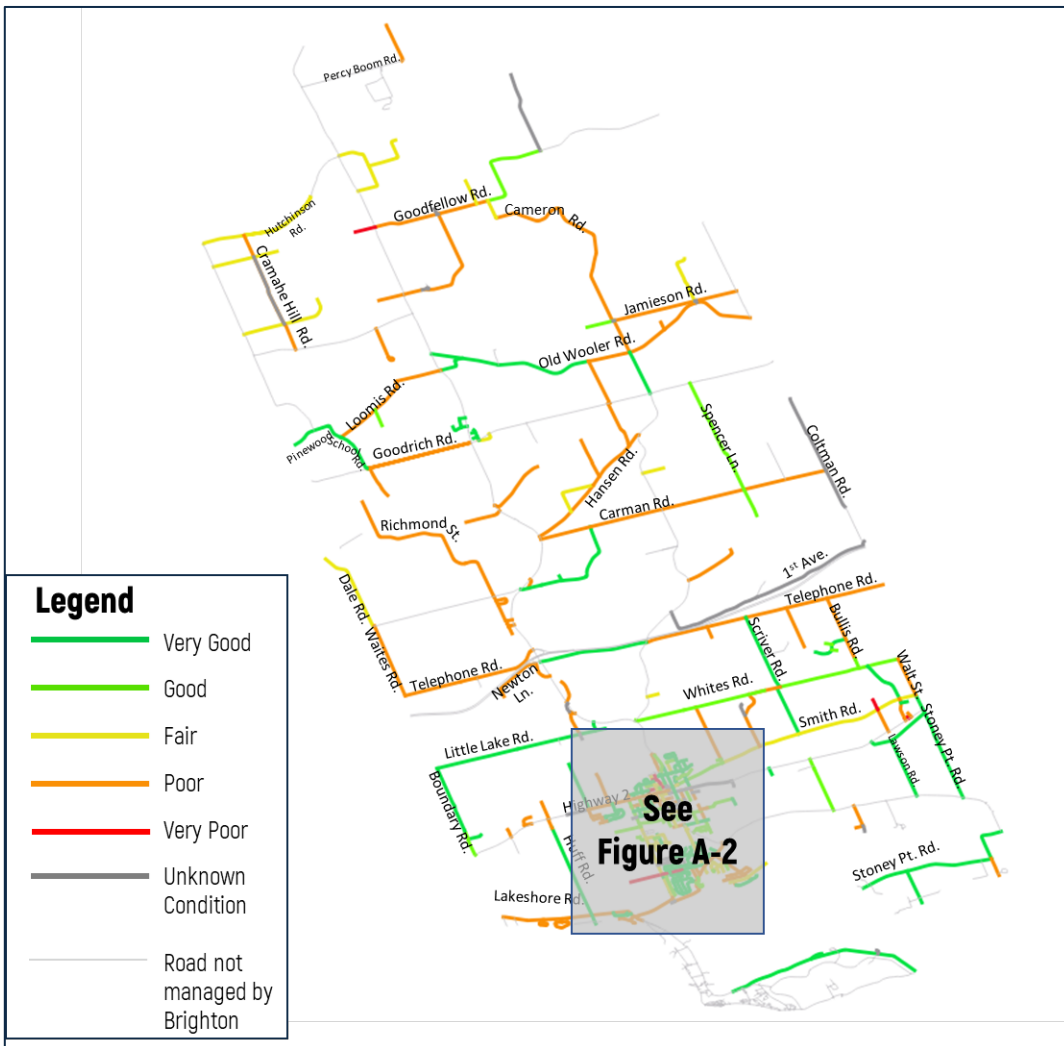


Figure A-6: Map of Roads by Condition – Urban Area

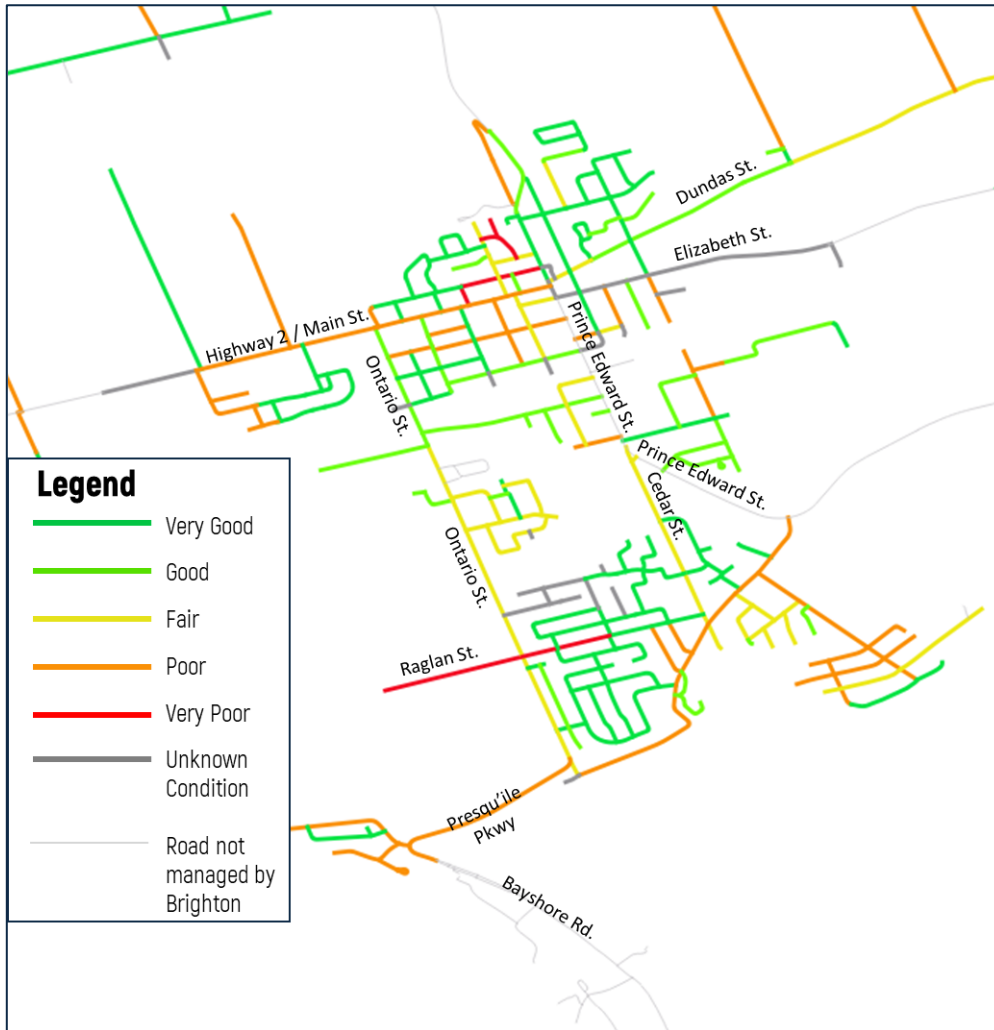
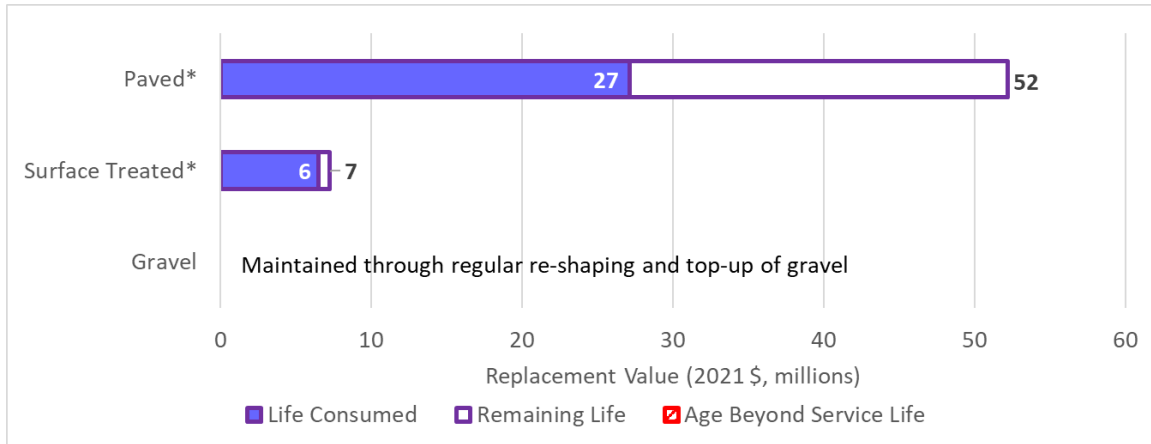


Figure A-7 shows the average age of roads by surface type. The plot shows that on average, paved roads have reached 27 years, and thus have an average of 25 years of remaining life; and that surface treated roads have reached an average of 6 years of age, and thus have an average of one year of remaining life. Road resurfacing and reconstruction plans are discussed in Section A.5.2.

The service life of paved roads was estimated to be 30 years for Maintenance Management Class 4 roads, 45 years for Class 5 roads and 60 years for Class 6 roads. The service life of surface treated roads was estimated to be 6 years for Maintenance Management Class 4 roads, 8 years for Class 5 roads and 10 years for Class 6 roads. The road Classification is based on posted speed limit and Annual Average Daily Traffic (AADT), which are both factors that affect condition deterioration of roads. Average age is not presented for gravel roads, because gravel roads are regularly maintained with gravel top-ups and re-shaping.

Figure A-7: Average Age of Assets – Roads by Surface Type



\* Installation year data was not available for some road segments. For those segments, age was estimated based on observed condition.

Figure A-8 shows the detailed condition distribution of transportation assets, excluding roads. The culverts in Very Poor condition are Bullis Rd. culvert (Site #22), White’s Rd. culvert (Site #24), Hansen Rd. culvert (Site #34) and Stoney Point Rd. S. culvert (Site #41).

Figure A-8: Condition Detail – Transportation Assets (excluding Roads)

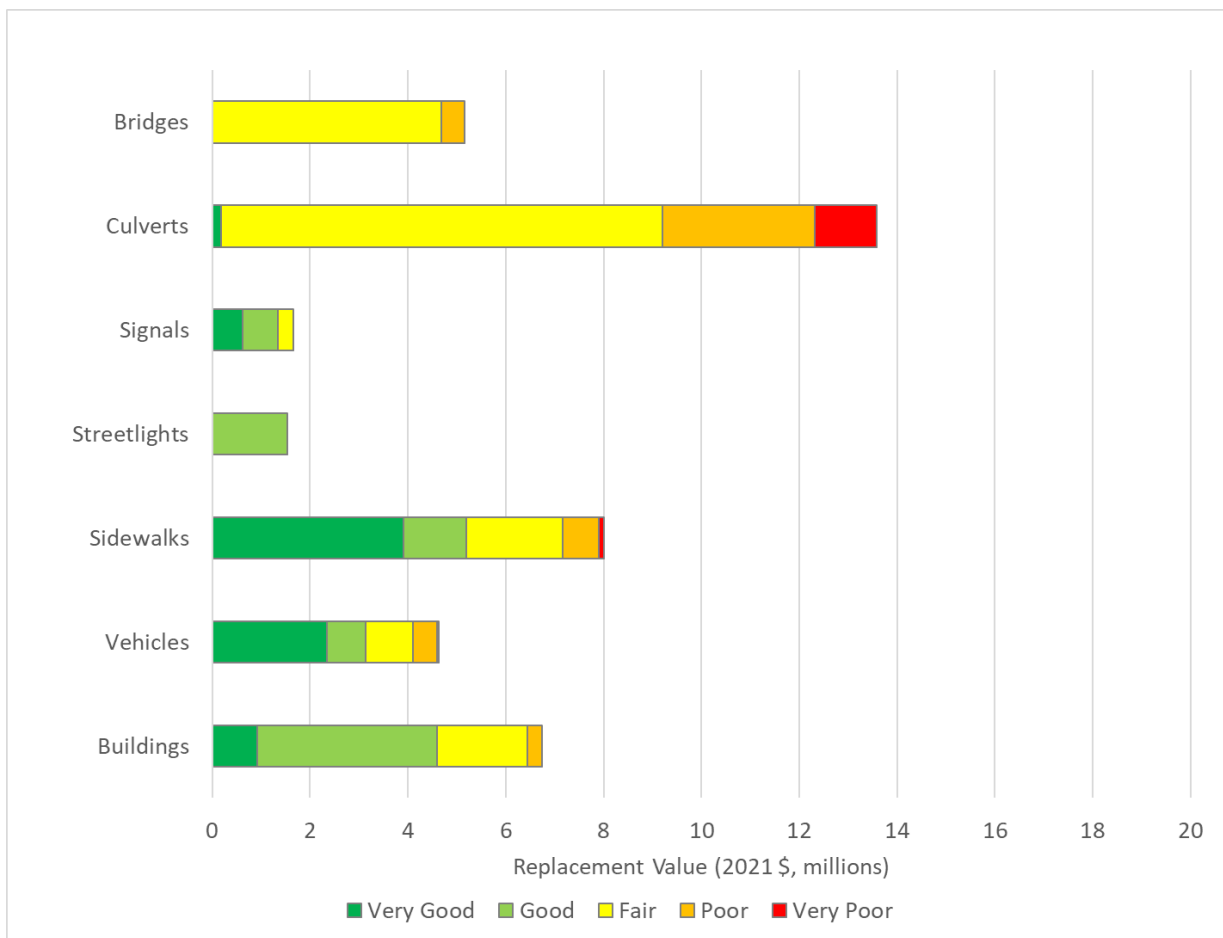
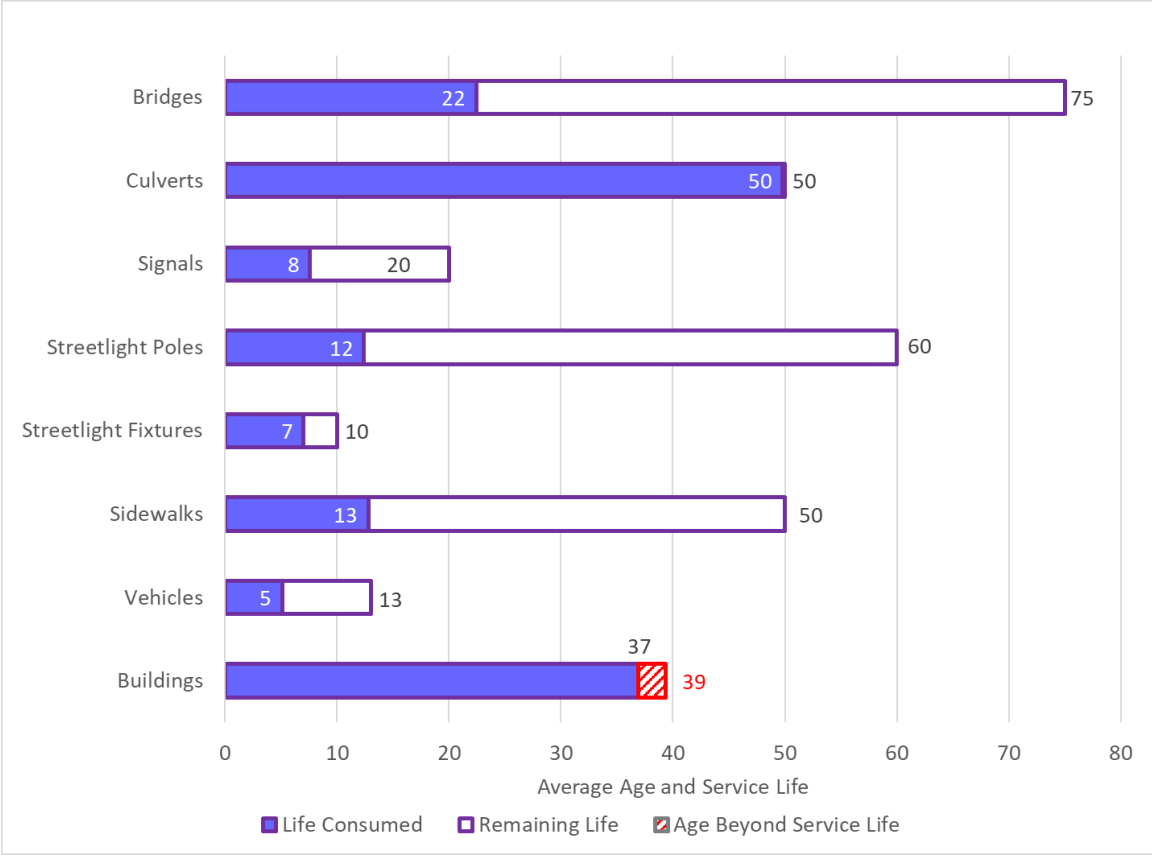


Figure A-9 shows the average age of these assets by asset class. The plot shows that on average, culverts have reached the end of their service life. This aligns with the condition plot in Figure A-8, which shows that many culverts are in Poor or Very Poor condition.

Figure A-9 also shows that the average age of building systems has reached the average service life for those systems; however, Figure A-8 showed that none of the building assets are in Very Poor condition, as would be expected of assets that have passed their service life. This suggests that assets are deteriorating more slowly than their estimated service life, or that asset renewals may not have been recorded in asset the data.

Figure A-9: Average Age of Assets – Transportation Assets (excluding Roads)



### A.3 Levels of Service

This section presents Level of Service metrics and performance for transportation services. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

Table A-4 presents Technical LOS metrics for the Transportation service. Metrics have been divided into three categories: Capacity and Use, Function and Quality. Inadequate performance on Capacity and Use metrics indicate a need for system expansion improvements, Inadequate performance on Function metrics indicate a need for asset upgrades, and inadequate performance on Quality metrics indicate a need for renewal and maintenance activities.

Although targets have not been formally established, the metrics indicate that there is need to renew Monck St. bridge and Lord Rd. bridge to eliminate load restrictions.

Performance data related to sidewalks are currently not available; however, the metrics have been included, so that they may be included in future iterations of the AM Plan.

Table A-4: Level of Service Metrics for Transportation Service

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide adequate mobility and access to properties	Description, which may include maps, of the road network in the municipality and its level of connectivity.*	See Section A.1 for description and maps of the Municipality’s road network.
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide adequate mobility and access to properties	Number of lane-km of each of arterial roads, collector roads and local roads as a proportion of km <sup>2</sup> of land area of the municipality.*	Number of Lane-km / km <sup>2</sup> <ul style="list-style-type: none"> <li>Local Roads: 1.86</li> <li>Rural Highways: 0.03</li> <li>Collectors: 0.09</li> <li>Arterials: 0.08</li> </ul> For details, see Table A-5.
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Bridge connectivity	Provide adequate bridge connectivity for different types of travelers (heavy vehicles, emergency vehicles, pedestrians and cyclists)	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).*	The Municipality has 6 bridges and 34 culverts. With the exception of 2 bridges with load restrictions, these structures support motor vehicles, including heavy transport and emergency vehicles.

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Bridge connectivity	Provide adequate bridge connectivity for different types of travelers (heavy vehicles, emergency vehicles, pedestrians and cyclists)	Percentage of bridges in the municipality with loading or dimensional restrictions.*	33% (2 of the 6 bridges have load restrictions: Monck St. Bridge Lord Rd. Bridge)
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Sidewalks and walkways are universally accessible	Accommodate mobility devices	% sidewalks 1.5m wide	Data not available (Performance to be reported in future AM Plan)
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Sidewalks and walkways are universally accessible	Accommodate visually impaired	Length of sidewalks with tactile plates	Data not available (Performance to be reported in future AM Plan)
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	Description or images that illustrate the different levels of road class pavement condition.*	See Table 3-3.

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	Description or images of the condition of bridges and how this would affect use of the bridges.*	See Table 3-4.
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	For paved roads in the municipality, the average pavement condition index value.*	Paved: 74.7 (Very Good) Surface Treated: 61.3 (Good)
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).*	58.4 (Good)
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	For bridges in the municipality, the average bridge condition index value.*	71.0 (Good)
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	For structural culverts in the municipality, the average bridge condition index value.*	64.2 (Good)
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Transportation assets are kept in a state of good repair	% of assets in Fair condition or better	58%

\* Metric required by O.Reg. 588/17.

Table A-1: Road Assets by Road Class and Surface Type (Lane-km)

	Paved	Surface Treated	Gravel	TOTAL	Per km <sup>2</sup> *
Local Roads	113	240	62	414	1.86
Rural Highway	-	7	-	7	0.03
Collector	12	8	-	21	0.09
Arterial	17	-	-	17	0.08
<b>TOTAL</b>	<b>142</b>	<b>255</b>	<b>62</b>	<b>459</b>	<b>2.06</b>

\* Based on Municipality's area of 223 km<sup>2</sup>.

### A.1 Risk Management Strategy

Risk exposure associated with renewal needs are shown in Table A-6 for transportation service assets. For roads, signals, streetlights and sidewalks, the table lists the full replacement value of the asset in the appropriate cell, based on Probability of Failure (condition) and Consequence of Failure. This reflects the assumption that the risk would be mitigated by replacement of the asset. For bridges and culverts, the table lists the cost of recommended repairs. Similarly, for buildings, the table lists the cost of repairs recommended within the AM Plan period, 2022-31. Building repair costs of \$5,000 or less are excluded, because it is assumed that these will be addressed through regular maintenance activities, and thus funded by operating budget.

Table A-2: Renewal Risk Exposure – Transportation Service

		<b>Total value of assets in 2021 \$ 195.0 million</b>				
<b>PoF</b>						
	1	2	3	4	5	
5	-	\$ 0.5	\$ 0.6	-	\$ 1.3	
4	-	\$ 10.2	\$ 50.1	\$ 1.3	\$ 2.9	
3	-	\$ 13.5	\$ 8.4	\$ 0.2	\$ 2.6	
2	-	\$ 5.7	\$ 9.2	\$ 1.5	\$ 1.6	
1	-	\$ 11.6	\$ 29.1	\$ 1.1	\$ 1.6	
		1	2	3	4	5
		<b>Consequence of Failure</b>				

Risk Legend

Very Low	Low	Moderate	High	Very High
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The Table shows that \$3.9 of the renewal needs are considered to be Very High risk, consisting primarily of bridges, culverts, specifically:

- Monck St. bridge (Site #4), which has a load restriction
- Lord Rd. bridge (Site #3), which has a load restriction
- Aranda Way culvert at Codrington (Site #12)
- Main St. concrete culvert (Site #16)
- Ontario St.

- Ontario St. culvert (Site #17)
- Elizabeth St. concrete culvert (Site #20)
- Bullis Rd. culvert (Site #22)
- White's Rd. culvert (Site #24)
- Percy St. culvert (Site #29)
- Scriver Rd. culvert (Site #31)
- Richardson Rd. culvert (Site #32)
- Hansen Rd. culvert (Site #34)
- McCann Rd. culvert (Site #39)
- County Rd. 2 culvert (Site #40)

In addition, the 401 sign illumination equipment and a 2011 International Tandem snow plow are also in the Very High risk category (in Poor condition), and require replacement.

## A.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031), transportation service assets will require the following lifecycle activities:

- Expansion & Upgrade \$ 6.0 million
- Renewal \$ 52.7 million
- Operations & Maintenance \$ 3.5 million / year increasing to \$3.6 million/year due to growth assets

The following sub-sections provide details on the needs in each of these categories.

### A.5.1 Expansion & Upgrade Needs

The 2021 Strategic Plan Refresh identified the following system expansion needs:

- Plan for an overpass/underpass at John Street east of No Frills (plan due November 2026)
- Develop a design for a Connecting Link between the Industrial Park and County Road 64 (design due December 2022)

For budgetary purposes, it is assumed that the overpass/underpass project will cost \$3.0 million, including Environmental Assessment (EA), design, engineering and construction. The Connecting Link is also estimated to cost \$3.0 million from EA through to construction. These estimates may change when the plans and designs are completed.

In addition, salt and sand storage capacity at the PW North and South buildings should be assessed in the context of the changing winter weather patterns. This will provide a clear understanding of the potential need for expansion, as the salt shed and coveralls come due for replacement. It is recommended that \$10,000 be budgeted for this sand and salt storage study, to be funded from the operating budget.

For identification of function needs, data were not available to report accessibility of sidewalk, including for example, sidewalk width and location of tactile plates; however, the Municipality has since collected this data and has developed a plan for sidewalk widening and addition of

tactile plates. Sidewalk improvement plans were established after the AM Plan analysis was completed, so the details on sidewalk improvement needs are not included in this AM Plan.

A.5.2 Renewal Needs

Table A-7 lists the Municipality’s renewal practices by asset type, along with the forecast renewal needs to 2031. The total renewal need to 2031 is \$52.7 million. Forty-three percent (43%) of this cost consists of reconstructing paved roads, and 20% consists of resurfacing surface treated roads.

Table A-7: Transportation Service Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Roads – Paved	Resurface Class 4 at 30 years, Class 5 at 45 years, Class 6 at 60 years	<p><b>\$22.3 million</b> for reconstruction of 20.1km of road identified as a Roads Deficit in Oct 15, 2020. This cost estimate includes a 30% escalation for design &amp; engineering, contract administration and contingency. However, this cost excludes water, wastewater and stormwater project components, which are reported in other sections of the AM Plan.</p> <p>Also recommended is Meade St. (350m), currently in Poor condition for approximately \$0.3 million (including escalation for project costs, excluding water, wastewater and stormwater).</p> <p><b>TOTAL = \$22.6 million</b></p>
Roads – Surface Treated	Resurface Class 4 at 6 years, Class 5 at 8 years, Class 6 at 10 years	<p>During the 10-year period from 2022-31, all 129.8km of surface treated roads will require re-surface at least once. A double lift of surface treatment is estimated to cost \$7/m<sup>2</sup> (2021 \$).</p> <p><b>TOTAL = \$10.7 million</b></p>
Roads – Gravel	Resurface Class 4 at 3 years, Class 5 at 4 years, Class 6 at 5 years	<p>During the 10-year period from 2022-31, all 31.3km of gravel roads reshaping with new gravel at least twice. Four inches (4”) of gravel is estimated to cost \$4.5/m<sup>2</sup> (2021 \$).</p> <p><b>TOTAL = \$2.7 million</b></p>

Asset Class	Renewal Practices	Renewal Needs to 2031
Bridges & Culverts	Repair/replace components based on biennial condition assessment	Needs identified in the Bridge Inspection report total \$5.27 million over the next 10 years.  <b>TOTAL = \$5.3 million</b>
Traffic Signals	Replace at 20 years	Over the next 10 years, the following traffic signals Main St. & Division St. N. will reach end-of-life:  <b>TOTAL = \$0.25 million</b>
Streetlights	Replace at bulbs/heads at 10 years  Replace poles at 60 years	The streetlight bulbs/heads were converted to LED in 2014 in a mass upgrade project. They will require replacement in 2024, at an estimated cost of <b>\$414 k</b> for 981 bulb/head fixtures.  The Municipality owns 344 concrete and wooden streetlight poles. (The remaining fixtures are mounted on poles owned by other agencies, such as Hydro providers). Installation year data for Brighton-owned poles is not available. As such, remaining life and replacement needs of poles are not known.  <b>TOTAL = \$0.4 million</b>
Sidewalks	Replace at 50 years	Sidewalks are generally replaced with road reconstruction. With 20.4km of roads to be reconstructed over the next 10 years, an estimated average of 1.5km of sidewalks/km of road, and an estimated cost of \$188/m of sidewalk, the renewal cost will be \$5.75 million.  <b>TOTAL = \$5.8 million</b>
Vehicles and Equipment <ul style="list-style-type: none"> <li>• Equipment</li> <li>• Light Vehicles &amp; Snow Plows</li> <li>• Heavy Vehicles</li> </ul>	Replace at 10-15 years  Replace at 10 years  Replace at 20 years	Items reaching end-of-life over the next 10 years will total the following: <ul style="list-style-type: none"> <li>• \$0.32 million</li> <li>• \$2.93million</li> <li>• \$0.24 million</li> </ul> <b>TOTAL = \$3.5 million</b>

Asset Class	Renewal Practices	Renewal Needs to 2031
Buildings <ul style="list-style-type: none"> <li>Public Works Building North</li> <li>Public Works Building South</li> <li>Salt dome, coverall shed and salt shed</li> </ul>	Renewal needs identified in Building Condition Assessment	The 2021 Building Condition Assessment identified \$1.5 million of renewal needs for PW Buildings for the period 2022-31. This value includes only repairs estimated at more than \$5,000. Repairs below that cost are assumed to be addressed as maintenance work funded by the operating budget. <b>TOTAL = \$1.5 million</b>
<b>TOTAL RENEWAL NEED (2022-31)</b> (excludes needs that will be funded by operating)		<b>\$ 52.7 million</b>

In addition, the 2021 Strategic Plan Refresh directed staff to develop an infrastructure / maintenance plan that includes funding models for road replacement. This will be done in conjunction with the next iteration of the Road Needs Study.

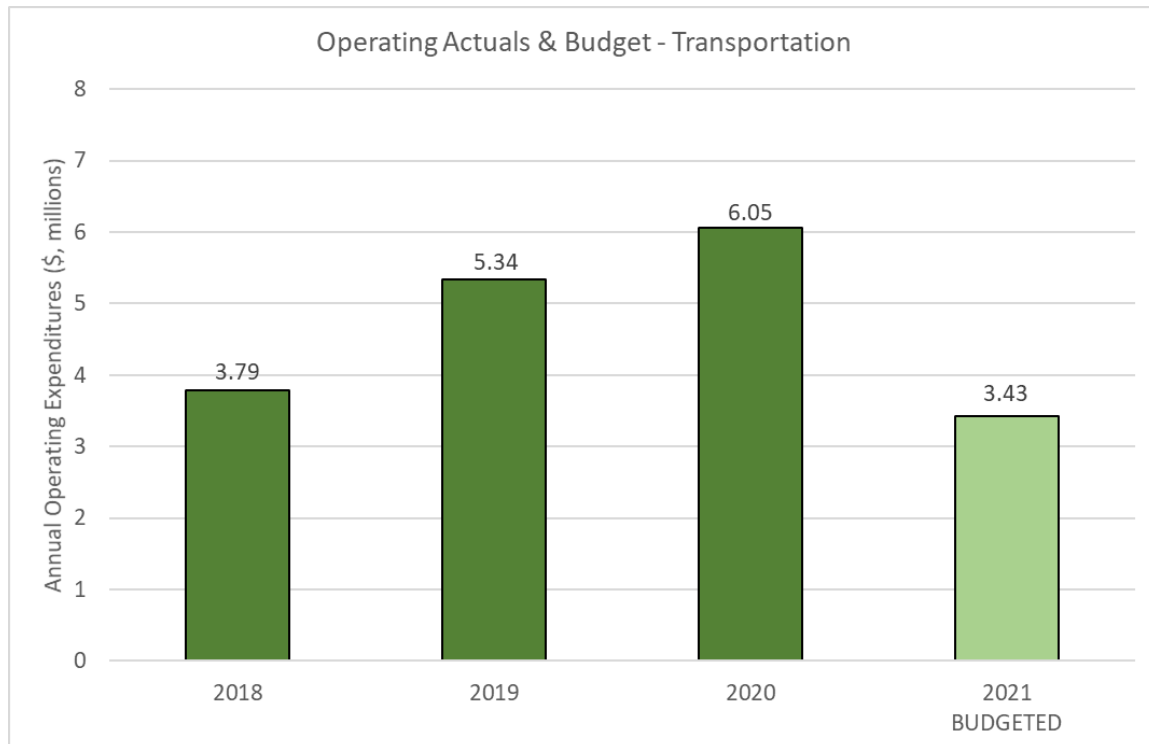
### A.5.3 Operations & Maintenance Needs

Operations and Maintenance (O&M) costs include day-to-day costs associated with running and overseeing the transportation system. This includes labour, energy, materials and services for winter snow clearing, sidewalk inspection, road patrol, preventive maintenance and pothole filling. O&M activities are funded by the Municipality’s operating budget.

Figure A-10 shows the operating expenditures for 2018-20, as well as the 2021 budget. In the past three years, \$1.1 million, \$2.1 million and \$2.4 million (2018-2020, respectively) have been spent on works related to specific sections of roadway. Going forward, these types of expenditures will be budgeted and tracked as Capital costs, and thus do not appear in the 2021 operating budget, and are not needed in future operating budgets.

As such, the forecast operations budget need for the Transportation Service is \$3.48 million, which consists of the 2021 budget amount (\$3.43 million).

Figure A-10: Operating Expenditures 2018-20 and 2021 Budget – Transportation Service



In addition, the Municipality’s asset portfolio grows each year due to ownership assumption of developer-built assets. These growth assets require additional funds to support O&M activities, such as inspection, snow clearing and minor repairs. The average annual growth in transportation assets for the period 2016-21 was 707 m (centreline) of roads, and 380 m of sidewalks. Assuming that the operating cost per unit remains unchanged from 2021 (based on 2021 budget and asset inventory), Table A-8 shows that an additional \$9,069 will be needed each year for O&M of new roads and \$5,214 will be needed for O&M of new sidewalks, totalling \$14,283/year.

Table A-8: Operating Budget Need for Growth Assets – Transportation Service

Asset Type	Average amount assets assumed per year for years 2016-2021	Total 2021 inventory	2021 Operating Budget for asset type (2021 \$)	Estimated Annual Operating cost (2021 \$/m)	Additional Operating Need / year for growth assets (2021 \$)
Roads	707 m (centreline)	234,401 m (centreline)	\$ 3,006,750*	\$ 12.8 /m (centreline)	\$ 9,069
Sidewalks	380 m	30,864	\$ 424,054	\$ 13.7 /m	\$ 5,214
				<b>TOTAL</b>	<b>\$ 14,283</b>

\* Includes all costs related to the transportation service, other than costs allocated specifically to sidewalks.

Table A-9 shows the projected operating budget needed for each year from 2022 to 2031, based on status quo operating costs (2021 budget), additional funds needed to meet current service levels (none) and funds needed to operate and maintain 707 m (centreline) of roads and 380 m of sidewalks of asset growth each year. The Table shows that the projected operating budget need grows from \$3.50 million in 2022 to \$3.62 million in 2031.

Table A-9: Projected Annual Operating Budget Need – Transportation Service

Year	Status Quo Operating Costs (based on 2021 Budget)	Additional Funding Needed to manage existing assets and programs*	Funding Needed for O&M of Growth Assets**	Projected Operating Budget Need by Year
2021	\$ 3,430,795			
2022	\$ 3,430,795	--	\$ 14,283	\$ 3,445,078
2023	\$ 3,430,795	--	\$ 28,566	\$ 3,459,361
2024	\$ 3,430,795	--	\$ 42,849	\$ 3,473,644
2025	\$ 3,430,795	--	\$ 57,132	\$ 3,487,927
2026	\$ 3,430,795	--	\$ 71,415	\$ 3,502,210
2027	\$ 3,430,795	--	\$ 85,698	\$ 3,516,493
2028	\$ 3,430,795	--	\$ 99,981	\$ 3,530,776
2029	\$ 3,430,795	--	\$ 114,264	\$ 3,545,059
2030	\$ 3,430,795	--	\$ 128,547	\$ 3,559,342
2031	\$ 3,430,795	--	\$ 142,830	\$ 3,573,625

\* Assumes 707m (centreline) of roads and 380m of sidewalks will be added each year.

## A.6 Financial Impact

Figure A-11 compares the life cycle needs presented in Section A.5 with the Municipality’s historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure A-10. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes the annual increases needed to operate and maintain growth assets. (Due to the scale, the increasing height of the light green bars is not apparent on the graph).

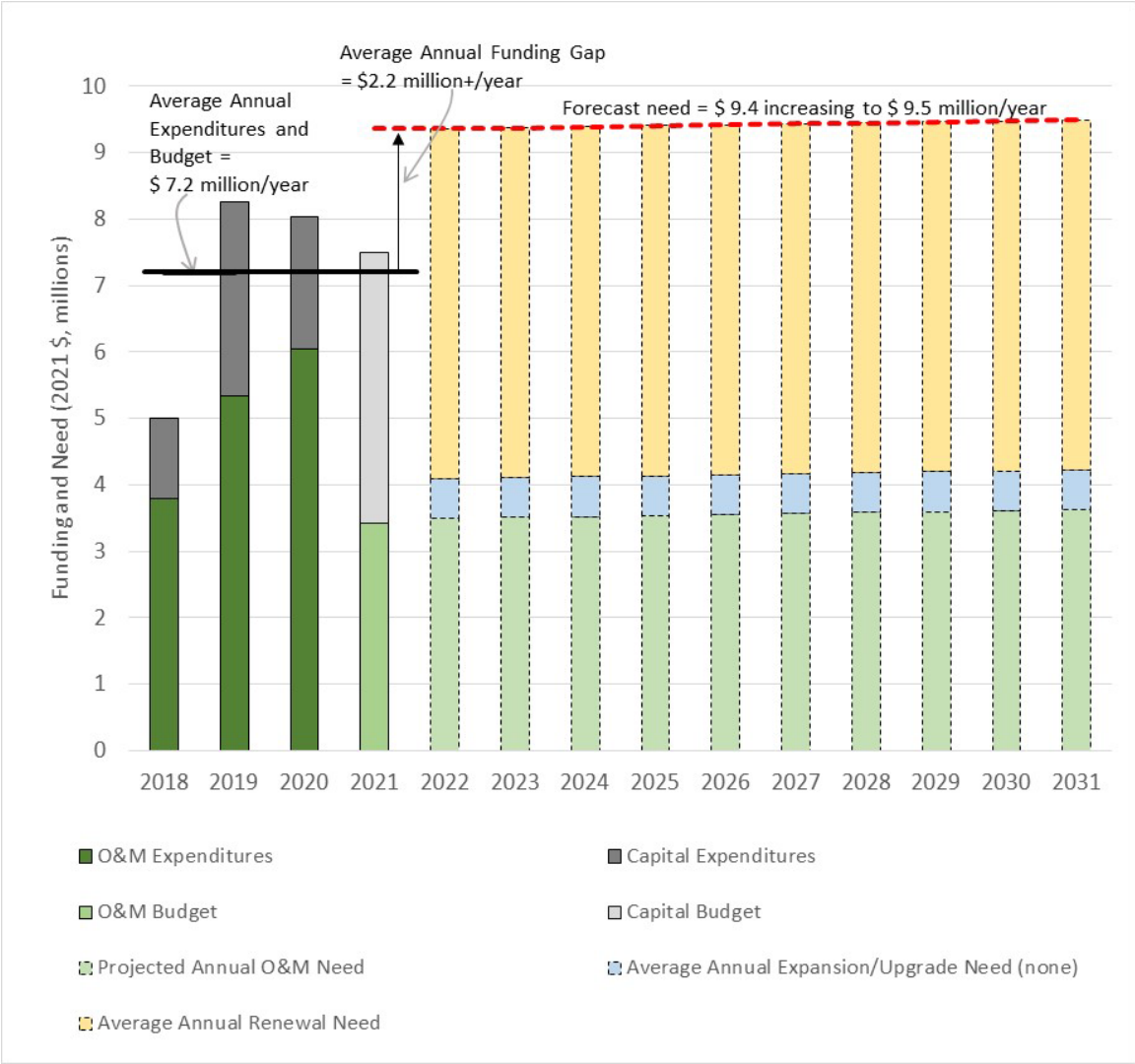
Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$4.07 million of capital projects that were budgeted in 2021, \$1.36 million will not be completed within the year and

will be carried over to 2022. This includes \$52 k for engineering and design to enlarge garage doors at PW South building (upgrade project), as well as the following renewal projects:

- \$ 849 k for reconstruction of Loyalist Dr.
- \$ 367 k for engineering for reconstruction projects
- \$ 53 k for guiderail replacement
- \$ 38 k to replace floor gates at PW North building

For years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). As explained in Section A.5, the average annual system expansion need is \$ 0.6 million/year, and the annual forecast renewal need for transportation assets is \$5.2 million/year, of which 43% consists of reconstruction of paved roads and 20% consists of re-surfacing surface treated roads.

Figure A-11: Forecast Funding Gap 2022-31 – Transportation service



The average annual expenditures and budget for 2018-2021 (black line) summed over expansion, upgrade, renewal and O&M activities is \$7.2 million/year for the period 2018-2021. However, the average annual projected need for the next ten years (2022-2031) is \$9.4

million/year (increasing to \$9.5 million/year by 2031), including expansion and renewal needs, as well as the annual O&M need of \$3.4 to \$3.5 million/year. The resulting funding gap for the overall service is \$2.2 million/year in 2022, and increases slightly each year due to O&M needs for growth assets. To address the funding gap, the municipality may adjust service levels, defer activities on lower-risk assets, or seek additional revenues for example, through taxation, user fees or grants.

For the period 2018-2020, capital expenditures were \$1.21 million, \$2.92 million and \$1.97 million, respectively, and forecast to finish 2021 at \$2.71 million. As such, to deliver the forecast need of \$5.8 million/year of capital projects, additional staff may be needed to oversee those projects.

## Appendix B Stormwater Service

### B.1 Inventory

The Municipality provides stormwater management services with a network of 40.3km of storm sewer pipes, throughout the urban area of Brighton. The system includes maintenance holes, catch basins, stormwater ponds and oil-grit separators. In addition, the Municipality owns a street sweeper, which is used to collect silt and debris, to prevent it from accumulating in stormwater ponds. Table B-1 shows the quantities and replacement values of each of these asset types. The total replacement value of stormwater assets is \$69.0 million (in year 2021 \$).

The stormwater service also relies on the PW buildings for support; however, for the AM Plan, those assets are listed with the Transportation service.

Table B-1: Stormwater Service Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
Storm sewer pipes	40.3 km	\$ 63.0
Maintenance Holes	291 units	\$ 2.3
Catch Basins	667 units	\$ 2.6
Stormwater ponds	10 ponds	\$ 0.6
Oil-Grit Separators	6 units	\$ 0.1
Vehicles and Equipment	1 sweeper	\$ 0.4
<b>TOTAL</b>		<b>\$ 69.0</b>

The Municipality currently does not have data on inlet and outfall structures, ditches, rear yard swales, and small culverts (those not included in the bridge inspection report). These assets are of lower value, but important for stormwater management. It is recommended that Municipality consider collecting data on these assets.

Table B-1 shows that the most significant portion (91%) of the stormwater asset inventory consists of storm sewer pipes. Table B-2 shows that 65% (\$40.9 million) of the pipes are PVC and 30% (\$19.0 million) are of unknown material. The remainder are HDPE, Steel and Clay.

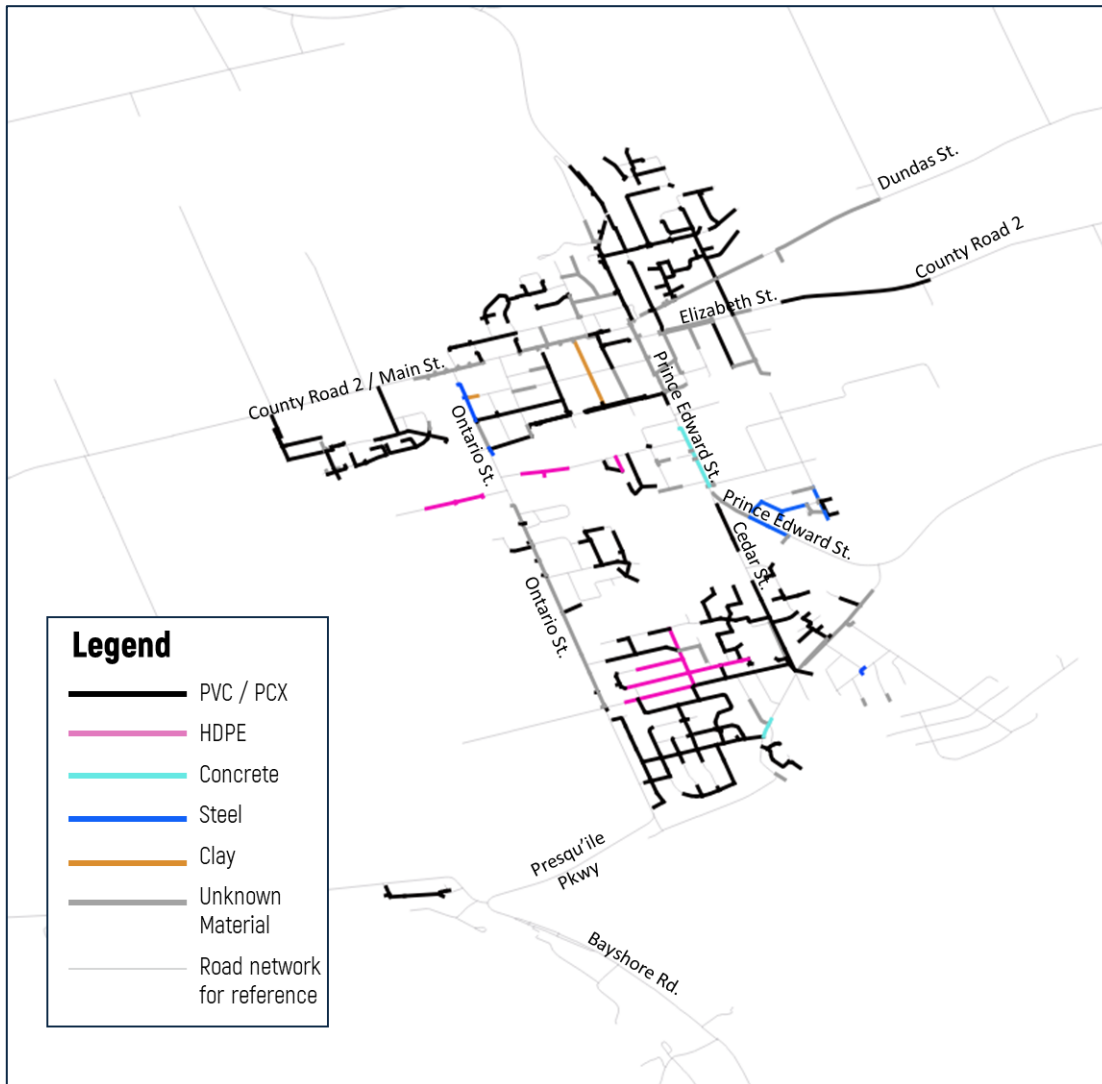
Table B-2: Stormwater Pipes by Material

Type	Quantity (km)	Replacement Value (2021 \$, millions)
PVC	26.3 km	\$ 40.9
HDPE	1.5 km	\$ 1.9
Steel	0.3 km	\$ 0.5
Clay	0.4 km	\$ 0.7
Unknown Material	11.7 km	\$ 19.0

Type	Quantity (km)	Replacement Value (2021 \$, millions)
TOTAL	40.2 km	\$ 63.0

Figure B-1 shows the locations of the stormwater pipes by material.

Figure B-1: Map of Stormwater Pipes by Material

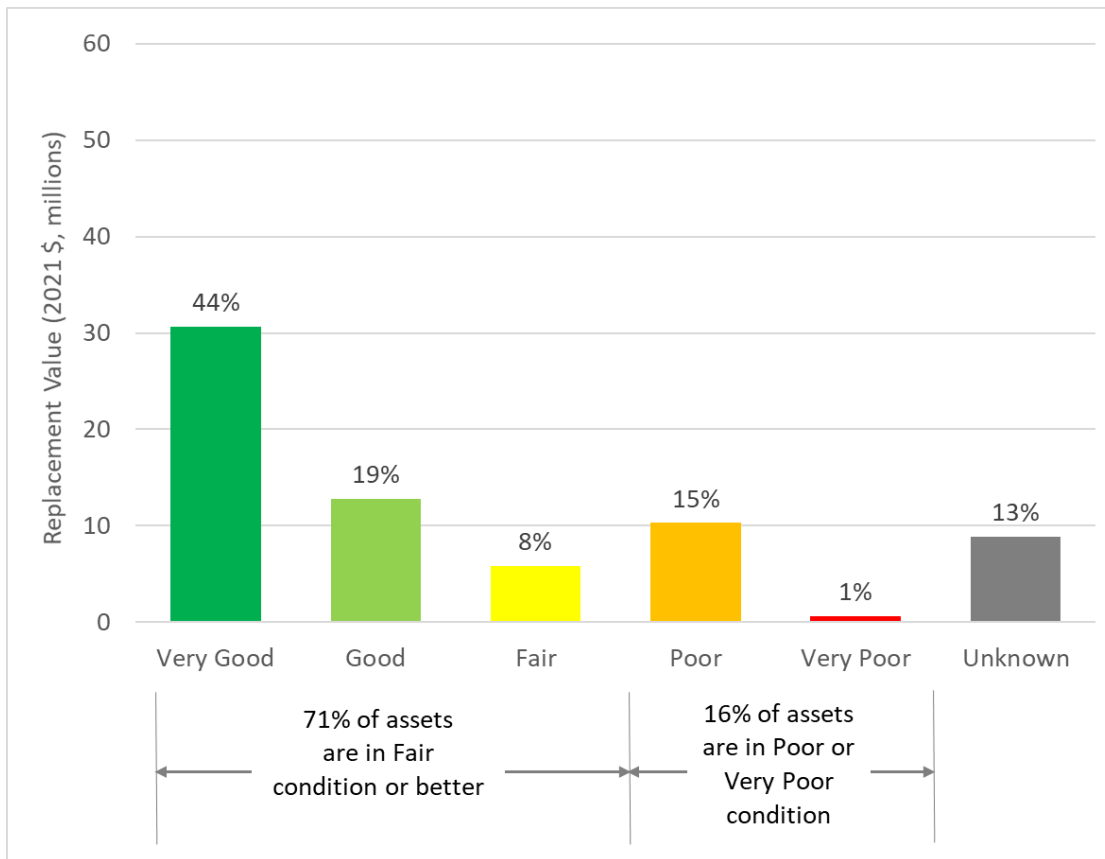


## B.2 State of the Infrastructure

Seventy-one percent (71%) of stormwater assets are in Fair condition or better, while 15% are in Poor condition and 1% are in Very Poor condition. The condition distribution is shown in Figure B-2. The Figure also shows that condition is unknown for 13% of stormwater assets. Assets with unknown condition consist of pipes assets (\$3.9 million), as well as maintenance holes, catch basins and oil-grit separators. No condition data or age data are available for the assets.

Assets in Very Poor condition consist of 386m of clay tile pipe below Meade St. This segment was installed in 1965, and is nearing its theoretical 70-year service life. It is recommended that this segment be inspected by CCTV.

Figure B-2: Condition Overview – Stormwater Assets



Condition ratings for pipes were determined based on age. It was assumed that Steel and Clay pipes have a 60-year service life, while PVC and HDPE have an 80-year service life. Pipes of unknown material were also assumed to have an 80-year service life.

Condition of the ponds was based on staff input, while condition of the vehicle (the street sweeper) was based on age. The streetsweeper is assumed to have a service life of 20 years.

Figure B-3 shows the condition distribution of pipes, which are the largest category of stormwater assets. The Figure shows condition by material, specifically, PVC, HDPE, Steel and Clay, as well as unknown material. For pipes with unknown material, installation year data was available for some segments, and a service life of 80 years was assumed. The Figure shows that the clay pipes and some steel pipes are in Very Poor condition. Pipes in Poor condition consist of

steel pipes and pipes of unknown material. These conditions scores require validation by CCTV inspection. In addition, hydraulic models are needed to assess capacity and flood risk. Figure B-4 shows the average age of stormwater pipes by material.

Figure B-3: Condition Detail – Stormwater Pipes by Material

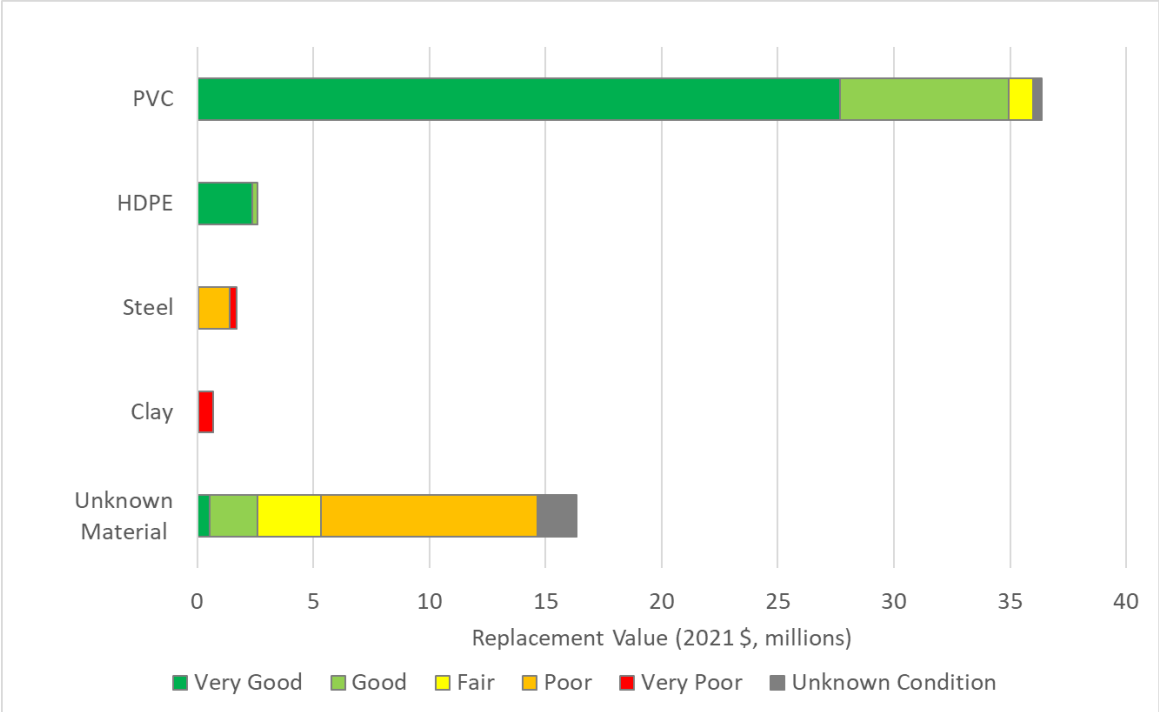
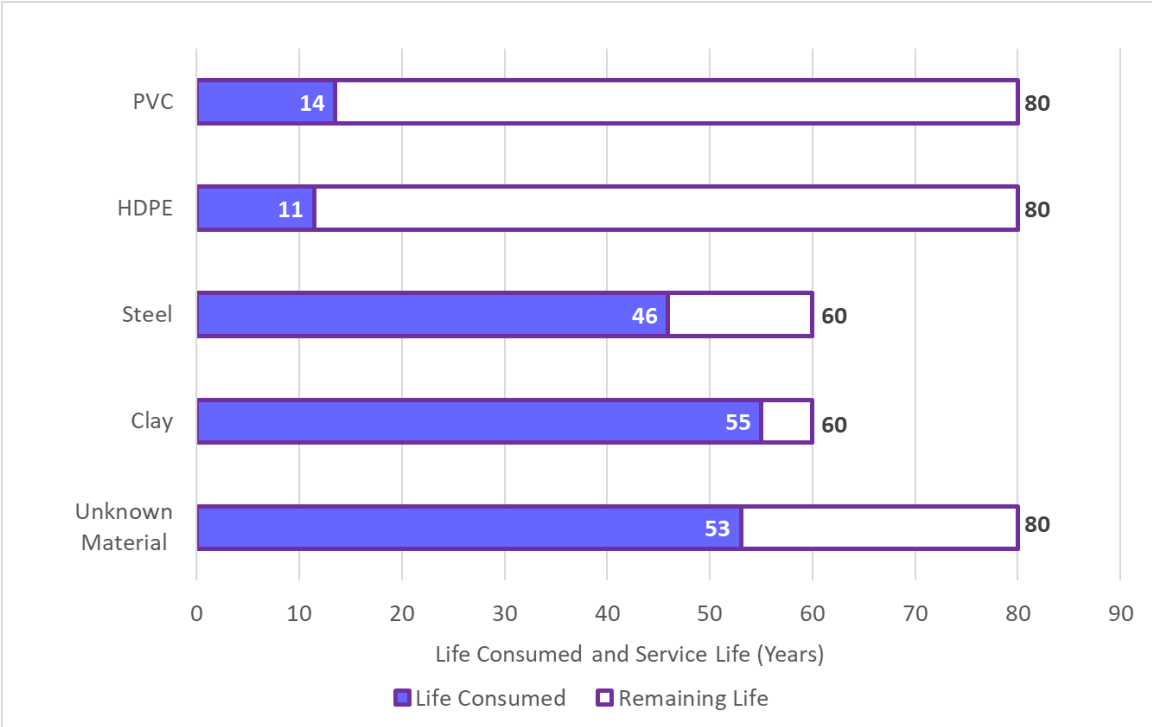


Figure B-4: Average Age of Assets – Stormwater Pipes by Material



Pipe condition is mapped in Figure B-5. The map shows the segments in Very Poor condition are along Meade St. (clay) and Applewood St. (steel) south of Stephen St.

Figure B-5: Map of Stormwater Pipes by Condition



Figure B-6 shows the detailed condition distribution of other stormwater assets, excluding pipes. As explained, condition and age data were not available for maintenance holes, catch basins and oil-grit separators. The stormwater ponds and street sweeper are all in Fair condition or better. Figure B-7 shows the average age of these assets.

Figure B-6: Condition Detail – Stormwater Assets (excluding Pipes)

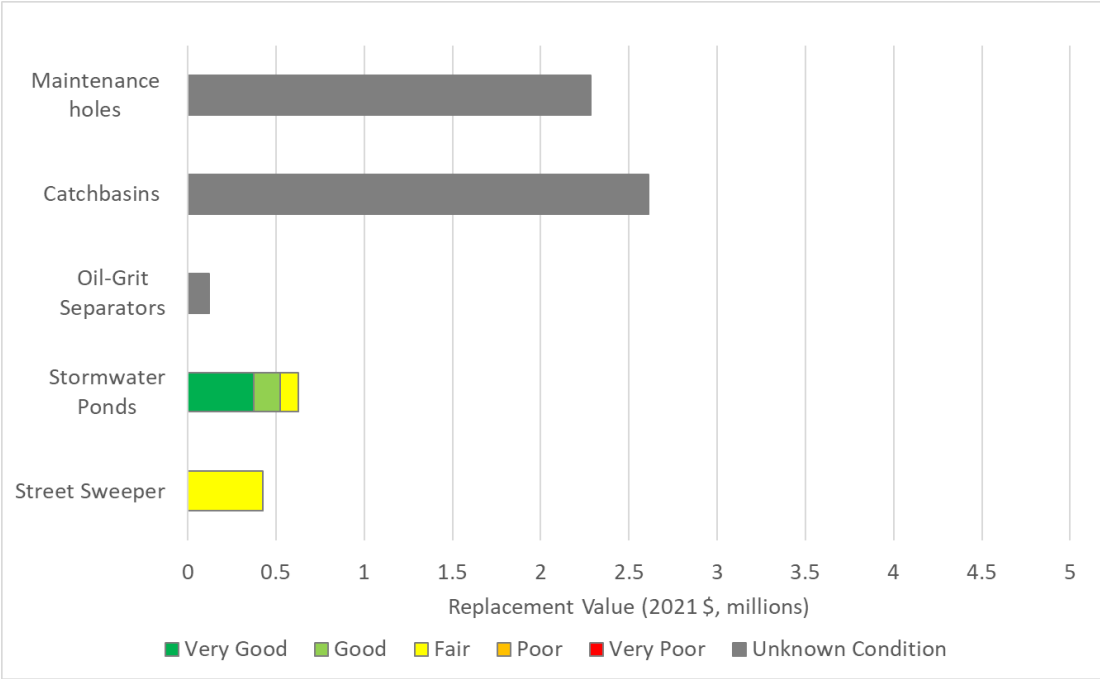
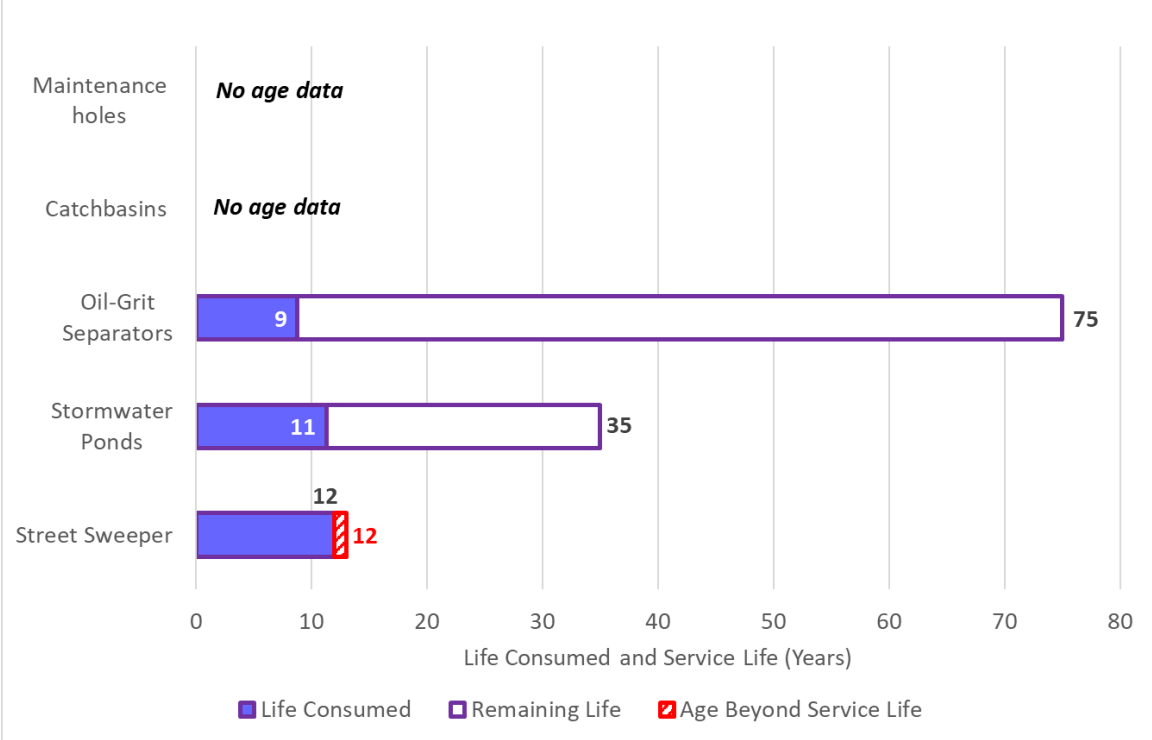


Figure B-7: Average Age of Assets – Stormwater Assets (excluding Pipes)



### B.3 Levels of Service

This section presents Level of Service (LOS) metrics and performance for the stormwater service. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

Table B-3 presents Technical LOS metrics for the Stormwater service. Metrics have been divided into the categories of Capacity and Use, and Quality. Inadequate performance on Capacity and Use metrics indicate a need for system expansion improvements, and inadequate performance on Quality metrics indicate a need for renewal and maintenance activities. For stormwater service, no metrics have been included to assess Function, which would indicate a need for upgrades. In the future, the Municipality consider adding metrics to monitor the quality of water leaving the stormwater system and flowing into natural areas.

The Table shows that 84.2% of 6,596 parcels are resilient to a 100-year storm, but that data were not available to report the percentage of assets resilient to a 5-year storm. More specifically, the 2019 Stormwater Master Plan Master Plan (MP) reported on pipes and ponds that are resilient to a 5-year storm; however, that data was not available with asset replacement values. For a future AM Plan, resiliency data should be merged into the asset inventory to enable calculation of percentage of assets (by replacement value) resilient to a 5-year storm.

In the meantime, the MP indicated that Orchard Gate pond, Roos pond and Lucas pond have insufficient capacity to contain a 100-year storm. Brighton by the Bay pond would also be insufficient when Lake Ontario water levels are high. Moreover, Lucas pond has insufficient capacity to contain a 5-year storm. Based on this information, it is recommended that the Municipality cleaning these ponds.

Table B-3: Level of Service Metrics for Stormwater Service

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide adequate flood protection for properties	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.*	Stormwater pipes have been installed in the urban area, as shown in Figure B-1.  In the rural areas, drainage is supported by roadside ditches.

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide adequate flood protection for properties	Percentage of properties in municipality resilient to a 100-year storm*	84.2% of 6,596 parcels are resilient to a 100-year storm
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide adequate stormwater system capacity	Percentage of the municipal stormwater management system resilient to a 5-year storm*	Data not available
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Assets are kept in a state of good repair	Percentage of assets in fair or better condition	71%

\* Metric required by O.Reg. 588/17.

## B.4 Risk Management Strategy

Risk exposure associated with renewal needs are shown in Table B-4 for stormwater assets. The Table shows that \$0.6 million of the renewal needs are considered to be Very High risk, consisting of 200m of metal (corrugated steel) pipe along Applewood Dr., south of Stephen St.

Table B-4: Renewal Risk Exposure – Stormwater Service

		Total value of assets in 2021 \$			\$ 62.5 million	
PoF						
5	-	-	\$ 0.6	-	\$ 0.3	
4	-	-	\$ 10.1	\$ 0.4	\$ 0.3	
3	-	-	\$ 4.3	\$ 0.2	\$ 0.6	
2	-	-	\$ 4.8	\$ 2.5	\$ 2.4	
1	-	-	\$ 23.1	\$ 2.5	\$ 5.5	
	1	2	3	4	5	
	<b>Consequence of Failure</b>					

Risk Legend

Very Low	Low	Moderate	High	Very High
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Table B-5 lists the Consequence of Failure ratings applied to different asset types. Probability of Failure (PoF) was approximated by mapping of the 5-point condition scores to the 5-point PoF rating.

Table B-5: Consequence of Failure Ratings – Stormwater Assets

Asset Type	Description of Impact of Physical Failure	Consequence of Failure scores
Storm sewer pipes	Physical deterioration may result in leaks or breaks, which could lead to sink holes. Larger pipes are assumed to carry more flow, which can cause more leakage and damage.	$\varnothing < 199\text{mm}$ : CoF 2 $\varnothing 200\text{-}399\text{mm}$ : CoF 3 $\varnothing 400\text{-}599\text{mm}$ : CoF 4 $\varnothing \geq 600\text{mm}$ : CoF 5
Maintenance Holes & Catch basins	Failure may result in uneven surface on the roadway, which presents a safety issue.	CoF = 3
Stormwater ponds	Failure will result in overflow of pond, and flooding of surroundings.	CoF = 3
Oil-Grit Separators	Failure will result in pollution of natural environment.	CoF = 3
Vehicles (Sweeper)	Failure results in accelerated accumulation of sediment in ponds.	CoF = 3

## B.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031) the stormwater service asset life cycle needs include the following:

- Expansion & Upgrade \$ 2.57 million
- Renewal \$ 8.70 million
- Operations & Maintenance \$ 0.35 million / year increasing to \$0.40 million/year due to growth assets

The following sub-sections provide details on the needs in each of these categories.

### B.5.1 Expansion & Upgrade Needs

Based on the Stormwater Master Plan (MP) analysis, several stormwater ponds have capacity issues. Specifically, Lucas pond has insufficient capacity to contain a 5-year storm, while Roos pond has insufficient capacity to contain a 25-year storm, and Orchard Gate pond has insufficient capacity to contain a 100-year storm. Brighton by the Bay pond would have insufficient capacity to contain a 25-year storm if Lake Ontario water levels are high. It was recommended in the Stormwater MP that these ponds be cleaned.

As indicated in the Stormwater MP, it will also be necessary to update the MP at 5-year intervals. It is recommended that \$30k be budgeted for this activity in 2023 and again in 2028. The Stormwater MP also recommends \$2.49 million of sub-watershed improvement projects, such as infrastructure retrofits.

There is also a need for a wetland study at an estimated cost of \$20k.

The total cost over 10 years would be \$2.57 (in year 2021 \$).

### B.5.2 Renewal Needs

Table B-6 lists the Municipality's renewal practices by asset type, along with the forecast renewal needs to 2031. The total renewal need to 2031 is \$8.7 million, consisting primarily of replacing stormwater pipes in conjunction with road re-reconstruction projects.

Table B-6: Stormwater Service Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Stormwater pipes	Replace at end-of-life (60-80 years, depending on material), or in conjunction with road re-construction	<b>\$6.9 million</b> for reconstruction of 17.4km of pipes as part of road reconstruction work identified in the Roads Deficit presented on Oct 15, 2020. This cost estimate includes a 30% escalation for design & engineering, contract administration and contingency. However, this cost excludes roads, water and wastewater project components, which

Asset Class	Renewal Practices	Renewal Needs to 2031
		<p>are reported in other sections of the AM Plan.</p> <p>Also recommended is renewal of stormwater pipes in Very Poor condition, including clay pipe along Meade St. (350m, estimated cost of <b>\$630k</b>) and steel pipe along Applewood Dr., south of Stephen St. (200m, estimated cost of <b>\$320k</b>). Note that this segment of Applewood Dr. is south of the segment included in the 2020 Roads Deficit.</p> <p><b>TOTAL = \$7.9million</b></p>
Maintenance Holes & Catch basins	Replace in conjunction with road reconstruction	This cost has been included in the cost of the stormwater pipe replacement (contingency).
Stormwater ponds	Clean out ponds, per Stormwater Master Plan recommendations	<p>The following ponds were identified in the Stormwater Master Plan as requiring cleaning:</p> <ul style="list-style-type: none"> <li>• Lucas pond (\$36k)</li> <li>• Roos pond (\$80k)</li> <li>• Orchard Gate pond (\$156k)</li> <li>• Brighton by the Bay pond (\$97k)</li> </ul> <p><b>TOTAL = \$0.4 million</b></p>
Oil-Grit Separators	Replace at 75 years	Oil-grit separators were installed between 2007 and 2015, so none of them require replacement in the next 10 years.
Vehicle (Street sweeper)	Replace at 20 years	<p>Street sweeper was purchased in 2008, and will thus require replacement in 2028 at a cost of \$425 k (in 2021 \$).</p> <p><b>TOTAL = \$0.4 million</b></p>
<b>TOTAL RENEWAL NEED (2022-31)</b> (excludes needs that will be funded by operating)		<b>\$ 8.7 million</b>

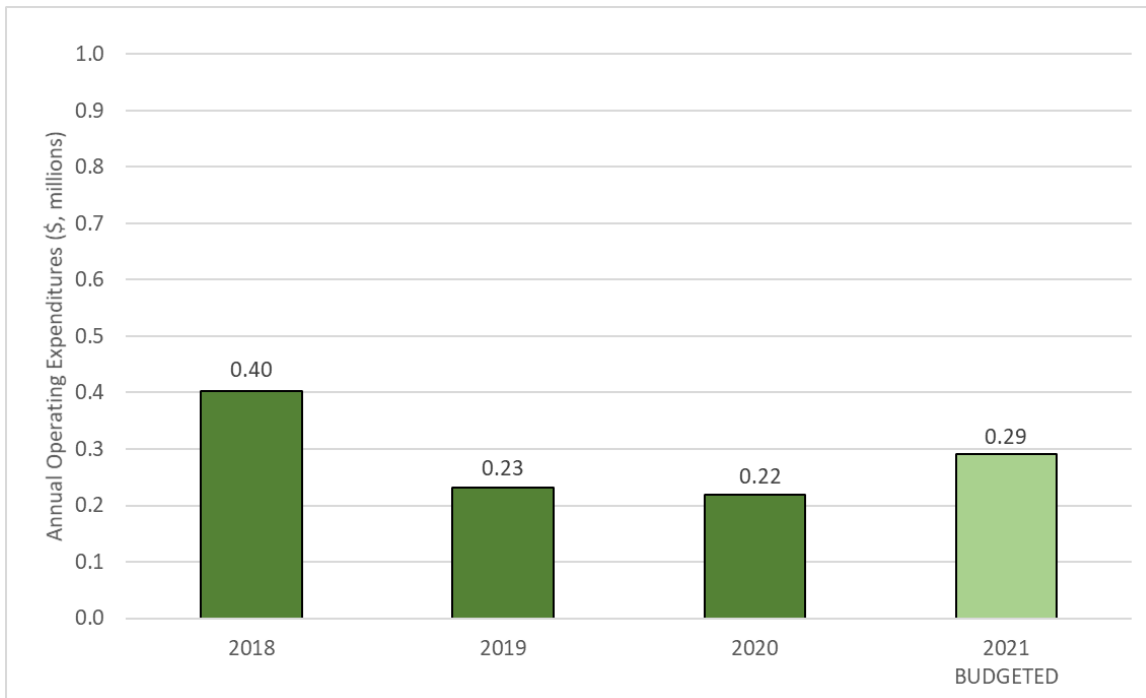
### B.5.3 Operations & Maintenance Needs

Operations and Maintenance (O&M) costs include day-to-day costs associated with running and overseeing the stormwater system. This includes pond inspection, catch basin cleaning, and street

cleaning, as well as preventive maintenance, corrective actions and reporting. O&M activities are funded by the Municipality’s operating budget.

Figure B-8 shows the operating expenditures for 2018-20, as well as the 2021 budget. These amounts reflect only the labour charges associated stormwater service activities, since most other overhead costs are captured under the transportation service. In the past three years, \$0.38 million, \$0.20 million and \$0.22 million (2018-2020, respectively) have been spent on stormwater activities. The budgeted amount for 2021 is \$0.29 million.

Figure B-8: Operating Expenditures 2018-20 and 2021 Budget – Stormwater Service



As the stormwater system ages and as weather patterns change, there is a need to physically monitor the condition of the pipe network. It is recommended that the Municipality establish a CCTV program with \$50k/year to inspect a subset of pipe segments each year. This would bring the operating budget need to \$0.34 million/year. The CCTV inspection findings would also support more accurate condition scoring and estimation of remaining life for the next iteration of the AM Plan.

In addition, the Municipality’s asset portfolio grows each year due to ownership assumption of developer-built assets. These growth assets require additional funds to support O&M activities, such as inspection, catch basin cleaning and minor repairs. The average annual growth in stormwater assets for the period 2016-21 was 717 m of stormwater pipes. Assuming that the operating cost per unit remains unchanged from 2021 (based on 2021 budget and asset inventory), Table B-7 shows that an additional \$5,634 will be needed each year for O&M of new stormwater pipes.

Table B-7: Operating Budget Need for Growth Assets – Stormwater Service

Asset Type	Average amount assets assumed per year for years 2016-2021	Total 2021 inventory	2021 Operating Budget for asset type (2021 \$)	Estimated Annual Operating cost (2021 \$/m)	Additional Operating Need / year for growth assets (2021 \$)
Stormwater Mains	717 m	36,976 m	\$ 290,631	\$ 7.9 /m	\$ 5,634

Table B-8 shows the projected operating budget needed for each year from 2022 to 2031, based on status quo operating costs (2021 budget), additional funds needed to meet current service levels (\$50k/year for CCTV), and funds needed to operate and maintain 717 m of stormwater pipes to be added each year. The Table shows that operating budget needs are projected to grow from \$0.35 million in 2022 to \$0.40 million in 2031.

Table B-8: Projected Annual Operating Budget Need – Stormwater Service

Year	Status Quo Operating Costs (based on 2021 Budget)	Additional Funding Needed to manage existing assets and programs	Funding Needed for O&M of Growth Assets**	Projected Operating Budget Need by Year
2021	\$ 290,631			
2022	\$ 290,631	\$ 50,000	\$ 5,634	\$ 346,265
2023	\$ 290,631	\$ 50,000	\$ 11,268	\$ 351,899
2024	\$ 290,631	\$ 50,000	\$ 16,902	\$357,533
2025	\$ 290,631	\$ 50,000	\$ 22,536	\$ 363,167
2026	\$ 290,631	\$ 50,000	\$ 28,170	\$ 368,801
2027	\$ 290,631	\$ 50,000	\$ 33,804	\$ 374,435
2028	\$ 290,631	\$ 50,000	\$ 39,438	\$ 380,069
2029	\$ 290,631	\$ 50,000	\$ 45,072	\$ 385,703
2030	\$ 290,631	\$ 50,000	\$ 50,706	\$ 391,337
2031	\$ 290,631	\$ 50,000	\$ 56,340	\$ 396,971

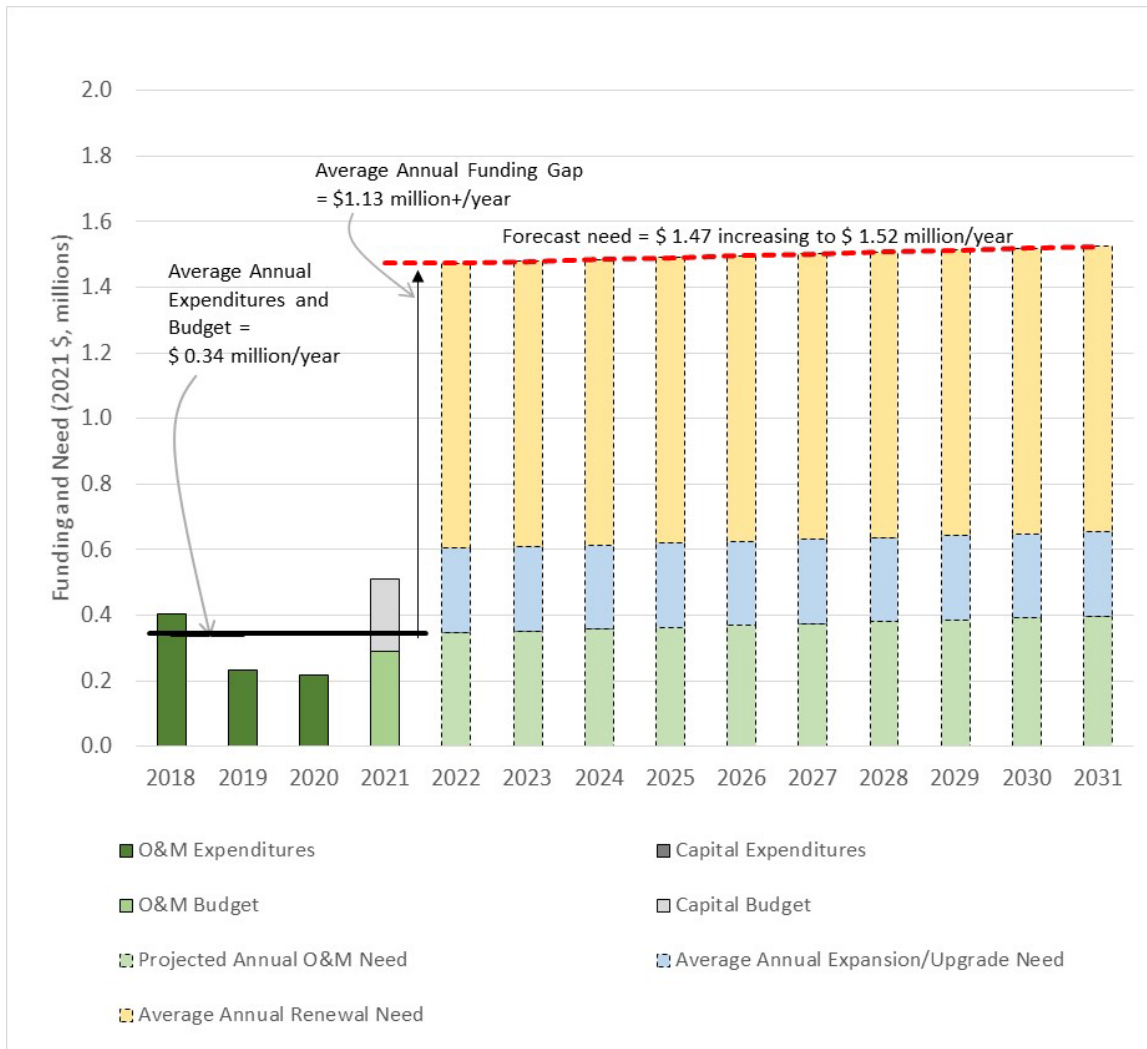
\* \$50k is needed for CCTV inspection program

\*\* Assumes 717m of stormwater pipes will be added each year.

## B.6 Financial Impact

Figure B-9 compares the life cycle needs presented in Section B.5 with the Municipality's historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure B-8. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes the additional \$50k needed for the CCTV program, as well as the annual increases needed to operate and maintain growth assets.

Figure B-9: Forecast Funding Gap 2022-31 – Stormwater service



Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. The \$0.22 million of capital projects that were budgeted in 2021 will not be completed within the year and will be carried over to 2022. These projects consist of the following:

- \$ 200 k for renewal of the Applewood Dr. culvert (renewal category)
- \$ 20k for wetland study (expansion/upgrade category)

The average annual expenditures and budget (black line) for expansion, upgrade, renewal and O&M activities is \$0.34 million/year for the period 2018-2021.

For the years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). For the Stormwater Service, upgrade needs include \$0.26 million/year of improvements identified in Section B.5.1, and renewal needs include \$0.87 million/year as discussed in Section B.5.2. The annual O&M needs are projected at \$0.35 million/year in 2022, increasing to \$0.40 million/year in 2031, as discussed in Section B.5.3. The resulting funding gap for the overall service is \$1.13 million/year in 2022, increasing to \$1.18 million by 2031 due to assumption of growth assets.

The Municipality may consider establishing a stormwater charge to meet the funding needs of the Stormwater Service, as well as to proactively address the increasing risk of flooding associated with changing weather patterns.

## Appendix C Water Service

### C.1 Inventory

The Water Department delivers drinking water to approximately 7,550 customers who are connected to the municipal water distribution system (as of 2020 Annual Report). The source of drinking water comprises three ground water wells located at 406 County Road 26. The wells are approximately 40m deep and supply water to Brighton’s Water Treatment Plant (WTP) on a rotational basis. Water from the wells is pumped to the WTP and monitored by a Supervisory Control and Data Acquisition (SCADA) system. At the WTP, chlorine is added to the water before it is distributed to the customers. The distribution system consists of approximately 60 km of mains, service connections, two (2) booster pumps, hydrants, valves and four (4) Pressure Reducing Valves (PRV).

Table C-1 shows that the total replacement value of water assets is estimated at \$59.7 million (in 2021 \$). Other than Pressure Reducing Valves (PRV), mainline valves and chambers have been excluded due to lack of data. In addition, estimates the Booster Pumping Stations, Well Pumps and the Sampling Station include only the value of process equipment, since values for non-process building systems were not available. Conversely, for the Water Treatment Plan, the replacement value includes only non-process building systems, since an inventory of process equipment was not available.

Table C-1: Water Service Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
Watermains	62.8 km	\$ 52.4
Appurtenances*		
• Hydrants & hydrant valves	382 units	\$ 3.9
• Pressure reducing valves (PRV) & PRV chambers*	4 chambers	\$ 0.5
• Water meters	3464 units	\$ 1.0
Booster pumping stations	2 facilities	\$ 0.02**
Well pumps	3 pumps	\$ 0.03**
Water Treatment Plant	1 facility	\$ 1.5***
Sampling Station	1 facility	\$ 0.1***
Vehicles and Equipment	3 light vehicles and other equipment	\$ 0.2
<b>TOTAL</b>		<b>\$ 59.7</b>

\* No data available on other types of valves and chambers.

\*\* Values include only process equipment.

\*\*\* Value includes only non-process building systems.

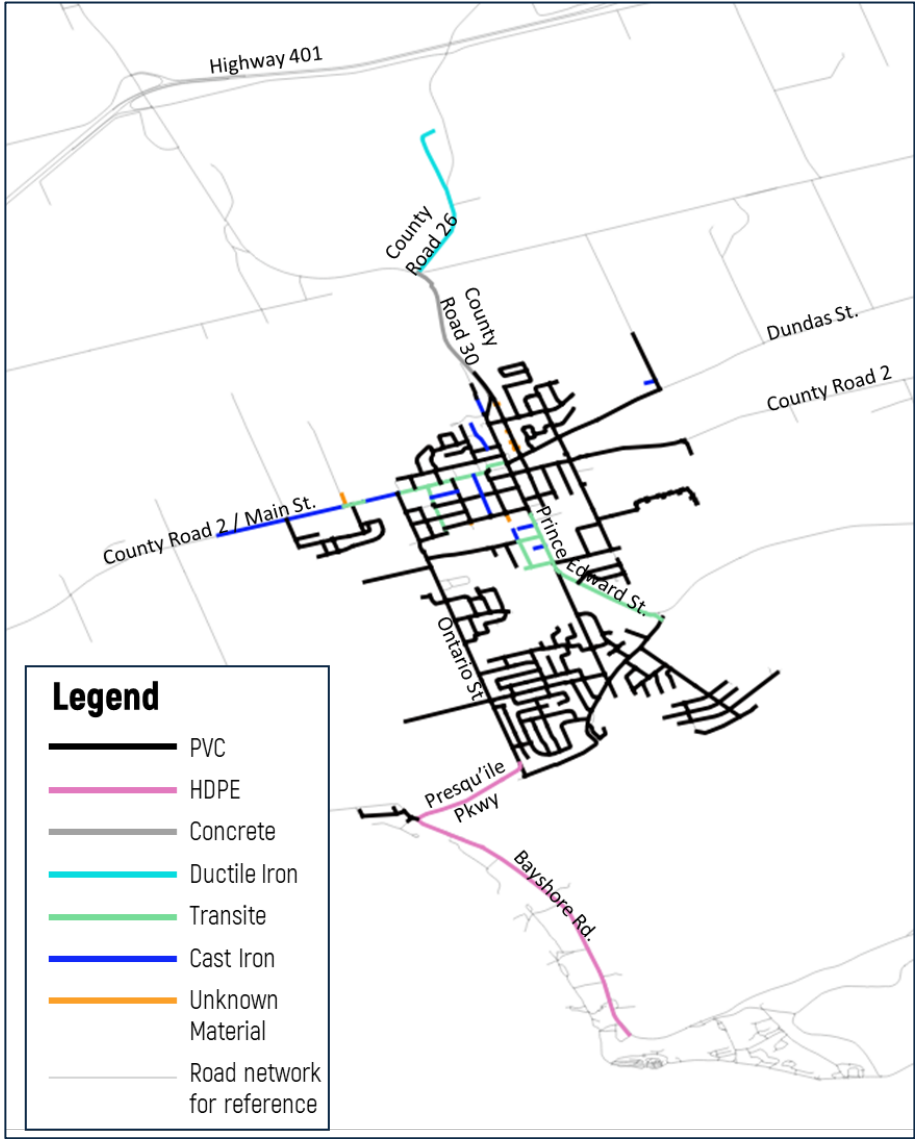
As shown in Table C-1, 88% (\$52.4 million) of the value of water service assets (based on available inventory data) consists of watermains. The Municipality’s water pipes are a combination of PVC, cast iron, concrete and transite. More recently, HDPE has also been installed in certain locations (e.g. under creeks). In the future, as pipes are replaced, they will be replaced with HDPE where HDPE already exists, or by PVC in all other cases. As such, the replacement values have been estimated based on the unit cost of installing PVC or HDPE, assuming that pipe diameters remain unchanged. Table C-2 summarizes the quantity (by km) and replacement value of watermains by material.

Table C-2: Watermains by Material

Type	Quantity (km)	Replacement Value (2021 \$, millions)
Polyvinyl chloride (PVC)	50.1	\$ 38.7
High Density Polyethylene (HDPE)	3.6	\$ 3.1
Concrete	1.3	\$ 2.9
Ductile Iron	1.5	\$ 3.3
Transite	3.5	\$ 2.8
Cast Iron	2.6	\$ 1.4
Unknown material	0.1	\$ 0.1
<b>TOTAL</b>	<b>62.4 km</b>	<b>\$ 52.4</b>

Figure C-1 shows a map of the watermains by material, overlaid on the road network for reference. The map shows that the HDPE pipe services Presqu'ile via Presqu'ile Parkway and Bayshore Road. The north end of the water system includes concrete pipe along County Road 30 and ductile iron pipe along County Road 26. Transite pipe is found along Main St., Maplewood Ave. and Dorman St. in downtown Brighton, the southern end of Prince Edward St. (including the eastward bend), as well as segments of Division St., Butler St. and Grimes St. Cast Iron pipe is found on the western end of Main St., Addison St., Meade St. and a few other segments throughout the downtown area.

Figure C-1: Map of Watermains by Material



## C.2 State of the Infrastructure

Figure C-2 shows the condition distribution of assets in the water inventory. The Figure shows that 87% of water assets are in Fair condition or better. Ten percent (10%) are in Poor condition. These assets consist primarily of watermains, along with three PRVs and PRV chambers that are planned for replacement in 2026.

Assets in Very Poor condition comprise

0.002% of the total replacement value of water assets, and consist of downspouts and eaves-troughs (estimated value \$1000) at the Chlorine Booster Station. Two and a half percent (2%) of assets (by replacement value) have an unknown condition, and consist specifically of PRV, PRV chambers and water meters.

Condition scores have been estimated based on age (see Table 3-2), except in the case of the Water Treatment Plant (WTP), for which a building condition assessment was completed in 2021. Future iterations of the AM Plan may be improved by incorporating watermain breaks into the condition score of watermains, which comprise 88% of the replacement value of water assets. Condition assessment of process equipment at vertical facilities would also improve the analysis.

Figure C-2: Condition Overview – Water Assets

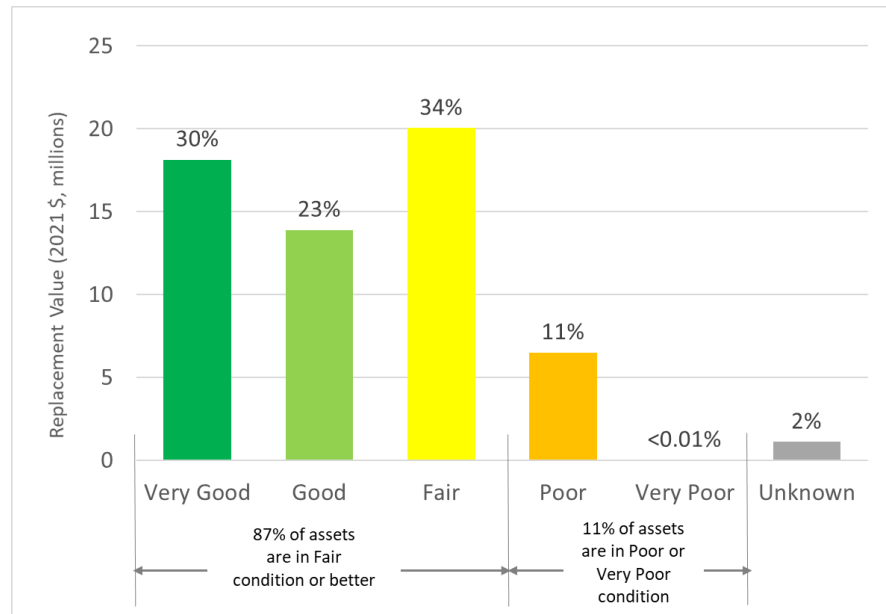


Figure C-3: Condition Detail – Watermains by Material

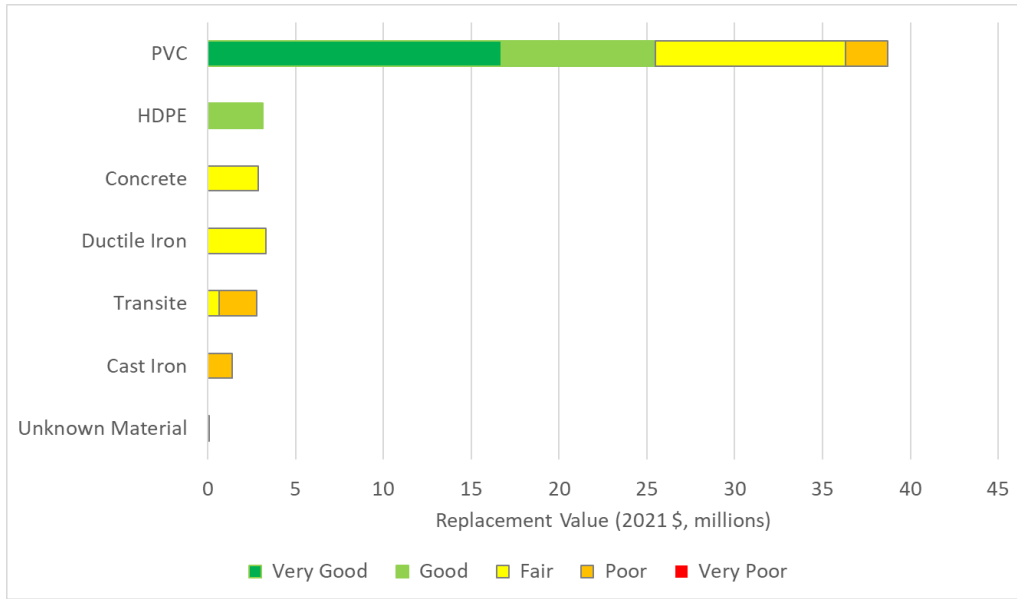


Figure C-3 shows the condition distribution of watermain assets by material. The Figure shows that assets in Poor condition consist of Cast Iron, Transite and PVC.

Figure C-4 shows a map of the watermains by condition, overlaid on the road network for reference. The map shows that the watermains that are in Poor condition are located primarily in the downtown area of Brighton, including along Main St., Dundas St., Prince Edward St., Maplewood St., Addison St., Centre St., Meade St., Division St., Butler St., Grimes St., William St., Georgina St., and a few other segments in the areas.

According to the age-based condition scale, assets in Poor condition have 20%-40% of their service life remaining. Watermains are estimated to have a service life of 80 years, which means that the assets in Poor condition have between 16-31 years of life remaining.

In future AM Plans, the condition score and expected remaining life should be adjusted based on break history.

Figure C-5 shows the average age of the Municipality’s watermains by material. The plot shows that on average, transite and cast iron pipes were installed earlier than concrete and ductile iron pipes, and that most recently, PVC and HDPE have been more commonly used.

Figure C-4: Map of Watermains by Condition

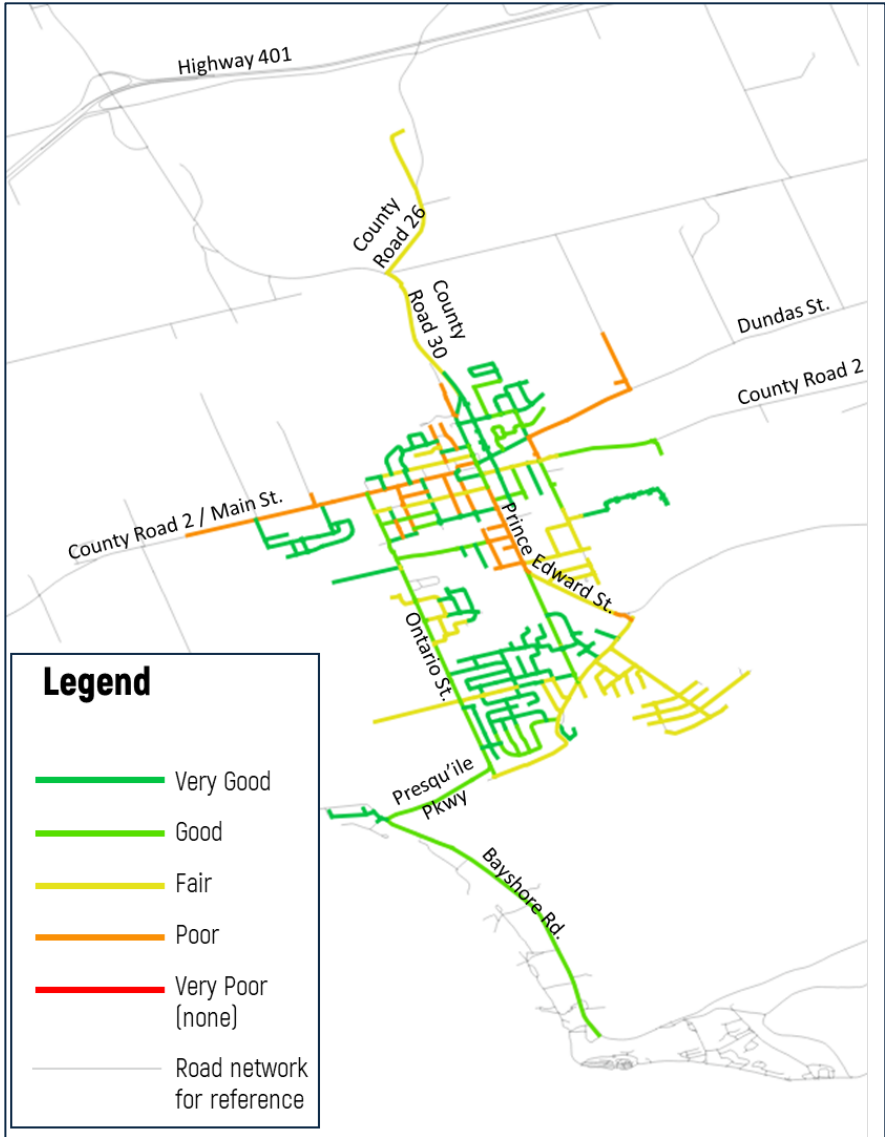


Figure C-5: Average Age of Assets – Watermains by Material

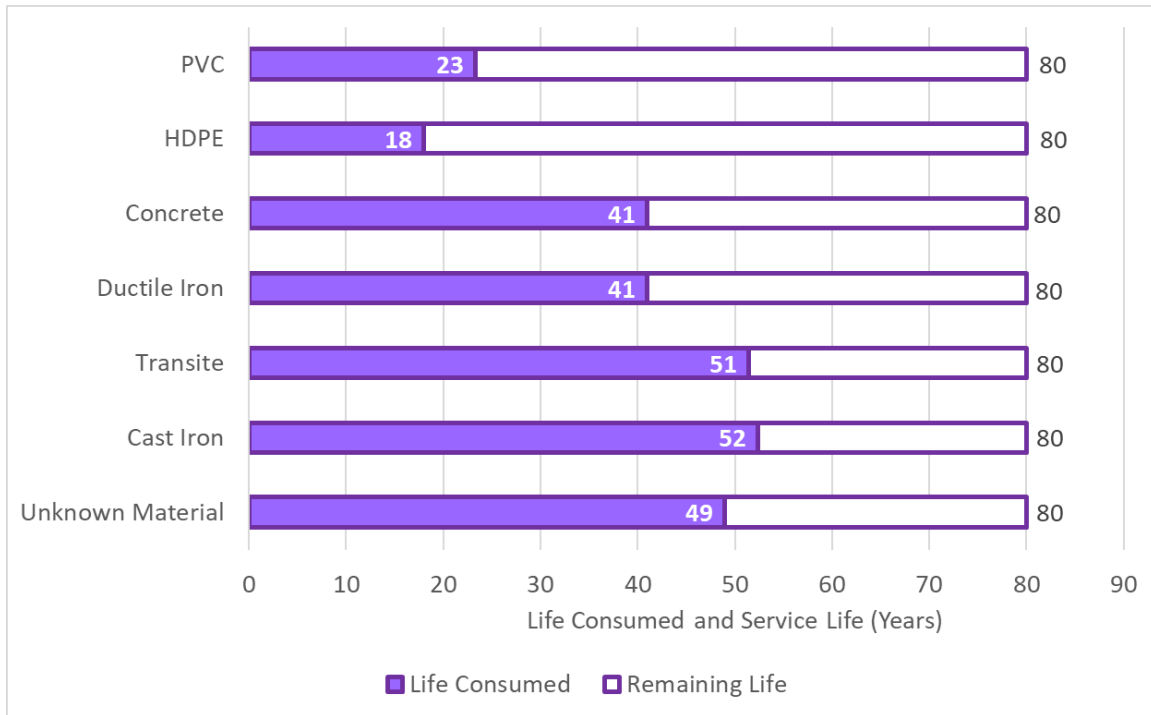


Figure C-6 shows the condition of the remaining water assets by asset type. The Figure shows that hydrants and hydrant mains are in Fair condition or better, because they are inspected and repaired annually to ensure that they are in working order. Three of four PRV chambers (including the PRV inside) are in Poor condition, and are planned for replacement in 2026. The condition of the remaining PRV chamber is unknown. Condition and age of water meters are also unknown.

Vertical assets are generally in Fair condition or better, other than the downspouts and eaves troughs at the Chlorine Booster Station, which are in Very Poor condition. In addition, downspouts, eaves troughs and exterior wall sealant at the Water Treatment Plant are in Poor condition. The duty centrifugal pumps at the Lakeview BPS and Dundas BPS are also in Poor condition.

Vehicles & Equipment are also in Fair condition or better, other than a zero-turn mower and three GPS units, which are in Poor condition.

Figure C-7 shows the average age of these assets. The plot shows that most water assets are less than half-way through their service life. As shown in the plot, asset age data is not available for PRV, PRV chambers or water meters.

Figure C-6: Condition Detail – Water Assets (excluding watermains)

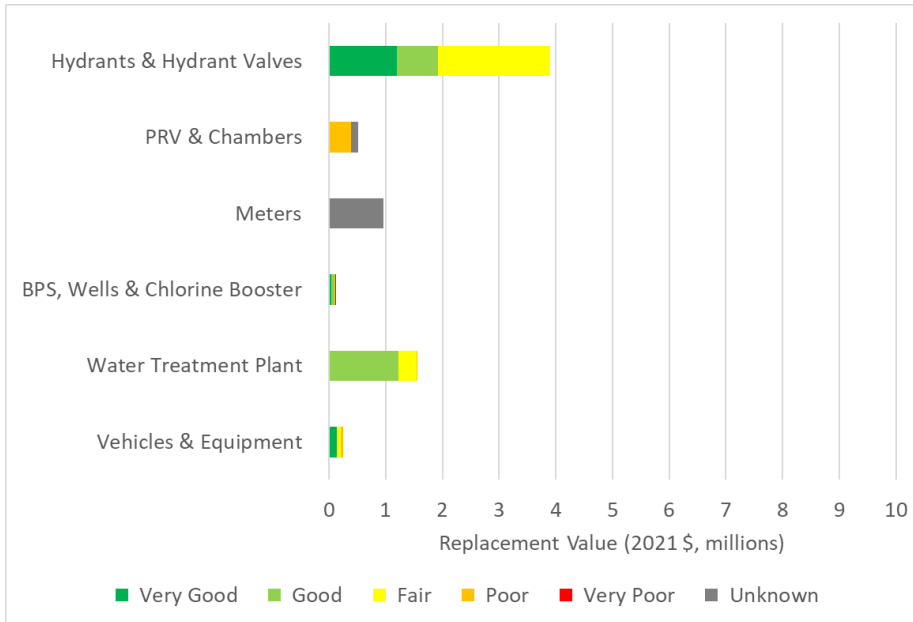
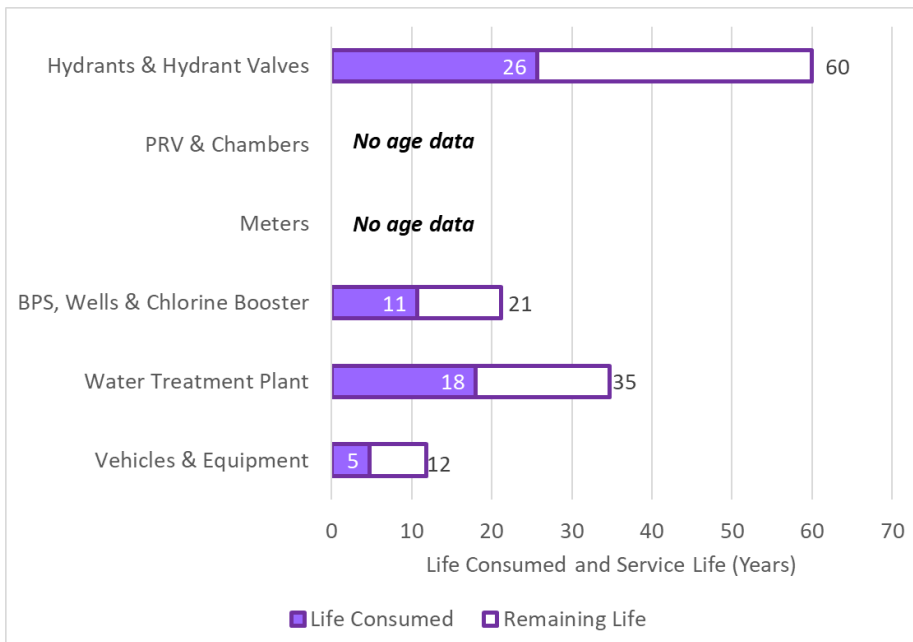


Figure C-7: Average Age of Assets – Water Assets (excluding watermains)



### C.3 Levels of Service

This section presents Level of Service metrics and performance for the water service. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

Table C-3 presents Technical LOS metrics for the water service. It shows that 53% of properties within the municipality are connected to the municipal water system. The Table also shows that 57% of properties within the municipality have access to fire hydrants. The Municipality is currently working to develop a water model; however, fire flow models are not currently available. As such, it is assumed that properties with access to fire hydrants have access to fire flows.

In the past three years (2018-2020), there have been no boil water advisories affecting the municipal water system. On the other hand, the system has experienced several watermain breaks, as listed in Table C-4. Figure C-8 shows the locations of the four watermain breaks that occurred 2019-20 (there were no watermain breaks in 2018). The map shows that all four breaks occurred along an 850m segment of pipe along Main St. Based on only on the age, the condition was reported as Poor; however, considering the recent break history and the resulting service interruptions, it is recommended that this segment be replaced.

Table C-3 shows that 87% of the Municipality’s water assets are in Fair condition or better. For future AM Plans, the Municipality will consider the cost of sustaining this level of service, and how best to balance these costs with risk and performance.

Table C-3: Technical Level of Service Metrics for Water Service

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide properties with sufficient potable water	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.*	See Section C.1 for description and maps.
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide properties with sufficient potable water	Description, which may include maps, of the user groups or areas of the municipality that have fire flow.*	For this AM Plan, properties with access to a fire hydrant are assumed to have fire flow. For future AM Plans, the Water Model will be used to estimate fire flow.

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide properties with sufficient potable water	Percentage of properties connected to the municipal water system*	53% (3,280 connections / 6,216 properties)
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide properties with water for fire protection	Percentage of properties where fire flow is available*	57% (3,533 / 6,216 properties with access to fire hydrants)
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Safe drinking water	Minimum disruption due to boil water advisories	The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.*	No boil water advisories for at least the past 3 years (2018-2020)
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Safe drinking water	Minimum disruption due to boil water advisories	Description of service interruptions due to boil water advisories.*	N/A – no boil water advisories
<b>Function:</b> Services meet customer needs while limiting impacts to health,	Pleasant tasting and looking drinking water at an appropriate pressure	Water meets customer's odour, colour, flavour and pressure expectations	Number of complaints due to issues originating from Municipality's water system (issues originating from customer's assets or appliances are not included)	2020: none 2019: none 2018: 1 complaint (low pressure caused by power outage at

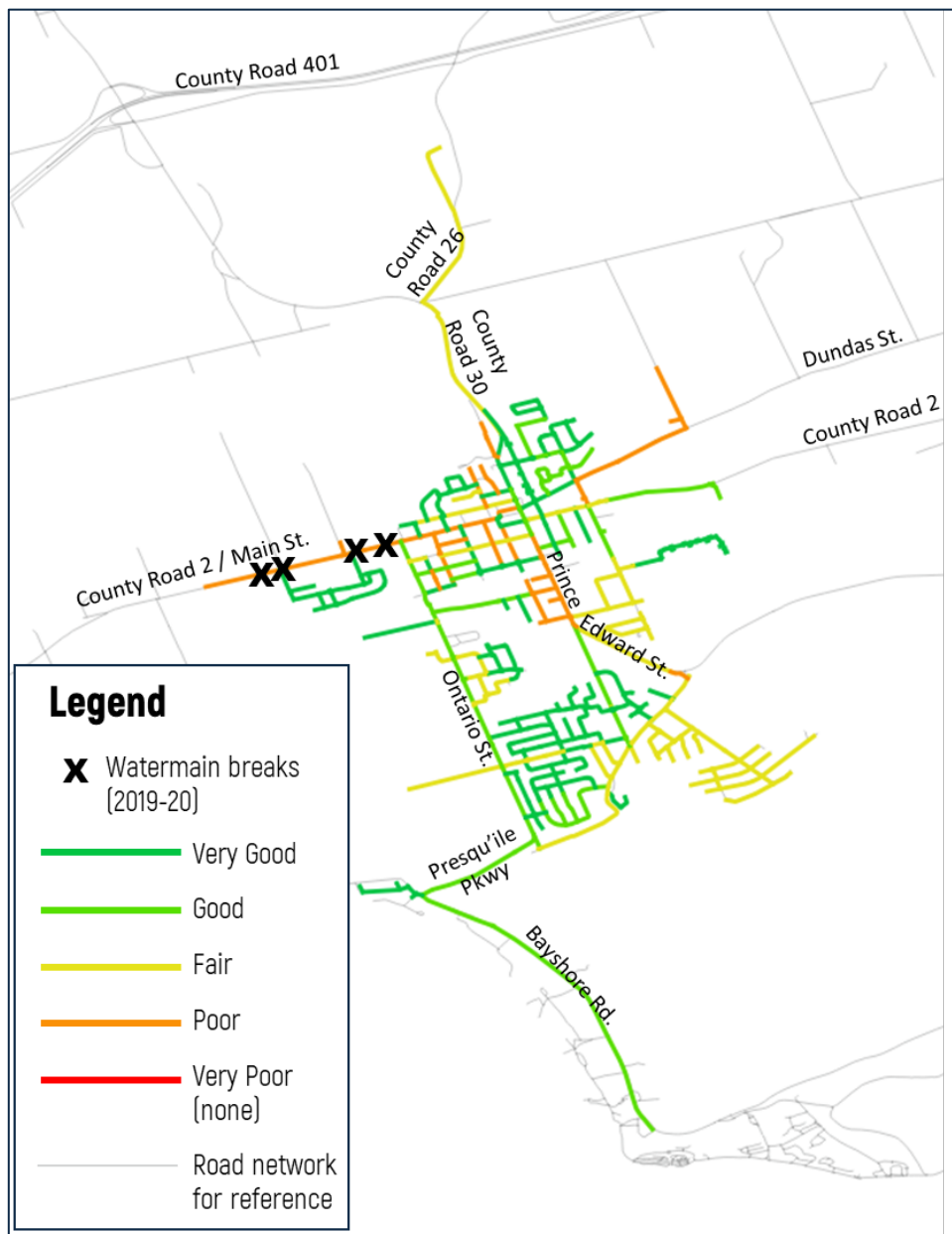
Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
safety, security, nature and heritage				Dundas Street booster pump)
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Water assets are kept in a state of good repair Water assets are kept in a state of good repair	The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.*	2020: 0.036 connection-days lost / customer 2019: 0.008 connection-days lost / customer 2018: no breaks
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Water assets are kept in a state of good repair Water assets are kept in a state of good repair	Description of service interruptions due to watermain breaks.*	See Table C-4, Figure C-8 and accompanying text in Section C.3.
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Water assets are kept in a state of good repair Water assets are kept in a state of good repair	Percentage of assets in fair or better condition	87%*

\* Indicates that the metric is required by O.Reg. 588/17 to be reported in the AM Plan.

Table C-4: Watermain Breaks 2018-2020

Year	Location of Watermain Break	Customers Affected	Duration Affected	Customer-Days Lost
2020	Across from 170 Main St.	225	1 day	225
2019	305 Main St.	16	1 day	16
2019	225 Main St.	17	1 day	17
2019	Intersection of Main St. & Rundle St.	17	1	17
2018	No watermain breaks	--	--	--

Figure C-8: Locations of Watermain Breaks 2019-20





## C.4 Risk Management Strategy

Risk exposure associated with renewal needs are shown in Table C-5 for all water service assets. The Table shows that none of the renewal needs are considered to be Very High risk; however, \$ 6.8 million of renewal needs are considered to be High risk. Of that, \$ 6.7 million consists of watermains.

Table C-5: Renewal Risk Exposure – Water Service

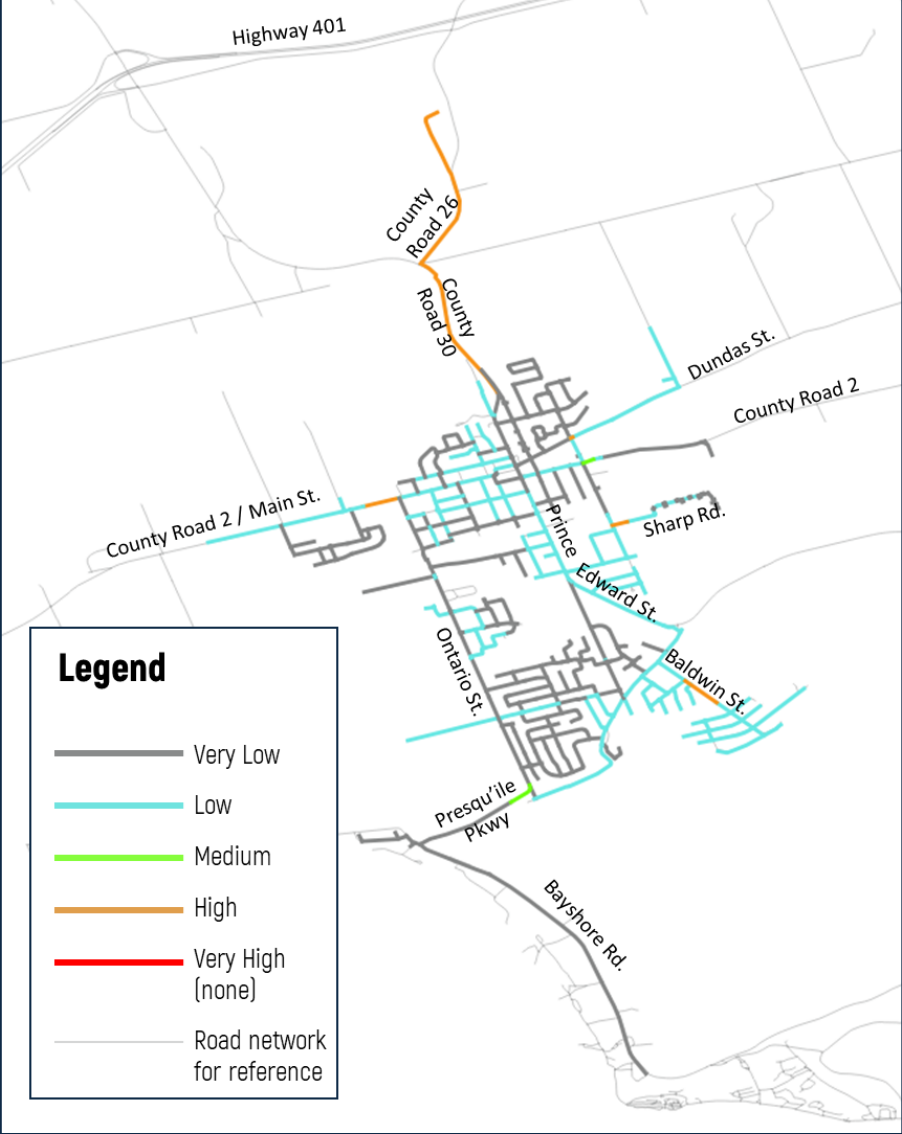
	<b>Total value of assets in 2021 \$</b>	<b>\$ 59.6</b>	<b>million</b>		
	Assets with unknown condition	\$ 1.1	million		
<b>PoF</b>					
<b>5</b>	-	-	-	-	
<b>4</b>	\$ 5.8	\$ 0.4	\$ 0.0	\$ 0.2	
<b>3</b>	\$ 10.7	\$ 2.4	\$ 0.1	\$ 0.3	
<b>2</b>	\$ 11.7	\$ 0.7	-	\$ 0.2	
<b>1</b>	\$ 15.9	\$ 1.6	\$ 0.1	\$ 0.5	
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
	<b>Consequence of Failure</b>				

Risk Legend

Very Low	Low	Moderate	High	Very High
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Figure C-9 shows that those High-risk mains are located along Country Road 26, Country Road 30, Main St. (east of Ontario St.), a short segment of Sharp Rd east of Applewood Dr., and a short segment of Baldwin St. south of Anne St. Referring back to Figure C-8, it can be seen that of those High risk mains, only the segment along Main St. is currently in Poor condition. Figure C-8, shows that a watermain break occurred along this segment (occurred in year 2020), and that three other breaks occurred along the segment to the west (those occurred in 2019). As such, it is clear that this segment needs to be prioritized for renewal.

Figure C-9: Map of Renewal Risk Exposure – Watermains



## C.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031) the water system asset life cycle needs include the following:

- Expansion & Upgrade \$ 3.54 million
- Renewal \$15.88 million
- Operations & Maintenance \$ 1.00 million / year increasing to \$1.11 million/year due to growth assets

The following sub-sections provide details on the needs in each of these categories.

### C.5.1 Expansion & Upgrade Needs

System expansion needs were identified in the 2019 Development Charges Background Study (DCBS), including the following:

- New 150mm watermain on Applewood to connect Loyalist to Stephen (145m), estimated cost **\$ 160 k** in year 2021 \$
- Replace 150mm with 250mm on Main St from Prince Edward St. to Ontario St. estimated cost **\$ 940 k** in year 2021 \$
- Replace 100 mm with 250 mm on Main St from Ontario St to service boundary, estimated cost **\$ 1.18 million** (cost estimate from Public Works' 6-year plan)
- Replace 100mm with 150mm on Lyons St from Prince Edward St. to Division St S (160m), estimated cost **\$ 165 k** in year 2021 \$
- Replace 100mm with 150mm on Division St S from Lyons St to Butler St (115m), estimated cost **\$ 270 k** in year 2021 \$

These needs total \$2,715 k. Adding an allowance of 10% is for engineering and design costs, the total of these projects comes to **\$3.00 million**.

There is also a need to expand the 50mm (2") service connection at County Road 30 at Spring, as was identified in Public Works' 6-year Capital Plan, at an estimated cost of **\$ 40 k**.

In addition, the Municipality is beginning to plan for an additional well to meet expected growth and demand. Staff estimate the cost of this work at **\$ 0.5 million**, broken down as follows:

- Exploration & EA \$ 75 k
- Design \$ 75 k
- Construction \$ 350 k

As such, the system expansion needs identified in this section total **\$ 3.54 million**. No upgrade needs have been identified.

### C.5.2 Renewal Needs

Table C-6 lists the Municipality's renewal practices by asset type, along with the forecast renewal needs to 2031.

Unbuilt plans of subdivisions must be revised to reflect new construction standards.

Table C-6: Water Service Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Watermains	Replace at 80 years	<ul style="list-style-type: none"> <li>• 835 m of watermain along Main St. (Rundle to Ontario St.) renewal due to recent break history, but was treated as an Expansion need (see Section 9.5.1), since this main was also identified in the 2019 Development Charges Background Study as requiring expansion</li> <li>• Renewal opportunities based on coordination with road works (from 2022-26 Road Reconstruction Plan, costs represent water portion of project, escalated by 30% to cover engineering, design, contract administration and contingency):             <ul style="list-style-type: none"> <li>○ Loyalist Dr. (431 m) Prince Edward St. to Applewood <b>\$0.16 million</b></li> <li>○ Prince Edward St. (1,900 m) Elizabeth St. to Harbour St. <b>\$2.27 million</b></li> <li>○ Pinnacle St. S (300 m) Elizabeth St. to end <b>\$0.36 million</b></li> <li>○ Harbour St. S (2,100 m) Prince Edward St. to Ontario St. <b>\$1.70 million</b></li> <li>○ Marina Dr. (335m) Raglan St. to Harbour St. <b>\$0.06 million</b></li> <li>○ Walas St. (240m) Raglan St. to Harbour St. <b>\$0.03 million</b></li> <li>○ Main St. (815 m) Prince Edward St. to Ontario St. <b>\$0.98 million</b></li> <li>○ Applewood Dr. (330 m) Loyalist Dr. north to end <b>\$0.14 million</b></li> </ul> </li> </ul>

Asset Class	Renewal Practices	Renewal Needs to 2031
		<ul style="list-style-type: none"> <li>An additional <b>\$8.0 million</b> of renewal needs were identified to be completed in conjunction with projects identified in the Roads Reconstruction Deficit (presented to Council in October 2020)</li> <li>In addition to the projects identified in the Roads Deficit, it is recommended that Meade St. be considered for reconstruction at an estimated cost of <b>\$0.23 million</b> for the water assets.</li> </ul> <p><b>TOTAL = \$13.93 million</b> (excludes renewal/expansion of Main St. pipe, which will be treated as an expansion need)</p>
<p>Appurtenances</p> <ul style="list-style-type: none"> <li>Hydrants &amp; hydrant valves</li> <li>Pressure reducing valves (PRV) &amp; PRV chambers</li> <li>Water meters</li> </ul>	<p>Replace with main Replace at 35 years</p> <p>Replace at 20 years</p>	<ul style="list-style-type: none"> <li>Included with watermain replacement costs</li> <li>Replace PRV &amp; chambers that are in Poor condition (\$0.13 million each at Baldwin St., Ontario St. and Morrow Ave.) <b>\$0.39 million</b></li> <li>Develop meter replacement program (estimate age of meters, estimate revenue losses associated with old meters, optimize replacement plan based on costs &amp; benefits). <b>\$0.03 million</b> (study only) <b>\$1.00 million</b> to replace meters</li> </ul> <p><b>TOTAL = \$1.42 million</b></p>
<p>Booster pumping stations</p>	<p>Repair/replace components based on condition assessment</p>	<ul style="list-style-type: none"> <li>Upgrade infrastructure at Lakeview Heights BPS <b>\$6.0 k.</b> (The Water Model Study may find that this BPS is not required if a new water tower is installed)</li> <li>Replace duty centrifugal pumps at both BPS <ul style="list-style-type: none"> <li>Lakeview BPS <b>\$1.4 k</b></li> <li>Dundas BPS <b>\$8.0 k</b></li> </ul> </li> </ul>

Asset Class	Renewal Practices	Renewal Needs to 2031
		<ul style="list-style-type: none"> <li>Condition assessment for building &amp; process equipment at 2 BPS <b>\$4.0 k.</b></li> </ul> <b>TOTAL = \$19.4 k</b>
Well pumps	Repair/replace components based on condition assessment	<ul style="list-style-type: none"> <li>Condition assessment for building &amp; process equipment at 3 wells: <b>\$5.0 k</b></li> <li>Well pumps have a service life of 10 years, so all 3 will have to be replaced once during the period 2022-31: <b>\$35.0 k</b></li> </ul> <b>TOTAL = \$40.0 k</b>
Water Treatment Plant	Repair/replace components based on condition assessment	<ul style="list-style-type: none"> <li>Repairs identified for 2022-31 in Building Condition Assessment \$ 176.1 k</li> <li>2 Turbidity analysers \$ 8.0 k</li> <li>4 Flow meters \$ 16.0 k</li> <li>3 Flow control valves \$ 13.5 k</li> <li>Condition assessment for process equipment \$ 2.0 k</li> </ul> <b>TOTAL = \$215.6 k</b>
Chlorine Booster Station	Repair/replace components based on condition assessment	<ul style="list-style-type: none"> <li>Chlorine Booster Station (CBS) requires new downspouts and eaves troughs, estimated <b>\$1.0 k (operating)</b></li> </ul>
Vehicles and Equipment <ul style="list-style-type: none"> <li>Equipment</li> <li>Pickup trucks</li> <li>Cube van</li> </ul>	Replace at 10 years Replace at 10 years Replace at 20 years	<ul style="list-style-type: none"> <li>\$0.11 million</li> <li>\$0.09 million</li> <li>None (vehicle was purchased in 2021)</li> </ul> <b>TOTAL = \$0.20 million</b>
Studies <ul style="list-style-type: none"> <li>Water Financial Plan</li> </ul>	Every 5 years	<ul style="list-style-type: none"> <li>\$25 k for water portion of a combined Water &amp; Wastewater Financial Plan.</li> <li>Plan will be needed twice over 10-year period</li> </ul> <b>TOTAL = \$50 k</b>
<b>TOTAL RENEWAL NEED (2022-31)</b>		<b>\$ 15.88 million</b>

Asset Class	Renewal Practices	Renewal Needs to 2031
(excludes needs that will be funded by operating)		

Table C-6 includes a need for updating the Water Financial Plan. Under the Safe Drinking Water Act (2002), O.Reg. 453/07 requires that municipal residential water systems complete a Financial Plan and obtain Council approval for that Plan prior renewing their Municipal Drinking Water License (MDWL). Since the MDWL must be renewed every five years, the Financial Plan must also be completed every five years. In accordance with O.Reg. 453/07, the Financial Plan must cover a planning period of at least 6 years, beginning with the first year of the period to be covered by the MDWL once renewed.

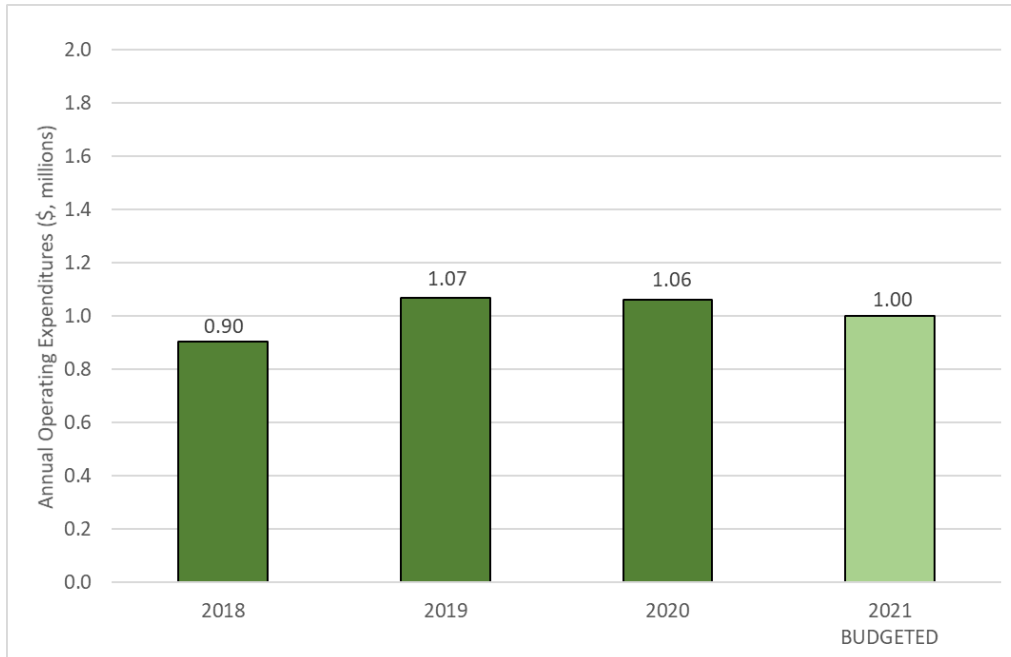
The Municipality’s previous Financial Plans was completed in 2017 (Water & Wastewater Rate Study). As such, over the next 10-year period, the Water Financial Plan will need to be updated in 2022 and 2027, and will be combined with the Wastewater Financial Plan and Rate Study as was done in 2017. The estimated cost of each Water-Wastewater Financial Plan is \$50 k (in 2021 \$), totalling \$100 k for the 10-year period. Water Service’s share of that cost would be \$50 k (in 2021 \$) over the 10-year period.

### C.5.3 Operations & Maintenance Needs

Operations costs include day-to-day costs associated with running and overseeing the water system. This includes labour, electricity and program delivery costs, such as providing underground locates, and promoting water conservation. Maintenance activities include inspection, preventive maintenance and minor repairs. Operations and Maintenance (O&M) activities are both funded by the Municipality’s operating budget.

Figure C-10 shows the operating expenditures for 2018-20, as well as the 2021 budget. Based on staff feedback, the 2021 budget amount is sufficient for current service levels and O&M activities.

Figure C-10: Operating Expenditures 2018-20 and 2021 Budget – Water Service



However, the Municipality’s asset portfolio grows each year due to ownership assumption of developer-built assets. These growth assets require additional funds to support O&M activities, such as inspection, preventive maintenance and minor repairs. The average annual growth in water assets for the period 2016-21 was 714 m mains. Assuming that the operating cost per unit remains unchanged from 2021 (based on 2021 budget and asset inventory), Table C-7 shows that an additional \$11,346 will be needed each year for O&M.

Table C-7: Operating Budget Need for Growth Assets – Water Service

Asset Type	Average amount assets assumed per year for years 2016-2021	Total 2021 inventory	2021 Operating Budget for asset type (2021 \$)	Estimated Annual Operating cost (2021 \$/m)	Additional Operating Need / year for growth assets (2021 \$)
Watermains	714 m	62,949 m	\$ 1,000,510	\$ 15.9 /m	\$ 11,346

Although the water service operating budget covers all asset types and activities within the water service, the growth in watermains is assumed to represent general growth in system activities, including customer service and administration. In 2022, the Municipality will implement a work order management system, which will enable a more detailed understanding of the O&M costs associated with addition of specific asset types.

Table C-8 shows the projected operating budget needed for each year from 2022 to 2031, based on status quo operating costs (2021 budget), and funds needed to operate and maintain 714 m of watermains to be added each year. The Table shows that no additional funds are needed to meet current service levels. As shown in the Table, operating budget needs are projected to grow from \$1.01 million in 2022 to \$1.11 million in 2031.

Table C-1: Projected Annual Operating Budget Need – Water Service

Year	Status Quo Operating Costs (based on 2021 Budget)	Additional Funding Needed to manage existing assets and programs	Funding Needed for O&M of Growth Assets*	Projected Operating Budget Need by Year
2021	\$ 290,631			
2022	\$ 290,631	--	\$ 11,346	\$ 1,011,856
2023	\$ 290,631	--	\$ 22,692	\$ 1,023,202
2024	\$ 290,631	--	\$ 34,038	\$ 1,034,548
2025	\$ 290,631	--	\$ 45,384	\$ 1,045,894
2026	\$ 290,631	--	\$ 56,730	\$ 1,057,240
2027	\$ 290,631	--	\$ 68,076	\$ 1,068,586
2028	\$ 290,631	--	\$ 79,422	\$ 1,079,932
2029	\$ 290,631	--	\$ 90,768	\$ 1,091,278
2030	\$ 290,631	--	\$ 102,114	\$ 1,102,624
2031	\$ 290,631	--	\$ 113,460	\$ 1,113,970

\* Assumes 714m of watermains will be added each year.

## A.1 Financial Impact

Figure C-11 compares the life cycle needs presented in Section C.5 with the Municipality's available funding, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure C-10. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes the annual increases needed to operate and maintain growth assets. (Due to the scale, the increasing height of the light green bars is not apparent on the graph).

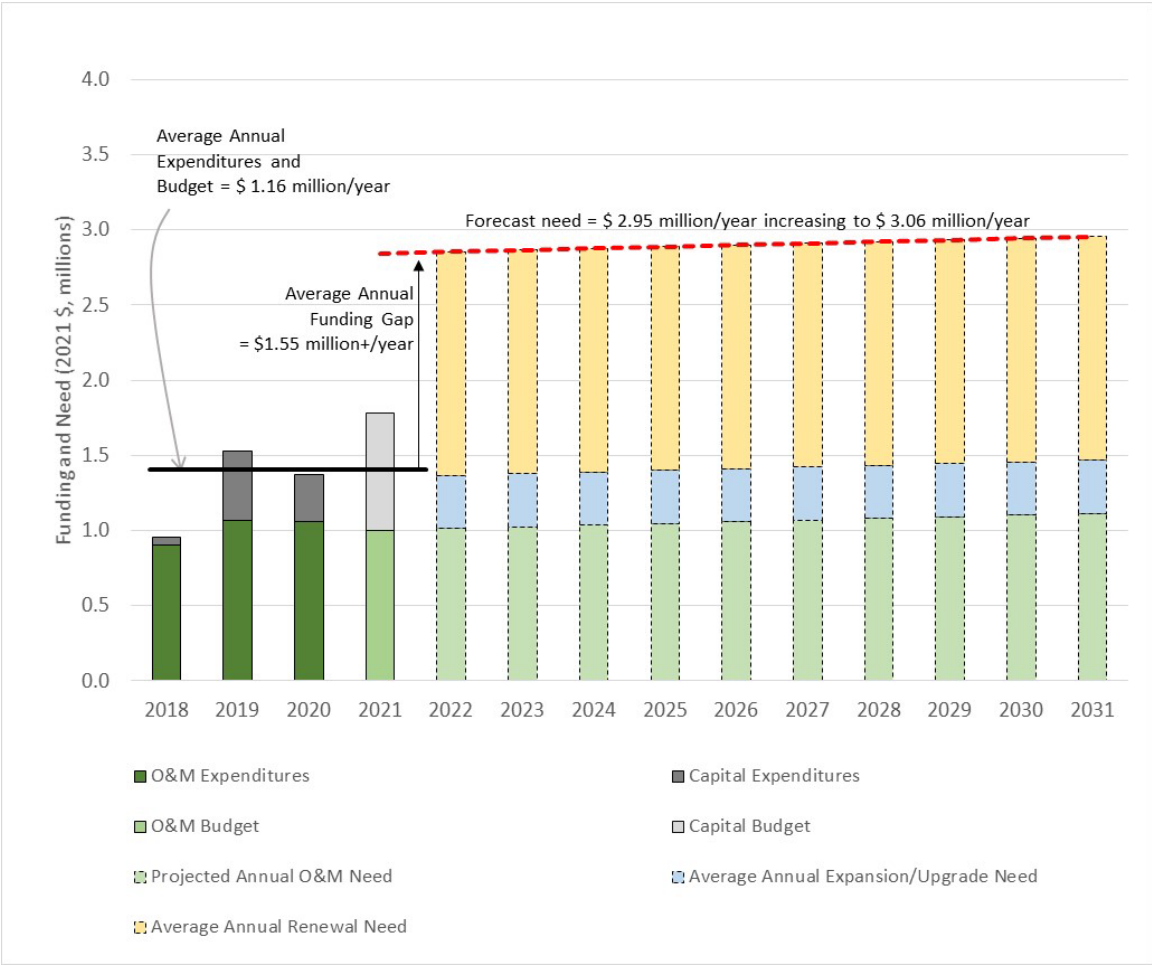
Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$0.78 million of capital projects that were budgeted in 2021, \$0.17 million will not be completed within the year and will be carried over to 2022. This includes:

- \$ 45 k for the service connection at County Road 30 at Spring Valley (expansion project)
- \$ 120 k for the water portion of the reconstruction of Loyalist Dr. (431 m) Prince Edward St. to Applewood (renewal project)

The average annual expenditures and budget for 2018-2021 (black line) summed over expansion, upgrade, renewal and O&M activities is \$1.4 million/year for the period 2018-2021.

For years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). The average annual funding need includes \$ 0.35 million/year of expansion and upgrade work as discussed in Section C.5.1, \$ 1.59 million/year of renewal work as discussed in Section C.5.2, and an annual O&M need of \$1.01 million/year increasing to \$ 1.11 million/year, as discussed in Section C.5.3. The resulting funding gap for the overall service is \$1.55 million/year in 2022, increasing to \$1.65 million by 2031 due to assumption of growth assets. To address the funding gap, the municipality may adjust service levels, defer activities on lower-risk assets, or seek additional revenues for example, through user fees or grants.

Figure C-11: Forecast Funding Gap 2022-31 – Water service



# Appendix A Wastewater Service

## A.1 Inventory

Wastewater collected from the serviced area of the Municipality passes through four treatment components at the Water Pollution Control Plant (WPCP), in the order listed below:

- 1) A 0.7-hectare aerated cell (Lagoon #1) with two mechanical surface aerators, and two aspirating aerators.
- 2) A chemical mixing chamber where ferric chloride is added.
- 3) A 5.44-hectare waste stabilization pond (Lagoon #2) with three baffles.
- 4) A two-celled constructed wetland having a total surface area of 6.2 hectares.

The effluent from the constructed wetland is discharged continuously into a natural wetland that borders Presqu'île Bay, located off the northeast shore of Lake Ontario.

Table D-1 shows that the total replacement value of water assets is estimated at \$59.5 million (in 2021 \$). Of that amount, 93% (\$ 55.4 million) consists of wastewater mains. Estimates of the replacement value of vertical assets include non-process building systems, and a partial inventory of process equipment. Moreover, no data was available on maintenance holes.

Table D-1: Wastewater Service Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
Wastewater mains	56.2 km	\$ 55.4
Maintenance Holes	<i>no data</i>	<i>no data</i>
Harbour Street Pump Station*	1 facility	\$ 2.8
Water Pollution Control Plant (WPCP)*	1 facility	\$ 1.2
Vehicles and Equipment	2 light vehicles and other equipment	\$ 0.1
<b>TOTAL</b>		<b>\$ 59.5</b>

*\* Value includes non-process building systems and selected process equipment. Process equipment not fully inventoried.*

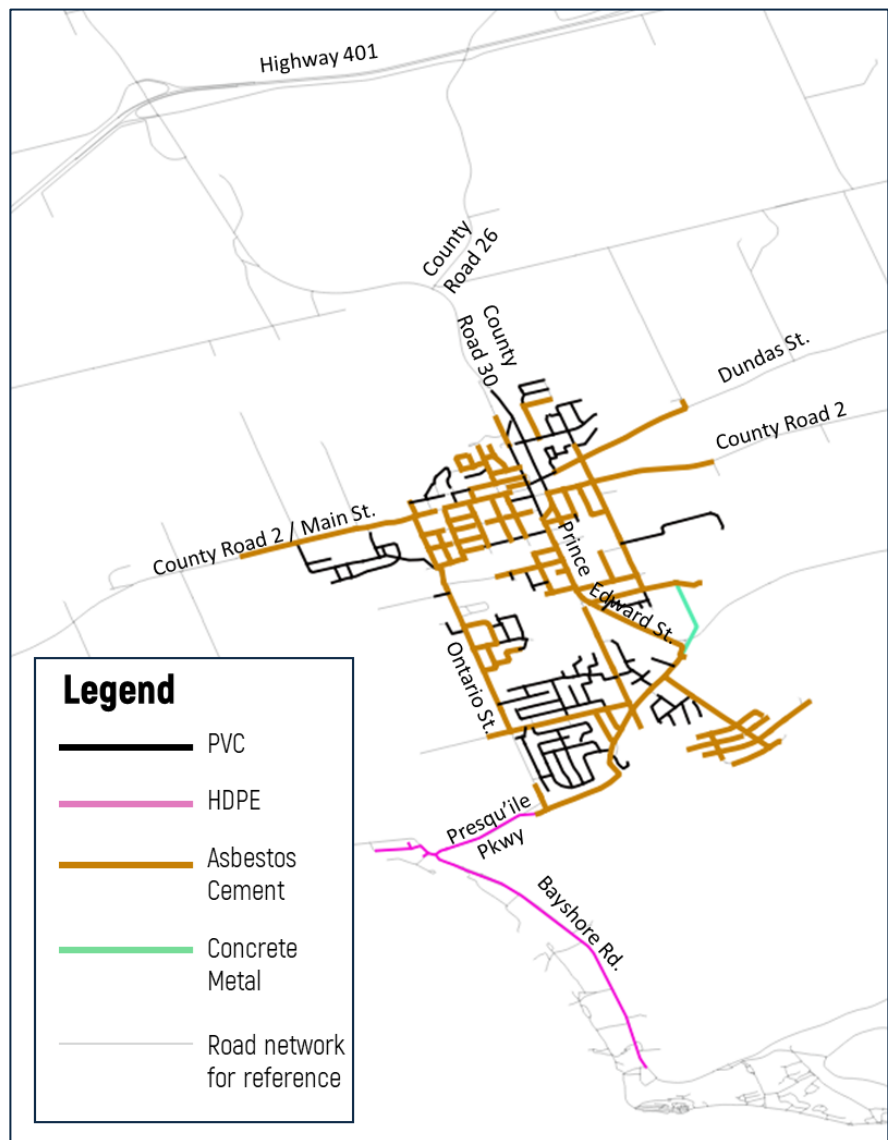
The Municipality's wastewater pipes are a combination of asbestos cement, PVC, concrete metal, and HDPE. In the future, as pipes are replaced, they will be replaced with HDPE where HDPE already exists, or by PVC in all other cases. As such, the replacement values have been estimated based on the unit cost of installing PVC or HDPE, assuming that pipe diameters remain unchanged. Table D-2 summarizes the quantity (by km) and replacement value of watermains by material.

Table D-2: Wastewater Mains by Material

Type	Quantity	Replacement Value (2021 \$, millions)
Asbestos Cement	28.7 km	\$ 32.7
Polyvinyl chloride (PVC)	22.9 km	\$ 19.3
High Density Polyethylene (HDPE)	3.9 km	\$ 2.6
Concrete Metal	0.7 km	\$ 0.7
<b>TOTAL</b>	<b>56.2 km</b>	<b>\$ 55.4</b>

Figure D-1 shows a map of the wastewater mains by material, overlaid on the road network for reference. The map shows that older areas are serviced by asbestos cement pipes, including downtown Brighton and the Gosport community, while more recently developed areas are serviced by PVC pipe. In addition, HDPE pipe services Presqu'île via Presqu'île Parkway and Bayshore Road. A segment of concrete metal pipe runs along the main lagoon.

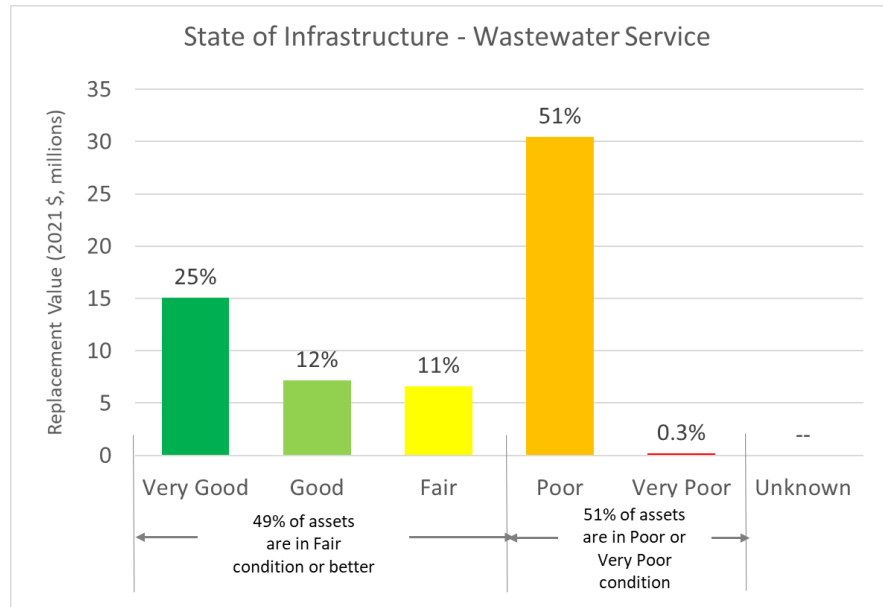
Figure D-1: Map of Wastewater Mains by Material



## A.2 State of the Infrastructure

Figure D-2 shows the condition distribution of assets in the wastewater inventory. The Figure shows that 49% of wastewater assets are in Fair condition or better, and 51% are in Poor condition. Assets in poor condition consist primarily of wastewater mains (\$29.2 million), as well as pumps and other process equipment at the Harbour Street Sewage Pumping Station (SPS), and

Figure D-2: Condition Overview – Wastewater Assets



building components at the Harbour St. SPS and the Water Pollution Control Plant (WPCP).

Assets in Very Poor condition comprise 0.3% of the total replacement value of water assets, and consist of wall finishes and fire detection devices at the Harbour St. SPS, the by-pass chamber at the WPCP and one berm at the lagoon.

Condition scores have been estimated based on age, except in the case vertical assets. Specifically, for building components (non-process) at the WPCP and Harbour St. SPS, condition scores are based on building condition assessments, which were completed in 2021. Condition of process equipment at those facilities was based on staff assessment.

Figure D-3: Condition Detail – Wastewater Mains by Material

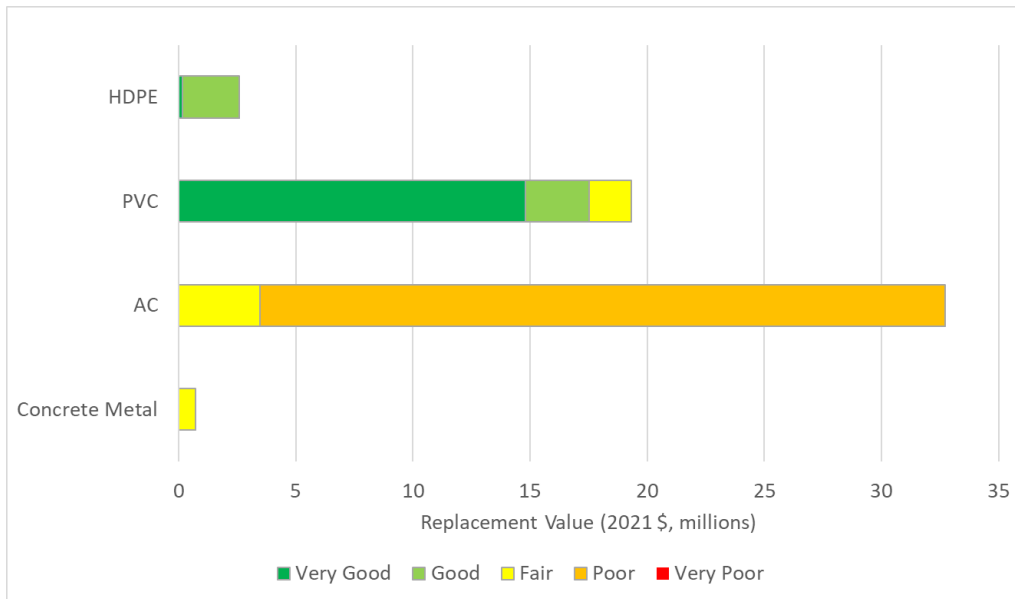


Figure D-3 shows the condition distribution of watermain assets by material. The Figure shows that assets in Poor condition consist of Asbestos Cement. (AC). AC pipe was installed in the 1960s and 1970s, and is now about 40-

60 years old. With an estimated service life of 70 years, the older AC pipes are nearing their theoretical end of life. CCTV inspection would be needed to confirm their condition and remaining life.

Figure D-4 shows a map of the wastewater mains by condition, overlaid on the road network for reference. The map shows that the watermains that are in Poor condition are located primarily in the downtown area of Brighton, including along Main St., Chapel St., Centre St., Meade St., Addison St., Dundas St., Prince Edward St., Division St., Butler St., Grimes St., and other segments in the area.

According to the age-based condition scale, assets in Poor condition have 20%-40% of their service life remaining. AC pipes are estimated to have a service life of 70 years, which means that the assets in Poor condition have between 14-28 years of life remaining. For future AM Plans, the CCTV inspections should be conducted to obtain a more accurate assessment of pipe condition and remaining life.

Figure D-4: Map of Wastewater mains by Condition

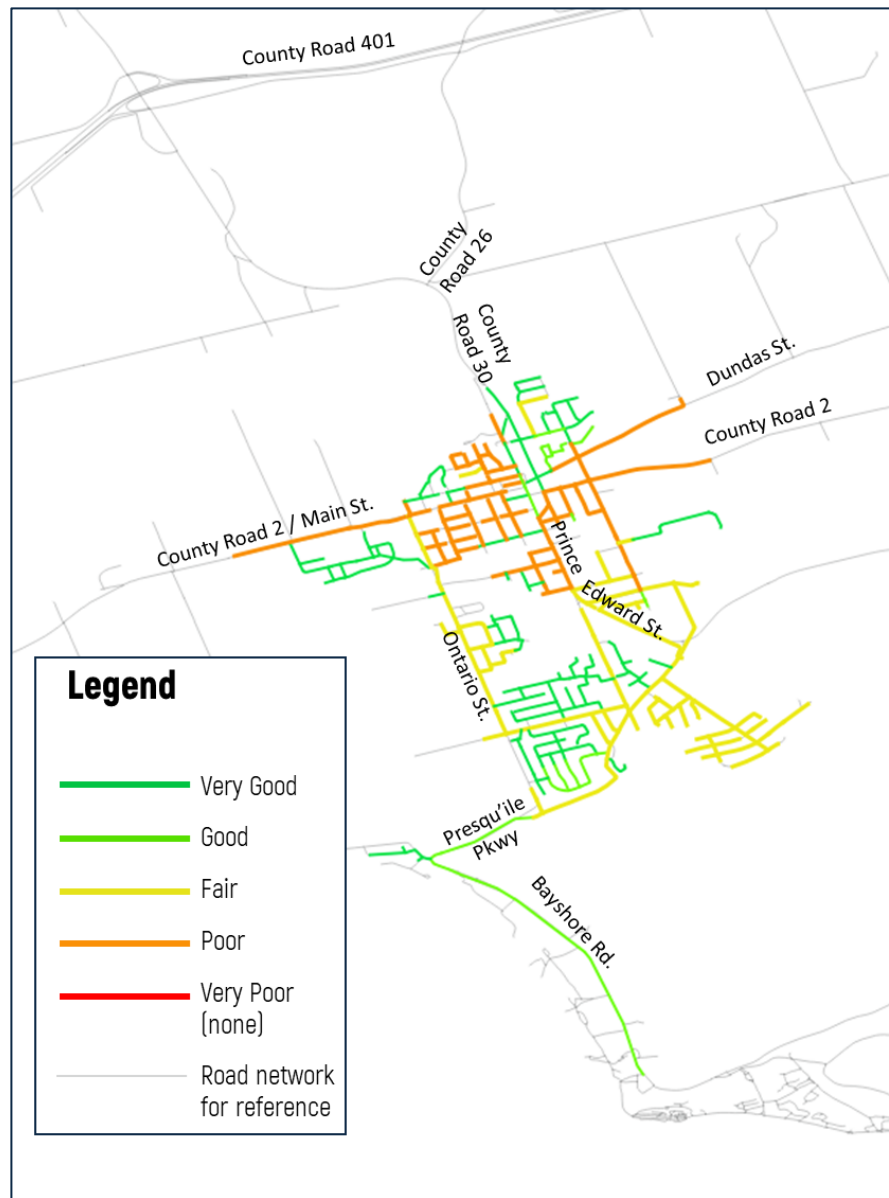


Figure D-5 shows the average age of wastewater mains by material. The plot shows that on average, HDPE and PVC mains were installed more recently than asbestos cement and concrete metal mains.

Figure D-6 shows the condition distribution of wastewater vertical assets, vehicles and equipment. At the WPCP, the By-Pass chamber and Berm 1 are in Very Poor condition. At the Harbour St. SPS, the interior faced insulation is in Very Poor condition.

Figure D-7 shows the average age of wastewater vertical assets, vehicles and equipment. The plot shows that on average, the building systems that comprise the Harbour St. Sewage Pump Station are beyond their service life.

Figure D-5: Average Age of Assets – Wastewater Mains

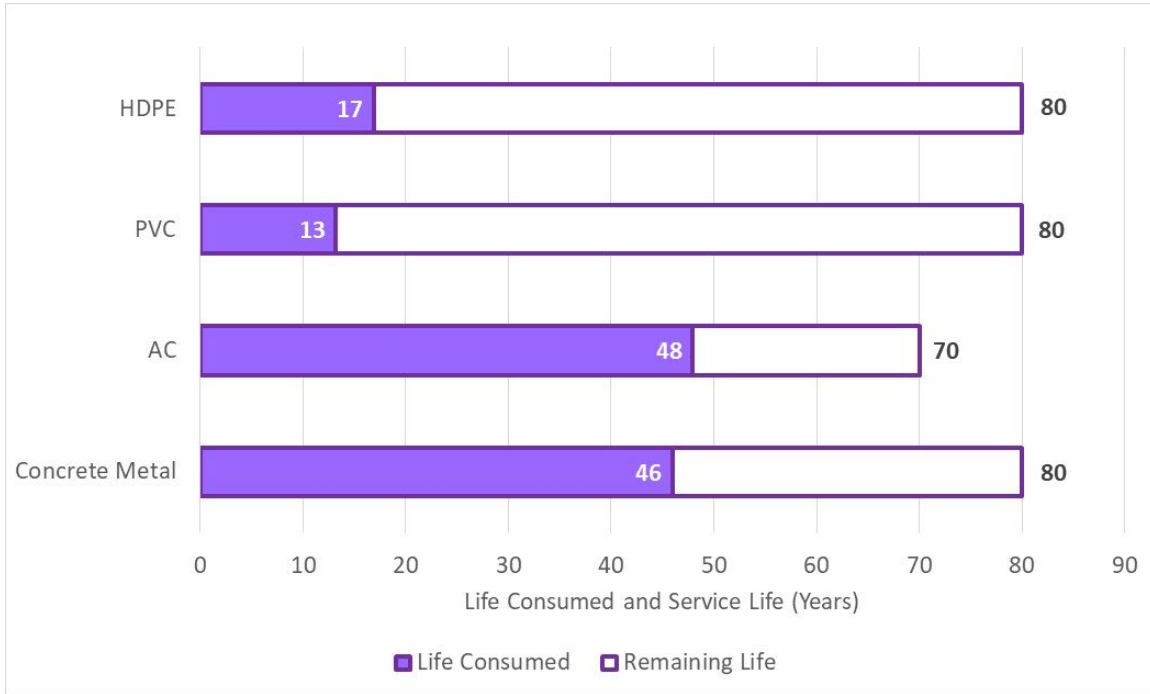


Figure D-6: Condition Detail – Wastewater Vertical Assets, Vehicles and Equipment

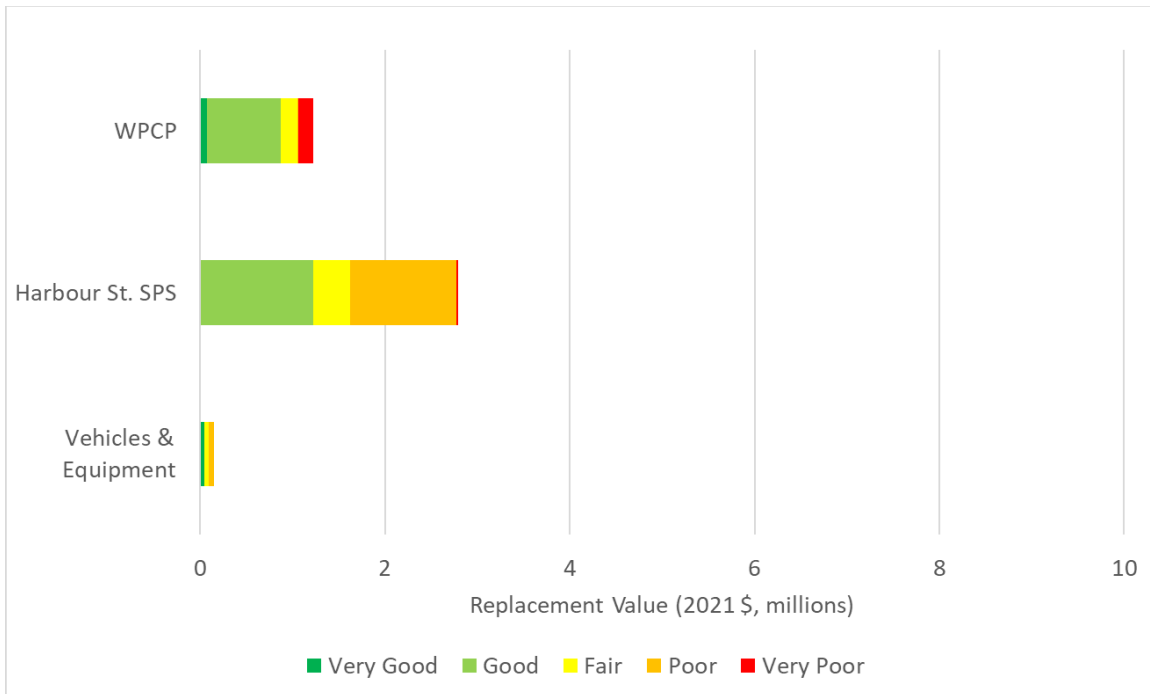
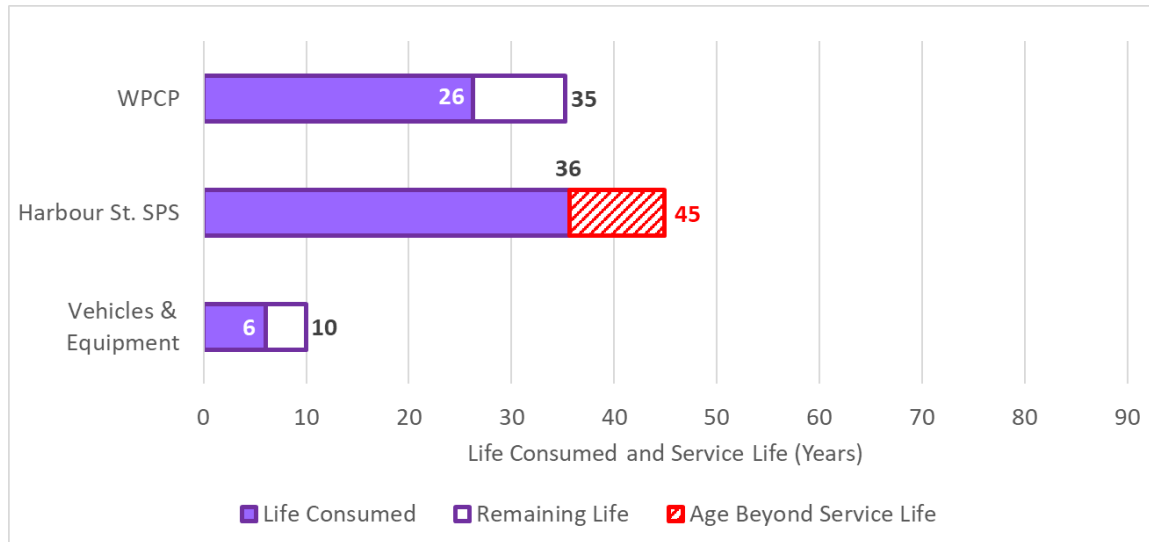


Figure D-7: Average Age of Assets – Wastewater Vertical Assets, Vehicles and Equipment



### D.3 Levels of Service

This section presents Level of Service metrics and performance for the wastewater service. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

Table D-3 presents Technical LOS metrics for the water service. It shows that 53% of properties within the municipality are connected to the municipal wastewater system. It is expected that this value will remain stable or increase in the future, as the Municipality encourages development to occur where municipal services can be optimized, in accordance with the Municipality’s Official Plan.

Table D-3 also shows that in each of years 2018 to 2020, there were 4, 5 and 3 effluent violations (out of 12 monthly reports/year), each related to exceedance of Total Ammonia Nitrogen (TAN). TAN limits are defined in Environmental Compliance Approval (ECA) Number 3644-BWXRNN under which the WPCP operates. Moreover, for the first half of 2021, five (5) reports have exceeded the TAN limit. The Municipality is aware of the issue, and is working on a design for Lagoon upgrades to address the TAN issue and to provide for future treatment capacity (for more information, see Report to Council “Wastewater Pollution Control Plant Improvements Update”, presented to Council on 16 Aug 2021).

In addition, the Table lists a metric for connection-days lost due to sewer backups. Excluding backups attributed homeowners’ infrastructure, there were two (2) sewer backup incidents in 2020, resulting in a total of 2 connection-days lost. Although the Municipality’s sanitary system is separate from the stormwater system, Inflow and Infiltration (I&I) remains a concern, and can aggravate capacity and overflow issues. The Municipality is working to reduce I&I to provide more capacity. In addition, Municipal Standards have been established to reduce the occurrence of I&I in future construction of wastewater infrastructure.

Since the Municipality’s stormwater and sanitary systems do not have any combined segments, Table D-3 excludes O.Reg. 588/17 level of service (LOS) metrics related to combined systems.

Table D-1: Level of Service Metrics for Wastewater Service

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide properties with wastewater service	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.*	See Section D.1 for description and maps.
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate conveyance scope and capacity	Provide properties with wastewater service	Percentage of properties connected to the municipal wastewater system.*	53% (3,280 connections / 6,216 properties)
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Wastewater system protects the environment from pollution	Wastewater system meets effluent chemical limits	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system*	Number of violations: 2021: 5 (Jan-Jun) 2020: 3 2019: 5 2018: 4  As a ratio of 6,216 connections: 2021: 0.016 (extrapolated) 2020: 0.005 2019: 0.008 2018: 0.006
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Wastewater system protects the environment from pollution	Wastewater system meets effluent chemical limits	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.*	N/A – wastewater and stormwater sewers are not combined

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<p><b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage</p>	<p>Wastewater system protects the environment from pollution</p>	<p>Wastewater system meets effluent chemical limits</p>	<p>Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.*</p>	<p>N/A</p>
<p><b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage</p>	<p>Wastewater system protects the environment from pollution</p>	<p>Wastewater system meets effluent chemical limits</p>	<p>Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.*</p>	<p>Inflow and infiltration</p>
<p><b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage</p>	<p>Wastewater system protects the environment from pollution</p>	<p>Wastewater system meets effluent chemical limits</p>	<p>Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in the item above..*</p>	<p>See Municipality's engineering standards.</p>
<p><b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage</p>	<p>Wastewater system protects the environment from pollution</p>	<p>Wastewater system meets effluent chemical limits</p>	<p>Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.*</p>	<p>In accordance with Environmental Compliance Approval for the Water Pollution Control Plant.</p>
<p><b>Quality:</b> Services are reliable and responsive to customers</p>	<p>Reliable service</p>	<p>Operating, maintenance and monitoring practices deliver expected wastewater removal and treatment</p>	<p>The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system*</p>	<p>0.0003 connection-days lost / year / connection (2 connection-days lost for 6,216 connections in 2020)</p>

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Wastewater assets are kept in a state of good repair	Percentage of assets in fair or better condition	49%

*\* Indicates that the metric is required by O.Reg. 588/17 to be reported in the AM Plan.*

## D.4 Risk Management Strategy

Risk exposure associated with renewal needs are shown in Table D-4 for all wastewater service assets. The Table shows that \$ 1.24 million of renewal needs are considered to be Very High risk, all consisting of work required in vertical assets. Specifically, process pumps, piping and process HVAC at Harbour St. Sewage Pump Station (SPS) are Very High risk, along with the building generator, exterior doors, Exit lights and staircase handrail. At the Water Pollution Control Plant (WPCP), the exterior doors, fire detection and sounding device, bypass chamber and berm 1 are considered Very High risk.

Table D-4: Renewal Risk Exposure – Wastewater Service

	<b>Total value of assets in 2021 \$</b>		<b>\$ 59.5</b>	<b>million</b>
	Value included in Risk Table		\$ 57.7	million
<b>PoF</b>				
<b>5</b>	-	\$ 0.0	-	\$ 0.04
<b>4</b>	-	\$ 0.0	\$ 12.9	\$ 1.2
<b>3</b>	-	-	\$ 10.7	\$ 9.1
<b>2</b>	-	\$ 2.4	\$ 2.70	\$ 0.9
<b>1</b>	-	\$ 0.2	\$ 14.8	\$ 0.0
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
	<b>Consequence of Failure</b>			

Risk Legend

Very Low	Low	Moderate	High	Very High
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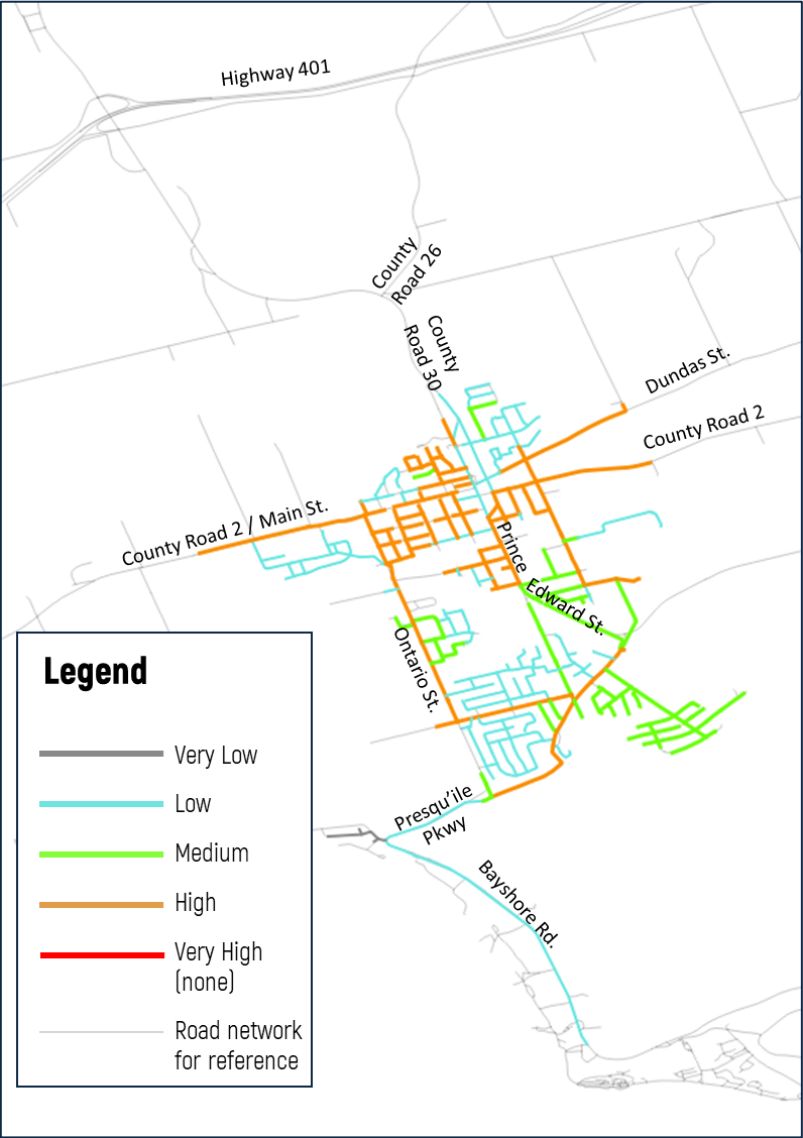
Table D-4 shows also shows assets considered High risk, many of which consist of mains. High risk mains are located along Main St., Dundas St., Elizabeth St., Applewood Dr. and Prince Edward St., and along the residential streets in downtown Brighton. Comparing Figure D-8 with the condition map in Figure D-4, it can be seen that most of the High-risk mains are also in Poor condition. One exception is the main along Ontario St, which is in Fair condition, but considered High risk due to its diameter and criticality to the system. Since none of these mains has reached the end of their theoretical life, it is recommended that these mains be prioritized for CCTV monitoring. They may also be scheduled for renewal if other corridor works present the opportunity.

In the wastewater system, it is also necessary to address capacity and function risks. As discussed in the previous section, the system experienced two backups in 2020 (one on Loyalist Dr. and one on Harbour St.) Backups cause service disruptions and property damage. The Municipality is working to reduce the risk of backups and overflows by managing flows through inflow and infiltration reduction. CCTV inspection would also help identify potential blockages.

In addition, the wastewater system has exceeded its limits on Total Ammonium Nitrogen (TAN) several times over the past few years. Effluent violations have negative impacts on the environment, and carry a risk of financial penalties to the Municipality. The need to upgrade the

wastewater treatment system has thus been identified by Council as a priority in the Strategic Plan Refresh (April 2021).

Figure D-8: Map of Renewal Risk Exposure – Wastewater Mains



### D.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031) the wastewater system asset life cycle needs include the following:

- Expansion & Upgrade \$12.01 million
- Renewal \$17.50 million
- Operations & Maintenance \$ 1.12 million / year increasing to \$1.25 million/year due to growth assets

The following sub-sections provide details on the needs in each of these categories.

### D.5.1 Expansion & Upgrade Needs

System expansion needs were identified in the 2019 Development Charges Background Study (DCBS), including the following (all values inflated from the 2019 estimate to 2021 \$):

- Improvements to the WPCP for ammonia removal (estimated cost **\$ 8.80 million**)
- Upgrade lift station / Harbour St. SPS and force main (estimated cost **\$ 3.00 million**)
- Construct garage at lagoon (estimated cost **\$ 65 k**)

In August 2021, the Municipality outlined the following draft plan for improving the WPCP (see Report to Council dated 16 August 2021):

1. Remove all existing aerators and infrastructure. (complete)
2. Purchase and install of a Triplepoint aeration system to provide adequate mixing energy and oxygen supply.
3. Relocate Arena Creek to prevent further erosion of the aeration pond northeast berm.
4. Construct a secondary clarifier with a future capacity to treat 6000 m<sup>3</sup> per day.
5. Install a filtration system between aeration pond and secondary clarifier to remove unwanted debris.
6. Construct a waste sludge area, such as a Geotube type device.

These steps are expected to be completed during the years 2022-24, and fall within the existing capital project amount of **\$8.80 million** (originally allocated to the Moving Bed Biofilm Reactor project). These steps will also address the DCBS' identified need for improvements to the WPCP for ammonia removal.

There is also a need to explore Inflow & Infiltration reduction, as a non-asset alternative to re-capture capacity. The estimated cost of the program is **\$ 150 k** over the years 2022-25.

There is also a concern that the wastewater main along Cedar St. between Raglan St. and Harbour St. is nearing its capacity. This concern requires further investigation using the hydraulic wastewater model that the Municipality is developing. The model is expected to be ready to support analysis in 2022.

As such, the system expansion and upgrade needs identified in this section total **\$ 12.0 million**. The Municipality is developing a wastewater model which will support identification of expansion and upgrade needs for future iterations of the AM plan.

### D.5.2 Renewal Needs

Table D-5 lists the Municipality's renewal practices by asset type, along with the forecast renewal needs to 2031.

Table D-5: Wastewater Service Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Wastewater Mains	Replace AC pipes at 70 years, PVC, HDPE and concrete metal pipes at 80 years	<ul style="list-style-type: none"> <li>• Renewal opportunities based on coordination with road works (from 2022-26 Road Reconstruction Plan, costs represent water portion of</li> </ul>

Asset Class	Renewal Practices	Renewal Needs to 2031
		<p>project, escalated by 30% to cover engineering, design, contract administration and contingency):</p> <ul style="list-style-type: none"> <li>○ Main St. (1650 m) Rundle Lane to Prince Edward St. <b>\$2.04 million</b></li> <li>○ Loyalist Dr. (431 m) Prince Edward St. to Applewood Dr. <b>\$0.09 million</b></li> <li>○ Prince Edward St. (1,900 m) Elizabeth St. to Harbour St. <b>\$2.35 million</b></li> <li>○ Pinnacle St. S (300 m) Elizabeth St. to end <b>\$0.37 million</b></li> <li>○ Harbour St. S (2,100 m) Prince Edward St. to Ontario St. <b>\$1.76 million</b></li> <li>○ Marina Dr. (335m) Raglan St. to Harbour St. <b>\$0.07 million</b></li> <li>○ Walas St. (240m) Raglan St. to Harbour St. <b>\$0.03 million</b></li> <li>○ Applewood Dr. (330 m) Loyalist Dr. north to end <b>\$0.14 million</b></li> </ul> <ul style="list-style-type: none"> <li>• An additional <b>\$8.0 million</b> of renewal needs were identified to be completed in conjunction with projects identified in the Roads Reconstruction Deficit (presented to Council in October 2020)</li> <li>• In addition to the projects identified in the Roads Deficit, it is recommended that Meade St. be considered for reconstruction at an estimated cost of <b>\$0.23 million</b> for the wastewater assets.</li> </ul>

Asset Class	Renewal Practices	Renewal Needs to 2031
		<b>TOTAL = \$15.08 million</b>
Maintenance Holes	Replace with wastewater mains	Costs included with wastewater main replacements
Harbour St. SPS	Repair/replace components based on condition assessment	<ul style="list-style-type: none"> <li>Repairs identified for 2022-31 in Building Condition Assessment \$ 1.06 million</li> <li>Pumps, piping, valves \$ 1.08 million</li> </ul> <b>TOTAL = \$ 2.14 million</b>
Water Pollution Control Plant	Repair/replace components based on condition assessment	<ul style="list-style-type: none"> <li>Repairs identified for 2022-31 in Building Condition Assessment \$ 12.0 k</li> <li>Lab equipment \$ 25.0 k</li> <li>Berm 1 \$ 40.0 k</li> <li>Dosing equipment \$ 10.0 k</li> </ul> <b>TOTAL = \$ 0.09 million</b>
Vehicles and Equipment <ul style="list-style-type: none"> <li>Equipment</li> <li>Pickup trucks</li> </ul>	Replace at 10 years Replace at 10 years	<ul style="list-style-type: none"> <li>\$0.05 million</li> <li>\$0.09 million</li> </ul> <b>TOTAL = \$0.14 million</b>
Studies <ul style="list-style-type: none"> <li>Wastewater Financial Plan</li> </ul>	Every 5 years with Water Financial Plan	<ul style="list-style-type: none"> <li>\$25 k for water portion of a combined Water &amp; Wastewater Financial Plan.</li> <li>Plan will be needed twice over 10-year period</li> </ul> <b>TOTAL = \$0.05 million</b>
<b>TOTAL RENEWAL NEED (2022-31)</b> (excludes needs that will be funded by operating)		<b>\$ 17.50 million</b>

Table D-5 also includes a need for a Wastewater Financial Plan, which was identified as a priority in Council's Strategic Plan Refresh (April 2021). The Wastewater Financial Plan is typically developed in parallel with the Water Financial Plan, which must be updated every five years.

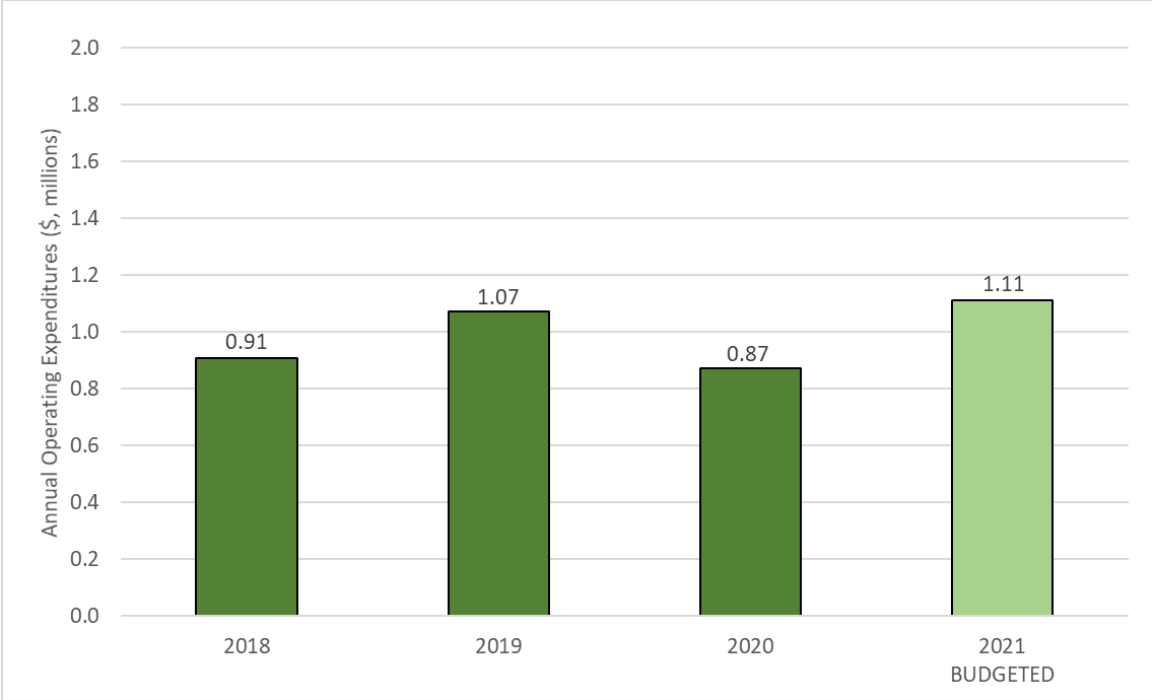
The Municipality’s previous Water and Wastewater Financial Plans were completed in 2017 (Water & Wastewater Rate Study). As such, over the next 10-year period, the Wastewater Financial Plan will need to be updated in 2022 and 2027, and will be combined with the Water Financial Plan (Rate Study) as was done in 2017. The estimated cost of each Water-Wastewater Financial Plan is \$50 k (in 2021 \$), totalling \$100 k for the 10-year period. Wastewater Service’s share of that cost would be \$50 k (in 2021 \$) over the 10-year period.

D.5.3 Operations & Maintenance Needs

Operations costs include day-to-day costs associated with running and overseeing the wastewater system. This includes labour, electricity and program delivery costs, such as providing underground locates. Maintenance activities include inspection, preventive maintenance and minor repairs. Operations and Maintenance (O&M) activities are both funded by the Municipality’s operating budget.

Figure D-9 shows the operating expenditures for 2018-20, as well as the 2021 budget. Based on staff feedback, the 2021 budget amount is sufficient for current service levels and O&M activities.

Figure D-9: Operating Expenditures 2018-20 and 2021 Budget – Wastewater Service



However, the Municipality’s asset portfolio grows each year due to ownership assumption of developer-built assets. These growth assets require additional funds to support O&M activities, such as inspection, preventive maintenance and minor repairs. The average annual growth in water assets for the period 2016-21 was 685 m mains. Assuming that the operating cost per unit remains unchanged from 2021 (based on 2021 budget and asset inventory), Table D-6 shows that an additional \$13,526 will be needed each year for O&M.

Table D-6: Operating Budget Need for Growth Assets – Wastewater Service

Asset Type	Average amount assets assumed per year for years 2016-2021	Total 2021 inventory	2021 Operating Budget for asset type (2021 \$)	Estimated Annual Operating cost (2021 \$/m)	Additional Operating Need / year for growth assets (2021 \$)
Wastewater Mains	685 m	56,226 m	\$ 1,110,739	\$ 19.8 /m	\$ 13,526

Although the wastewater service operating budget covers all asset types and activities within the wastewater service, the growth in wastewater mains is assumed to represent general growth in system activities, including customer service and administration. In 2022, the Municipality will implement a work order management system, which will enable a more detailed understanding of the O&M costs associated with addition of specific asset types.

Table D-7 shows the projected operating budget needed for each year from 2022 to 2031, based on status quo operating costs (2021 budget), and funds needed to operate and maintain 685 m of wastewater mains to be added each year. The Table shows that no additional funds are needed to meet current service levels. As shown in the Table, operating budget needs are projected to grow from \$1.12 million in 2022 to \$1.25 million in 2031.

Table D-7: Projected Annual Operating Budget Need – Wastewater Service

Year	Status Quo Operating Costs (based on 2021 Budget)	Additional Funding Needed to manage existing assets and programs	Funding Needed for O&M of Growth Assets*	Projected Operating Budget Need by Year
2021	\$ 1,110,739			
2022	\$ 1,110,739		\$ 13,526	\$ 1,124,265
2023	\$ 1,110,739		\$ 27,052	\$ 1,137,791
2024	\$ 1,110,739		\$ 40,578	\$ 1,151,317
2025	\$ 1,110,739		\$ 54,104	\$ 1,164,843
2026	\$ 1,110,739		\$ 67,630	\$ 1,178,369
2027	\$ 1,110,739		\$ 81,156	\$ 1,191,895
2028	\$ 1,110,739		\$ 94,682	\$ 1,205,421
2029	\$ 1,110,739		\$ 108,208	\$ 1,218,947
2030	\$ 1,110,739		\$ 121,734	\$ 1,232,473

Year	Status Quo Operating Costs (based on 2021 Budget)	Additional Funding Needed to manage existing assets and programs	Funding Needed for O&M of Growth Assets*	Projected Operating Budget Need by Year
2031	\$ 1,110,739		\$ 135,260	\$ 1,245,999

\* Assumes 685m of wastewater mains will be added each year.

## D.6 Financial Impact

Figure D-10 compares the life cycle needs presented in Section D.5 with the Municipality’s historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure D-9. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes annual increases needed to operate and maintain growth assets. (Due to the scale, the increasing height of the light green bars is not apparent on the graph).

Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$12.08 million of capital projects that were budgeted in 2021, \$11.93 million will not be completed within the year and will be carried over to 2022. This includes the following upgrade projects:

- \$ 65 k to construct a garage at the lagoon (expansion project)
- \$ 8.8 million for lagoon upgrades

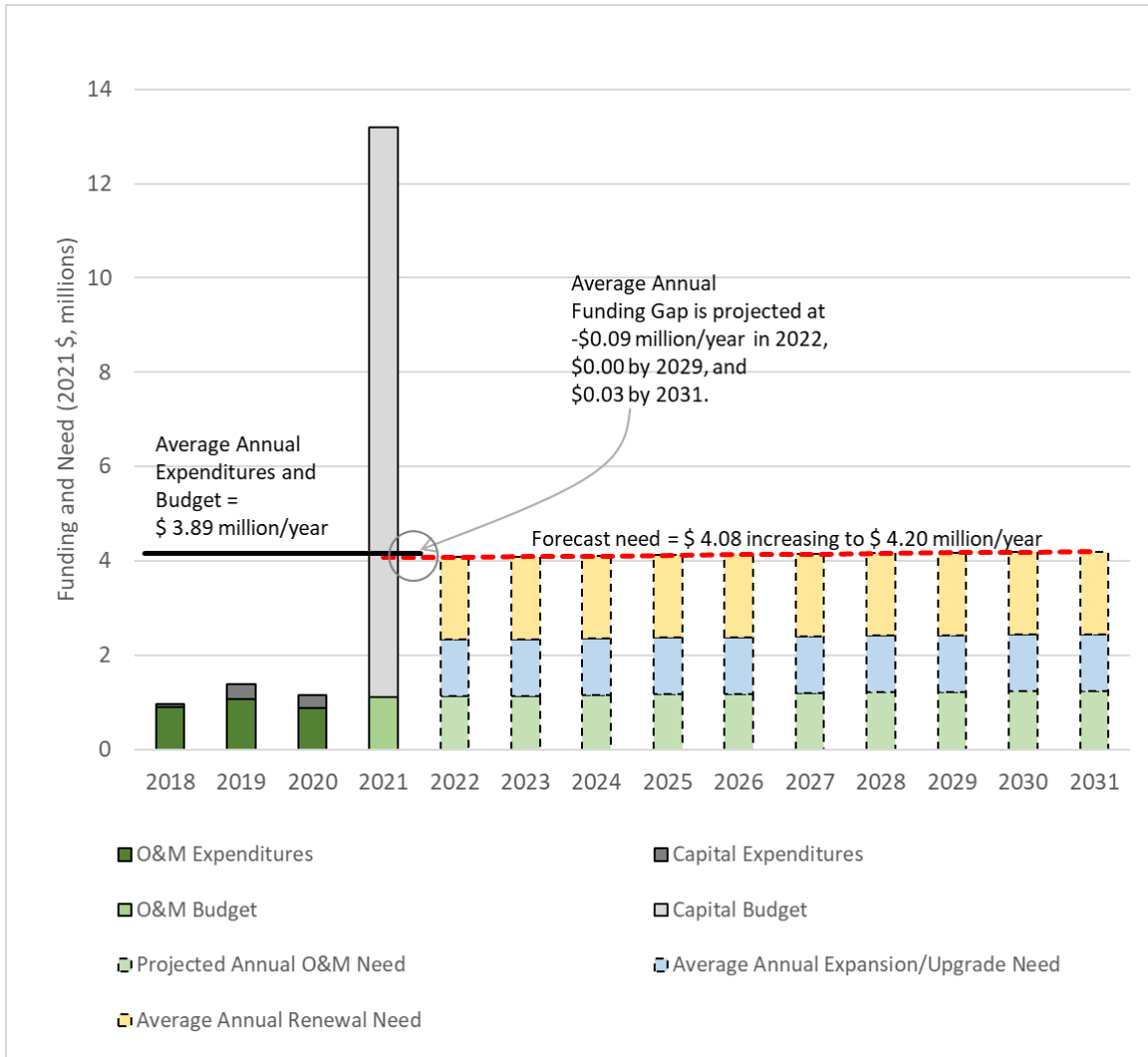
The following renewal projects are also being carried over to 2022:

- \$ 3.0 million to renew the Harbour St. SPS and force main
- \$ 70 k for the wastewater portion of the reconstruction of Loyalist Dr. (431 m) Prince Edward St. to Applewood

The average annual expenditures and budget for 2018-2021 (black line) summed over expansion, upgrade, renewal and O&M activities is \$4.17 million/year for the period 2018-2021.

For years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). The average annual funding need includes \$ 1.20 million/year of expansion and upgrade work as discussed in Section D.5.1, \$ 1.75 million/year of renewal work as discussed in Section D.5.2, and an annual O&M need of \$ 1.12 million/year increasing to \$ 1.25 million/year, as discussed in Section D.5.3. In 2022, the funding gap is -\$0.09 million/year in 2022, indicating that average annual needs have dropped slightly compared to the years 2018-2021; however, as the network grows due to asset assumption, the average annual need reaches \$4.17 million in 2029 (matching the average annual expenditures and budget for 2018-2021), and by 2031 the average annual funding gap is projected to reach \$0.03 million. To address the funding gap, the municipality may adjust service levels, defer activities on lower-risk assets, or seek additional revenues for example, through user fees or grants.

Figure D-10: Forecast Funding Gap 2022-31 – Wastewater



# Appendix E Parks & Recreation Services

## E.1 Inventory

The Municipality provides residents with indoor and outdoor opportunities for recreation. Outdoor facilities include soccer fields, baseball diamonds, tennis courts and a pickleball court, as well as trails, play structures, a splash pad, a skateboard park, boating facilities and benches. Park maintenance relies on a fleet of pick-up trucks, mowers, trailers, and other equipment. For indoor activities, the Municipality also manages buildings for community activities, including community centres, an arena, and a curling club.

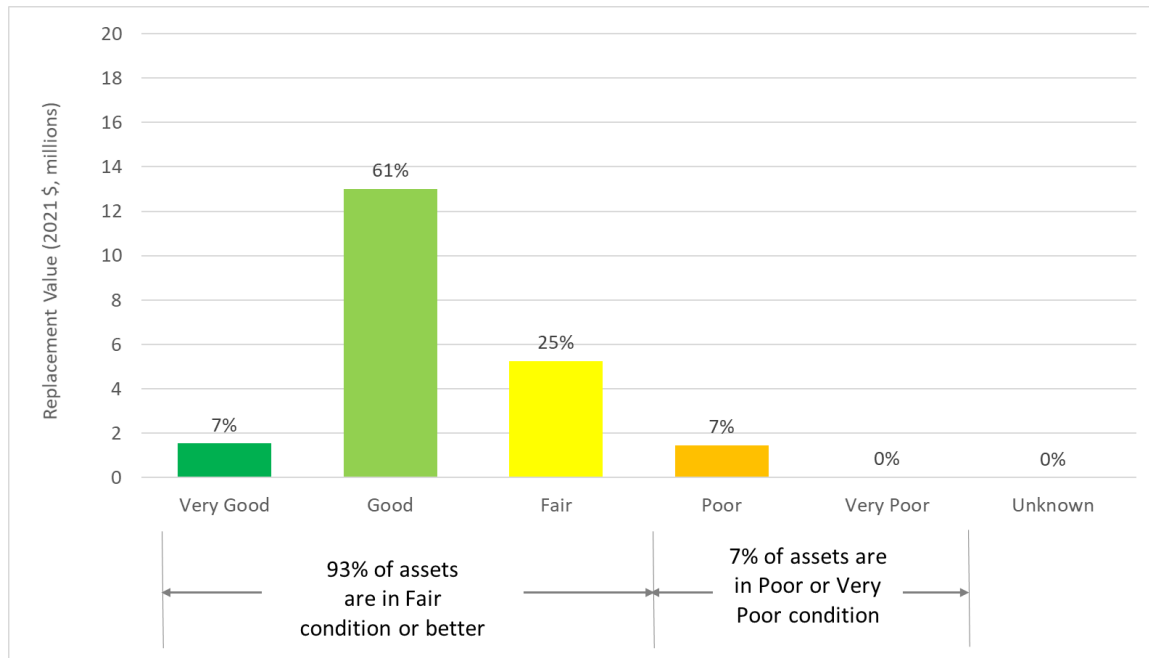
Table E-1: Parks & Recreation Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
Sport fields, courts and amenities	4 soccer fields 2 ball diamonds 2 tennis courts 1 pickleball court	\$ 1.1
Trails	5.4 km	\$ 0.6
Play and leisure	7 play structures 1 splash pad 1 skateboard park picnic tables and shelters	\$ 1.5
Boating facilities	7 docks	\$ 0.4
Vehicles and Equipment	5 light vehicles 20 units of other equipment	\$ 0.6
Buildings	2 community centres 1 arena 1 curling club 1 heritage building Parks & Recreation garage Washrooms at parks and marina	\$ 16.8
<b>TOTAL</b>		<b>\$ 21.6</b>

## E.2 State of the Infrastructure

Figure E-1 shows the condition distribution of assets in the Parks & Recreation inventory. The Figure shows that 93% of these assets are in Fair condition or better, while 7% are in Poor condition.

Figure E-1: Condition Overview – Parks & Recreation Assets



Condition scores have been estimated based on staff input, except in the case of the buildings. For buildings, condition scores were determined based on findings from a Building Condition Assessment project that was completed in 2021.

Figure E-2 shows the condition of the Parks & Recreation assets by asset type. The Figure shows that assets in Poor condition consist of building components. Of these, the most significant assets are the roof (\$400k) and chiller (\$67k) at King Edward Park Arena (\$400k), and the wood canopy at Codrington Community Centre (\$160).

Figure E-3 shows the average age of assets by asset type. The Figure shows that on average, vehicles, equipment and building components are beyond their average service life (averages are calculated over replacement value). However, as was shown in Figure E-2, most of those assets are in Fair condition or better, which suggests that assets are deteriorating more slowly than expected, or that some assets (most likely, building components) have been replaced, while the data is still showing the original installation year.

Figure E-2: Condition Detail – Parks & Recreation Assets

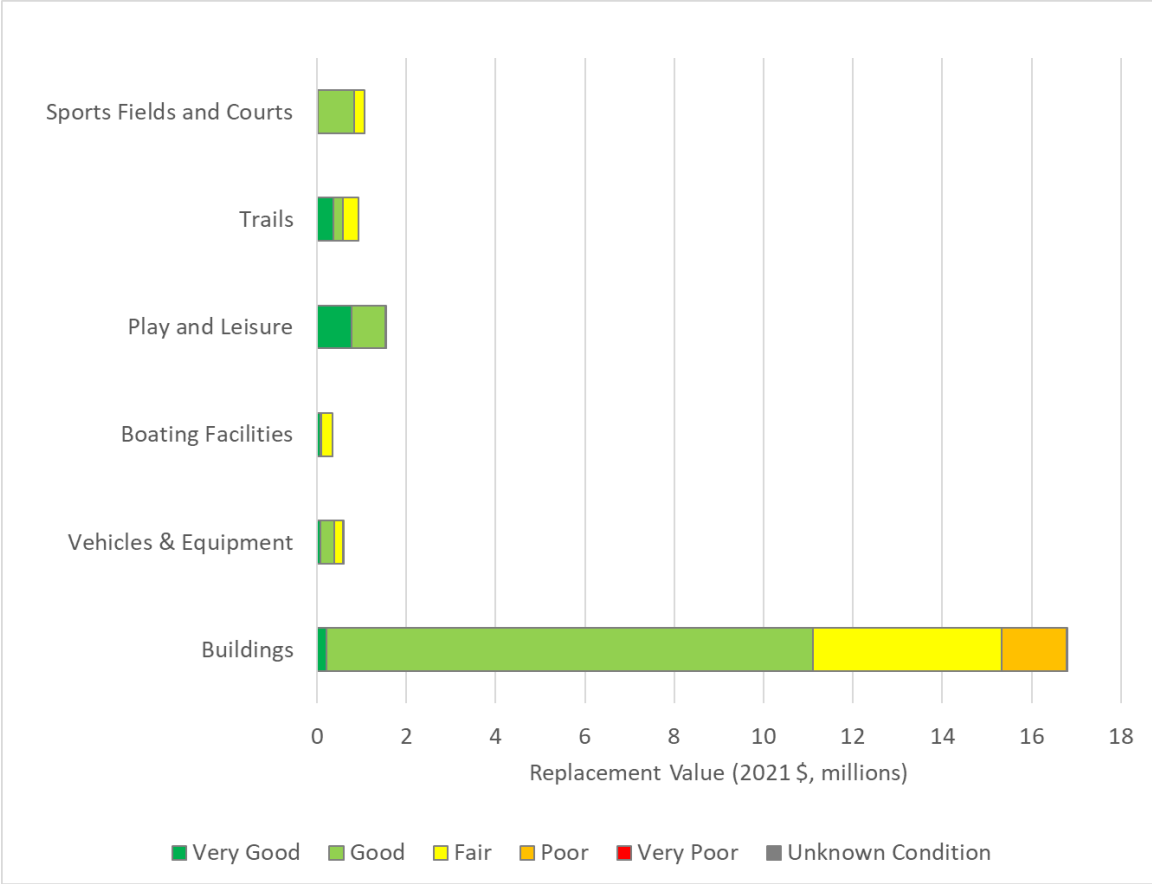
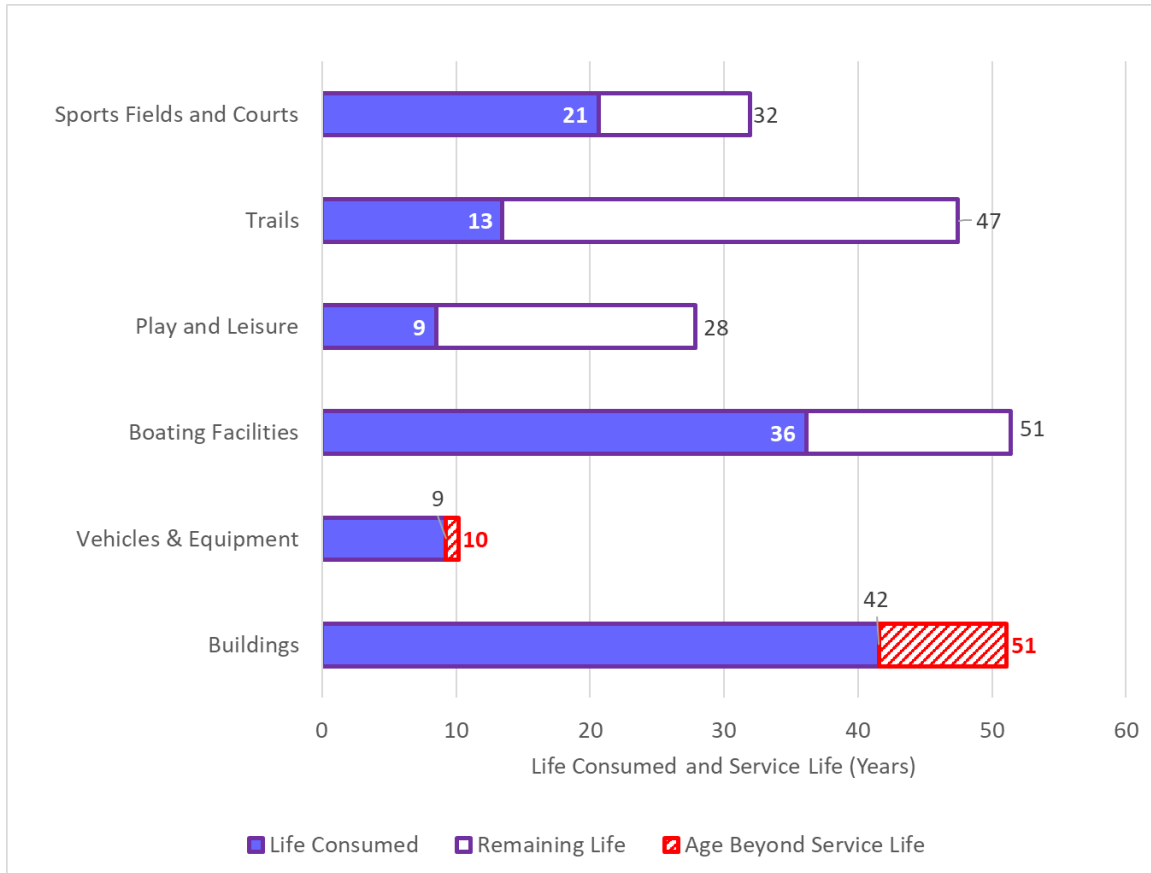


Figure E-3: Average Age of Assets – Parks & Recreation Assets



### E.3 Levels of Service

This section presents Level of Service metrics and performance for the water service. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

Table E-2 presents Technical LOS metrics for Parks & Recreation service. Metrics have been divided into the categories of Function and Quality. Inadequate performance on Capacity metrics would indicate a need for expansion, inadequate performance on Function metrics would indicate a need for upgrade improvements, and inadequate performance on Quality metrics would indicate a need for renewal and maintenance activities.

The performance reported in Table E-2 sets a benchmark for future comparison.

Table E-2: Levels of Service – Parks & Recreation

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate access to parks	Provide sufficient park space per resident	Hectares of parkland per resident	6.34 hectares
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Adequate access to recreational facilities	Provide sufficient indoor community spaces per resident	Number of residents per recreation buildings	2,369 people/building 11,844 pop (2016) / 5 community buildings
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Safety	Minimal	Number of safety incidents related to indoor recreation assets	2-3 incidents per year
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Safety	Minimal	Number of safety incidents related to outdoor recreation assets	1-2 incidents per year

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Quality:</b> Services are reliable and responsive to customers	Reliable service	Low number of complaints	Number of customer complaints related to parks and recreation assets	6-8 complaints per year
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Assets are kept in a state of good repair	Percentage of assets in fair or better condition	93%

#### E.4 Risk Management Strategy

Risk exposure associated with renewal and repair needs are shown in Table E-3 for Parks & Recreation assets. For sports fields and courts, play and leisure assets, boating assets, vehicles and equipment the Table includes full replacement value of the asset in the appropriate cell, based on Probability of Failure (condition) and Consequence of Failure. This reflects the assumption that the risk would be mitigated by replacement of the asset. For buildings, the table lists the cost of repairs recommended within the AM Plan period, 2022-31. Building repair costs of \$5,000 or less are excluded, because it is assumed that these will be addressed through regular maintenance activities, and thus funded by operating budget.

Table E-3: Renewal Risk Exposure – Parks & Recreation Service

**Total value of assets in 2021 \$ 21.6 million**

PoF	1	2	3	4	5
5	-	-	-	-	-
4	-	\$ 0.0	\$ 0.6	-	-
3	-	\$ 0.6	\$ 1.7	-	-
2	-	\$ 0.5	\$ 1.9	-	-
1	-	\$ 1.3	\$ 0.0	-	-
	1	2	3	4	5

**Consequence of Failure**

Risk Legend

Very Low	Low	Moderate	High	Very High
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As shown in the Table, Parks & Recreation assets all have a Consequence of Failure of either 2 or 3. As such Risk Exposure is generally Moderate or lower. Assets with High-Risk Exposure include

the roof (\$400k) and chiller (\$67k) at King Edward Park Arena (\$400k), and the wood canopy (\$160k) and metal framed windows (\$15k) at Codrington Community Centre.

## E.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031) the Parks & Recreation asset life cycle needs include the following:

- Expansion & Upgrade \$ 20.58 million
- Renewal \$ 3.88 million
- Operations & Maintenance \$ 1.10 million / year increasing to \$1.13 million/year due to growth assets

The following sub-sections provide details on the needs in each of these categories.

### E.5.1 Expansion & Upgrade Needs

System expansion needs were identified in the 2019 Development Charges Background Study (DCBS), including the following (all values inflated from the 2019 estimate to 2021 \$):

- Trail expansions – Grimes / Simpsons Property (estimated cost \$ 272k)
- Trail expansions – Stalwood Property section (estimated cost \$ 27k)
- 4 Pickleball Courts (estimated cost \$ 150k)
- Curling Club & Arena – Design Study (estimated cost \$ 54k)
- Recreation Master Plan Update Study (estimated cost \$ 75k)

In addition, the estimated cost of building a new park on recently purchased land is \$20 million.

As such, the system expansion and upgrade needs identified in this section total **\$ 20.58 million over the period 2022-31**, or an average of \$2.06 million/year.

### E.5.2 Renewal Needs

Table E-4 lists the Municipality’s renewal practices by asset type, along with the forecast renewal needs to 2031.

Table E-4: Parks & Recreation Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Sport fields, courts and amenities	Replace at end of life	<p>The following assets will reach end-of-life over the next 10 years:</p> <ul style="list-style-type: none"> <li>• Large soccer field, including lighting</li> <li>• Mid-sized soccer field</li> <li>• Lighting at ball diamonds #1 and #2</li> <li>• Tennis courts #1 and #2</li> </ul> <p><b>TOTAL = \$ 625 k</b></p>

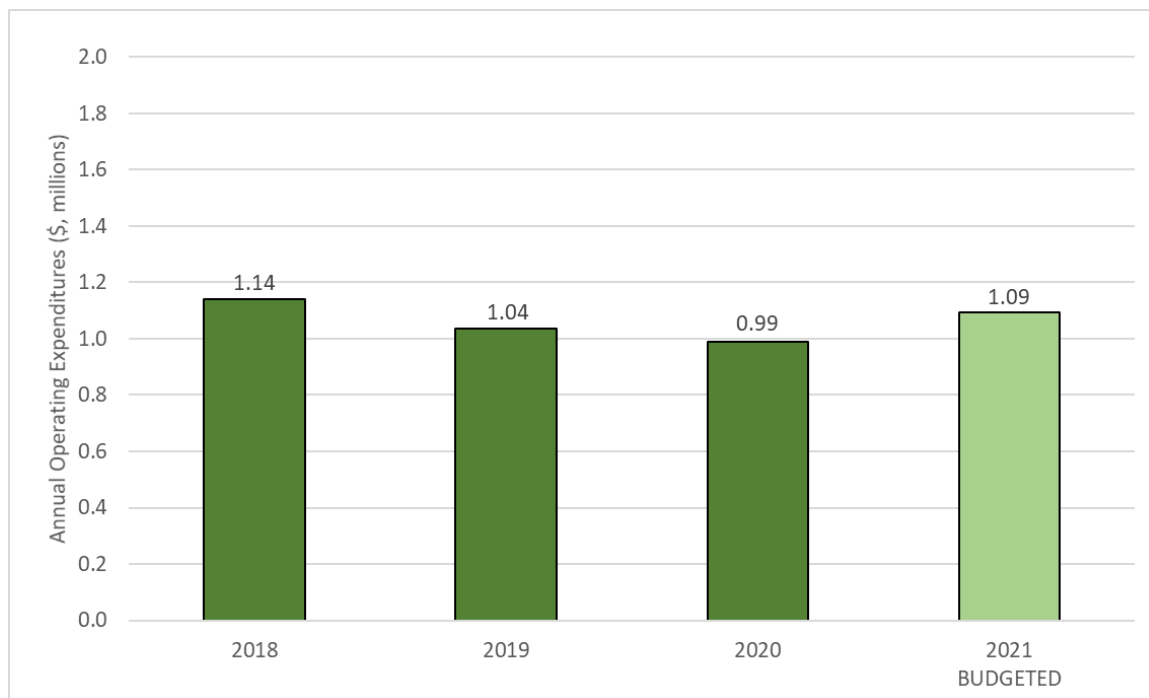
Asset Class	Renewal Practices	Renewal Needs to 2031
Trails	Replace at end of life	Trail will not require replacement during the next 10 years.
Play and leisure	Replace at end of life	<p>The following assets will reach end-of-life over the next 10 years:</p> <ul style="list-style-type: none"> <li>• Half of the play structures</li> <li>• The original part of the skateboard park</li> </ul> <p><b>TOTAL = \$ 400 k</b></p>
Boating facilities	Replace at end of life (concrete docks 65 years, other docks 20 years)	<p>Government docks (concrete) were installed in ~1970 and will be nearing end-of-life by 2031 (end of the AM Plan period). Municipality to monitor.</p> <p>Other docks have been renewed in recent years (2016-2020), so will not need replacement within the next 10 years.</p> <p><b>TOTAL = none</b></p>
Vehicles and Equipment	Replace at end of life: 5-10 years depending on equipment type	<p>Light vehicles, tractors, mowers, the ball diamond groomer, backhoe and ice re-surfacer each have a service life of 10 years. As such, each unit will require replacement over the next 10 years.</p> <p>Zero-turn mowers have a service life of 5 years, and will each require replacement twice over the next 10 years.</p> <p>The total renewal need will be \$683k over the next 10 years.</p> <p><b>TOTAL = \$ 683 k</b></p>
Buildings	Based on condition assessment	<p>Building condition assessment recommends \$2.17 million of replacement and repair over the next 10 years. This amount does not include repairs estimated at less than \$5k, as these are assumed to be covered by operating budgets.</p> <p><b>TOTAL = \$2.17 million</b></p>
<b>TOTAL RENEWAL NEED (2022-31)</b> (excludes needs that will be funded by operating)		<b>\$ 3.88 million</b>

### E.5.3 Operations & Maintenance Needs

Operations costs include day-to-day costs associated with running and overseeing the recreation buildings and parks. This includes caring for the grass (mowing, fertilizing, overseeding), inspecting the play structures and other assets, preventive maintenance, minor repairs and stewardship of cemetery grounds. Operations and Maintenance (O&M) activities are both funded by the Municipality's operating budget.

Figure E-4 shows the operating expenditures for 2018-20, as well as the 2021 budget. Based on staff feedback, the 2021 budget amount is sufficient for current service levels and O&M activities. However, the Municipality's asset portfolio grows each year due to ownership assumption of developer-built assets. These growth assets require additional funds to support O&M activities, such as inspection, litter pick-up and grass cutting. The average annual growth in open space assets (parks or boulevards) for the period 2016-21 was 1 hectare. The market rate for boulevard or park maintenance is approximately \$225/hectare/cut for a full-season contract, including litter pick-up and the beginning and end of the season. Assuming grass is cut 14 times/season, the operational cost associated with adding one hectare per year is \$3,150. Although the Municipality uses in-house staff and equipment to cut grass, this market-based approximation is considered reasonable to cover the labour, equipment and administration costs associated with added assets.

Figure E-4: Operating Expenditures 2018-20 and 2021 Budget – Parks & Recreation Service



The Municipality is aiming to implement a work order management system in the coming year. This system will enable a more detailed understanding of the O&M costs associated with specific activities and assets, which will improve the estimate of O&M needs for future iterations of the AM Plan.

Table E-5 shows the projected operating budget needed for each year from 2022 to 2031, based on status quo operating costs (2021 budget), and funds needed to operate and maintain 1

hectare of boulevard or park space to be added each year. No additional indoor recreation spaces are planned at this time. The Table shows that no additional funds are needed to meet current service levels. As shown in the Table, operating budget needs are projected to grow from \$1.10 million in 2022 to \$1.13 million in 2031.

Table E-5: Projected Annual Operating Budget Need – Parks & Recreation Service

Year	Status Quo Operating Costs (based on 2021 Budget)	Additional Funding Needed to manage existing assets and programs	Funding Needed for O&M of Growth Assets*	Projected Operating Budget Need by Year
2021	\$ 1,094,224			
2022	\$ 1,094,224	--	\$ 3,150	\$ 1,097,374
2023	\$ 1,094,224	--	\$ 6,300	\$ 1,100,524
2024	\$ 1,094,224	--	\$ 9,450	\$ 1,103,674
2025	\$ 1,094,224	--	\$ 12,600	\$ 1,106,824
2026	\$ 1,094,224	--	\$ 15,750	\$ 1,109,974
2027	\$ 1,094,224	--	\$ 18,900	\$ 1,113,124
2028	\$ 1,094,224	--	\$ 22,050	\$ 1,116,274
2029	\$ 1,094,224	--	\$ 25,200	\$ 1,119,424
2030	\$ 1,094,224	--	\$ 28,350	\$ 1,122,574
2031	\$ 1,094,224	--	\$ 31,500	\$ 1,125,724

\* Assumes 1 hectare of park or boulevard space will be added each year.

### E.6 Financial Impact

Figure E-4 compares the life cycle needs presented in Section E.5 with the Municipality’s historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure E-3. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes annual increases needed to operate and maintain growth assets. (Due to the scale, the increasing height of the light green bars is not apparent on the graph).

Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$0.74 million of capital projects that were budgeted in 2021, \$0.15 million will not be completed within the year and will be carried over to 2022. This includes the following expansion project:

- \$125 k to construct a pickleball court

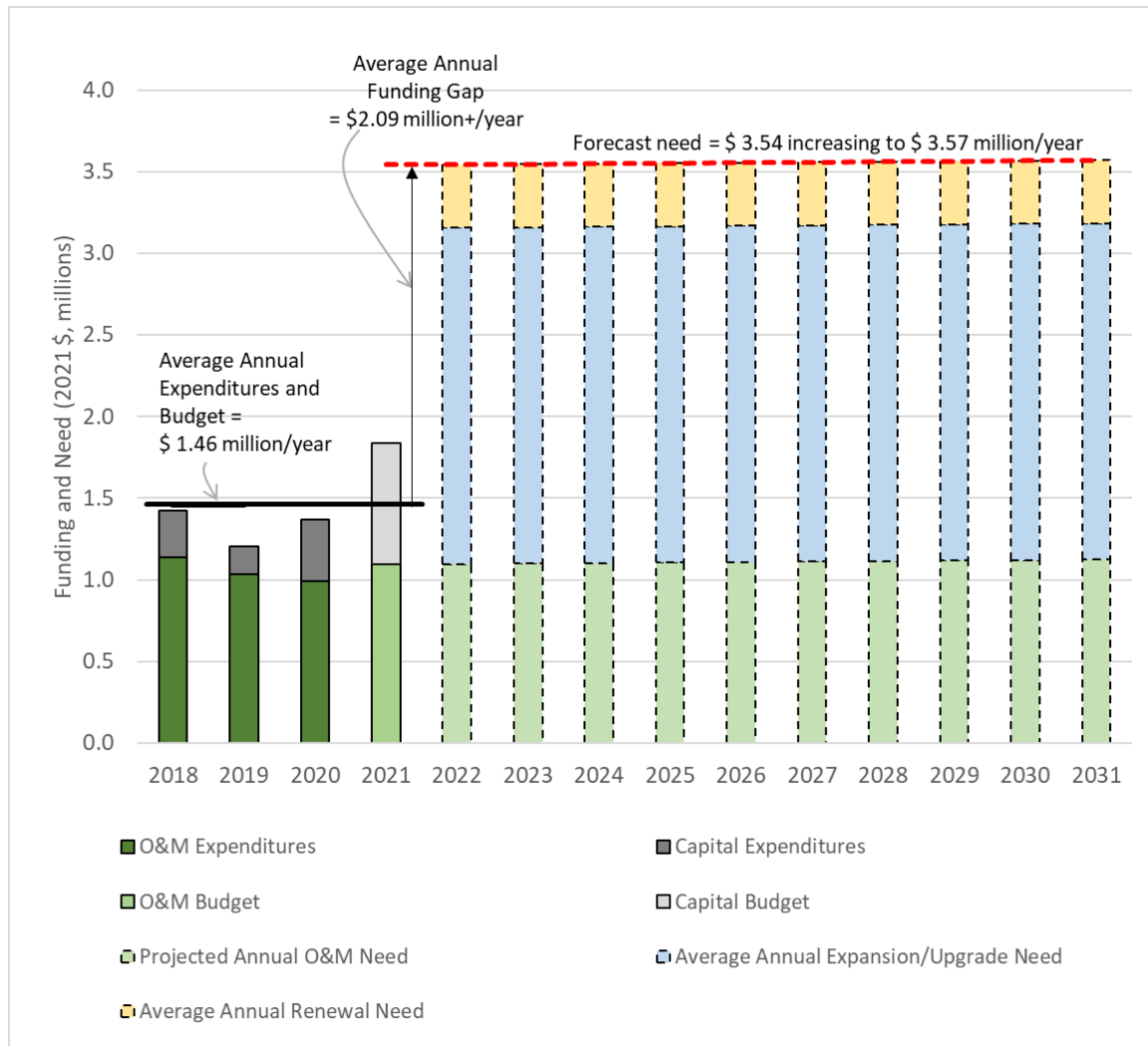
The following renewal project is also being carried over to 2022:

- \$ 25 k for the roof membrane at King Edward Park Arena

The average annual expenditures and budget for 2018-2021 (black line) summed over expansion, upgrade, renewal and O&M activities is \$1.46 million/year for the period 2018-2021.

For years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). The average annual funding need includes \$ 2.06 million/year of expansion and upgrade work as discussed in Section E.5.1, \$ 0.39 million/year of renewal work as discussed in Section E.5.2, and an annual O&M need of \$ 1.10 million/year increasing to \$ 1.13 million/year, as discussed in Section E.5.3. In 2022, the funding gap is \$2.09 million/year in 2022, and is projected to increase \$ 2.12 million by 2031. To address the funding gap, the municipality may adjust service levels, defer activities on lower-risk assets, or seek additional revenues for example, through taxation, user fees or grants.

Figure E-5: Forecast Funding Gap 2022-31 – Parks & Recreation



# Appendix F Fire Protection Service

## F.1 Inventory

Fire protection service is delivered by volunteer fire fighters led by two full-time staff, the Fire Chief and one Deputy Fire Chief. They rely on \$8.8 million worth of vehicles and equipment to delivery fire protection.

Table F-1: Fire Service Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
Emergency Vehicles	8 units	\$ 4.80
Emergency Equipment	42 units	\$ 0.40
Light Vehicles	2 units	\$ 0.14
Other Equipment	4 units	\$ 0.07
Buildings	2 fire stations	\$ 3.41
TOTAL		\$ 8.82

## F.2 State of the Infrastructure

Figure F-1 shows that 75% of the Fire Service assets are in Fair condition or better, while of 25% are in Poor or Very Poor condition. Assets in Very Poor condition consist of self-contained breathing apparatus units, extraction jaws, a drier, a generator. In addition, two emergency vehicles are in Poor condition.

Several components of Fire Station #1 (South) are also in Very Poor (roof) and Poor condition (corrugated steel deck, exterior fibreboard panels, furnaces, ducts and diffusers, exhaust fan and asphalt paving).

Asset condition breakdown is shown by asset type in Figure F-2. For these assets, condition scoring was based on staff assessment.

Figure F-3 shows the average age of Fire Service assets. The plot shows that the average age exceeds the average service life of assets in the following categories: emergency vehicles, emergency equipment, other equipment and the fire station. (Age and service life has been averaged based on replacement value.) For emergency vehicles, other equipment and the fire station, most assets are in Fair condition or better (as was shown in Figure F-2), which suggests that assets are deteriorating more slowly than expected. On the other hand, most emergency equipment is in Very Poor condition, which aligns with the assessment that average age has exceeded average service life for these assets.

For light vehicles, the average age has not reached the average service.

Figure F-1: Condition Overview – Fire Service Assets

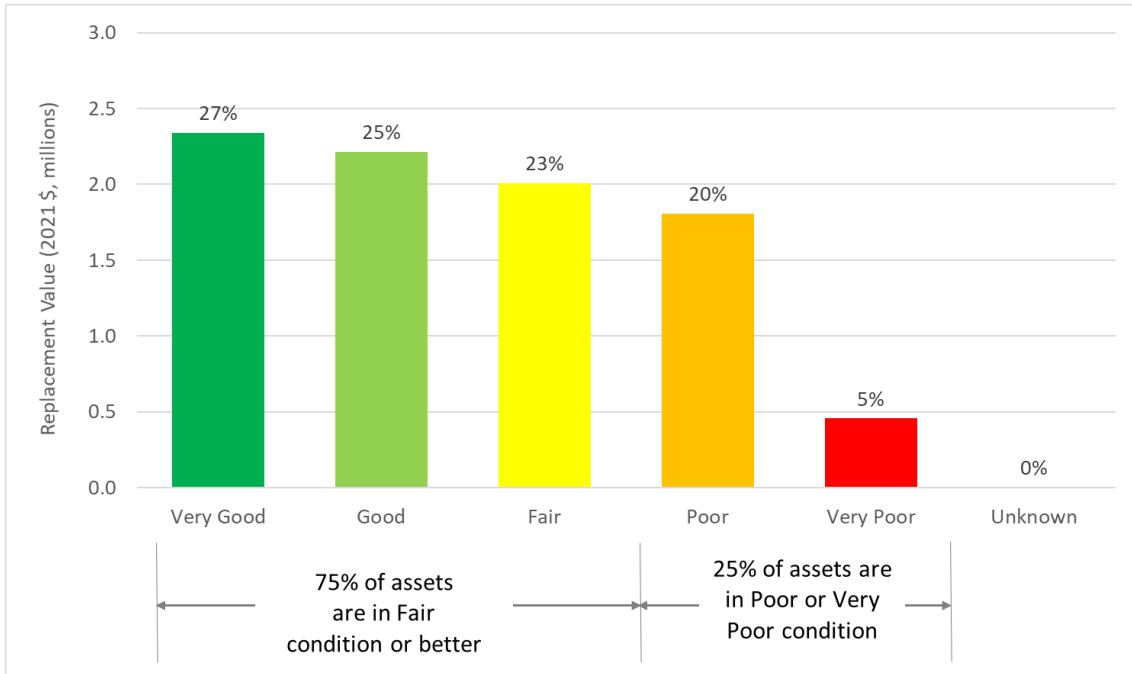


Figure F-2: Condition Detail – Fire Service Assets

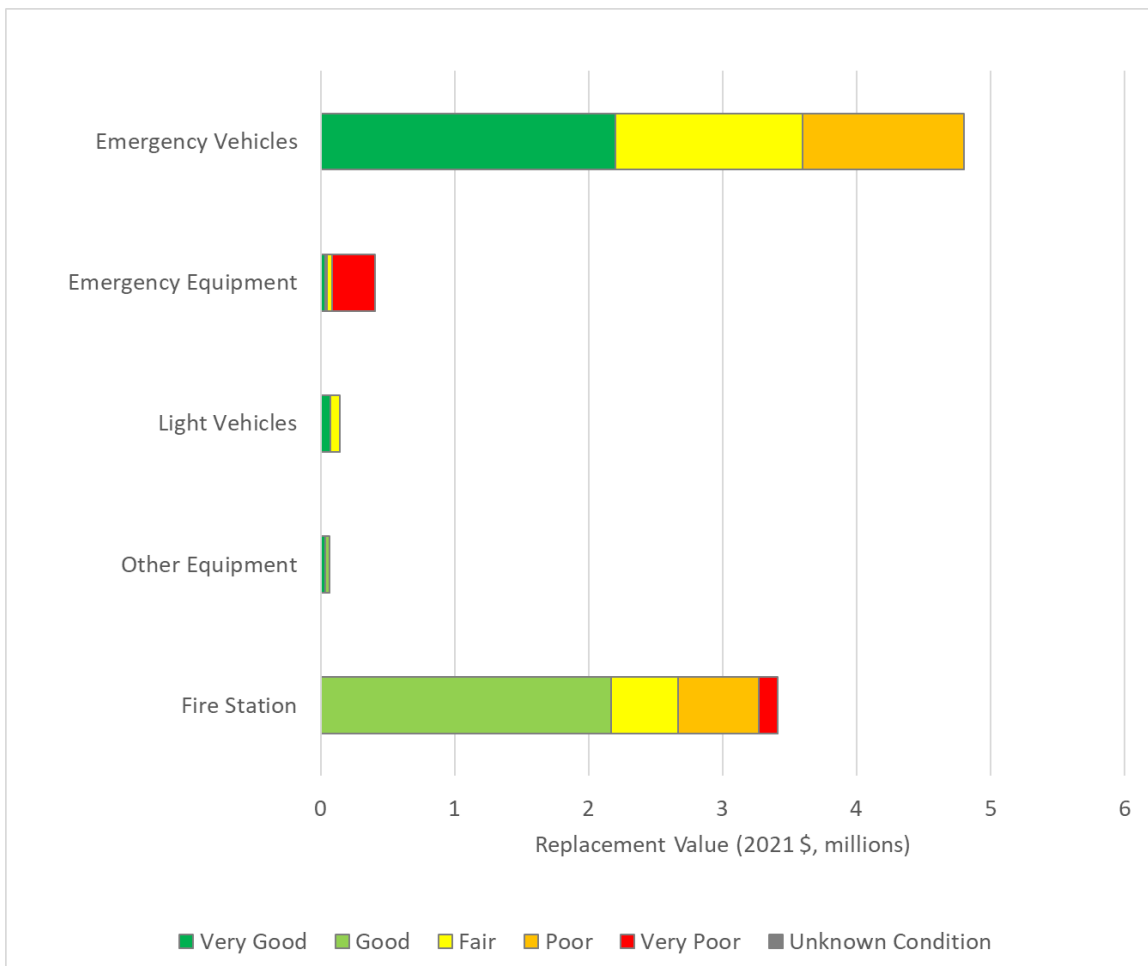
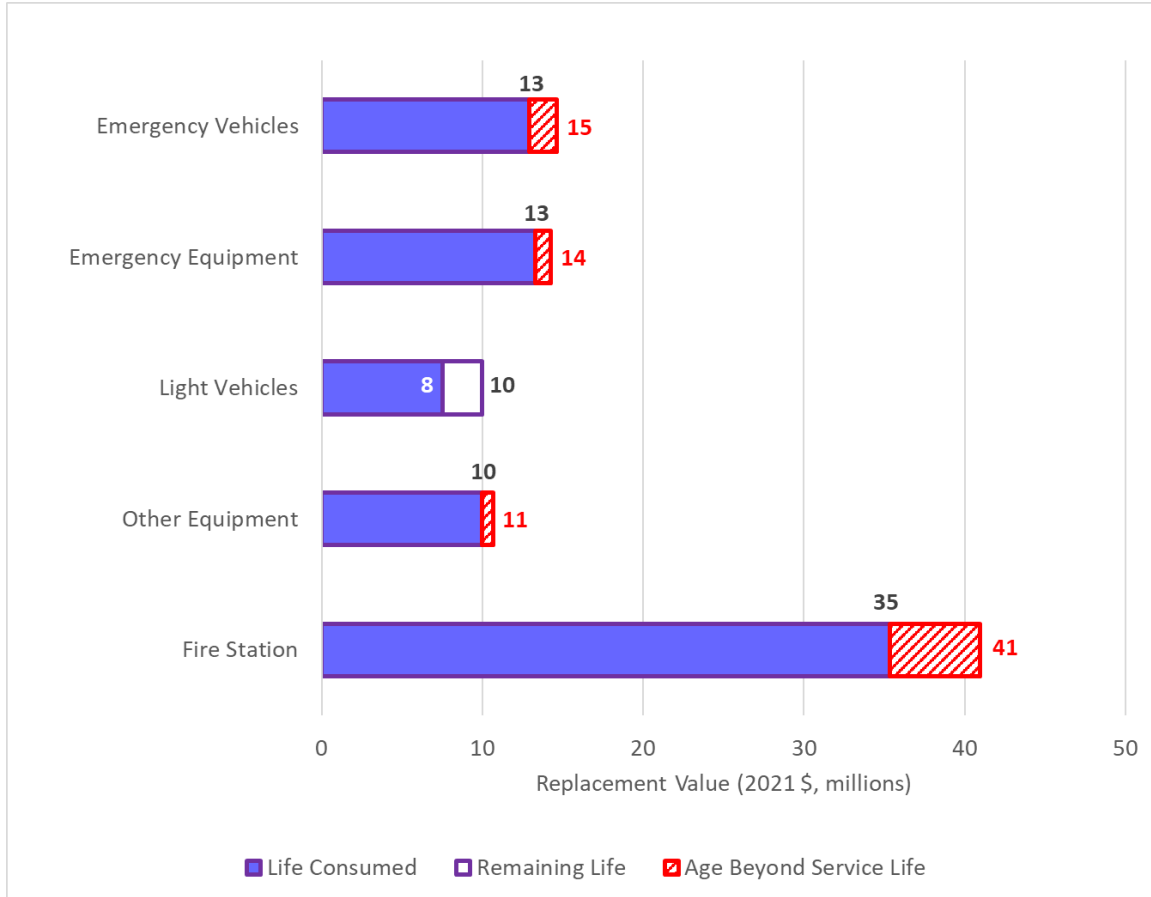


Figure F-3: Average Age of Assets – Fire Service Assets



### F.3 Levels of Service

This section presents Level of Service metrics and performance for the fire service. Table F-2 shows that in 2020, the Fire Service met dispatch and response time targets, but did not meet chute time target (time when a call is dispatched until the time an emergency vehicle begins continuous travel to a call). The slow chute time is likely affected by the time required for volunteer fire fighters to arrive at the station; however, the Municipality may explore whether any asset-related changes may improve this performance.

Table F-2 also includes a metric for meeting equipment standards set by the NFPA. Any changes to standards would require the upgrades to equipment.

The Table also shows that 75% of assets in the Fire Service are in Fair condition or better. A LOS target has not been set for this metric, and is not required for this iteration of the AM Plan. The current performance is reported and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

Table F-2: Levels of Service – Fire Service

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Fire service provides adequate protection to the community	Fire service responds to calls in a timely manner	Average dispatch time (target is 90 sec)	2020 results: 66 seconds (meets standard)
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Fire service provides adequate protection to the community	Fire service responds to calls in a timely manner	Average chute time (standard is 2 minutes)	2020 results: 4:29 (does not meet standard)
<b>Capacity and Use:</b> Services have enough capacity and are accessible to everyone	Fire service provides adequate protection to the community	Fire service responds to calls in a timely manner	Average response time (standard is 10 minutes)	2020 results: 9:58 (meets standard)
<b>Function:</b> Services meet customer needs while limiting impacts to health, safety, security, nature and heritage	Assets meet the needs of the fire protection service	Assets are up to current safety and emergency standards	Equipment meets NFPA standards	100%
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Assets are kept in a state of good repair	Percentage of assets in fair or better condition	75%

## F.4 Risk Management Strategy

Risk exposure associated with renewal and repair needs are shown in Table F-3 for Fire Service assets. For vehicles and equipment, the Table includes full replacement value of the asset in the appropriate cell, based on Probability of Failure (condition) and Consequence of Failure. This reflects the assumption that the risk would be mitigated by replacement of the asset. For buildings, the table lists the cost of repairs recommended by the Building Condition Assessment for the period 2022-31. Building repair costs of \$5,000 or less are excluded, because it is assumed that these will be addressed through regular maintenance activities, and thus funded by operating budget.

Table F-3: Renewal Risk Exposure – Fire Service

	Total value of assets in 2021 \$ 5.9 million				
PoF	1	2	3	4	5
5	-	-	-	-	\$ 0.33
4	-	\$ 0.04	\$ 0.07	-	\$ 1.22
3	-	\$ 0.02	\$ 0.09	\$ 0.01	\$ 1.54
2	-	\$ 0.11	\$ 0.11	-	\$ 0.07
1	-	-	\$ 0.11	-	\$ 2.24
	1	2	3	4	5
	Consequence of Failure				

### Risk Legend

Very Low	Low	Moderate	High	Very High
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As shown in the Table, \$ 1.55 million of assets are considered to be Very High risk, including the following:

- 2 emergency vehicles (\$1.2 million total),
- 30 of self-contained breathing apparatus (SCBA) units (\$0.25 million),
- extraction jaws (\$50k), and
- Assets at Fire Station #1 – South
  - Generator (\$12k)
  - Roofing (\$14k)
  - Furnaces (\$15k)

Probability of Failure (PoF) ratings were assigned based on condition (Very Good indicates PoF = 1, Very Poor indicates PoF = 5). Consequence of Failure (CoF) ratings were assigned as listed in Table F-4.



- Operations & Maintenance \$ 0.75 million / year (does not consider potential new fire station)

The following sub-sections provide details on the needs in each of these categories.

#### F.5.1 Expansion & Upgrade Needs

System expansion needs were identified in the 2019 Development Charges Background Study (DCBS), including the following (all values inflated from the 2019 estimate to 2021 \$):

- Fire Master Plan (estimated cost \$ 80k)
- Community Risk Assessment (estimated cost \$ 80k)

In addition, Council’s Strategic Plan Refresh (April 2021) identified construction of a new combined fire/ambulance as a strategic priority. This includes the following costs:

- Land cost estimated at \$300k (2021 capital to be carried over)
- Design & construction anticipated to cost \$8 - \$12 million
- Additional vehicles and equipment \$1.2 – \$1.5 million

A need for upgrade of the Fire Service communication system has also been identified (\$35k, funded by 2019 capital).

As such, the system expansion and upgrade needs identified in this section total **\$ \$12.0 million** (taking the midpoint of the ranges given for construction costs and costs of additional vehicles and equipment). Averaging this amount over the 2022-31 period yields an annual need of \$1.20 million/year.

#### F.5.2 Renewal Needs

Table E-4 lists the Municipality’s renewal practices by asset type, along with the forecast renewal needs to 2031.

Table F-5: Fire Service Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Emergency Vehicles	Replace at 20 years	<p>Within the next 10 years, the following equipment will require replacement:</p> <ul style="list-style-type: none"> <li>• 3 pumpers (\$700k each) and</li> <li>• the 1988 International 51900 (\$500k)</li> </ul> <p><b>TOTAL = \$2.6 million</b></p>
Emergency Equipment	Replace at 15 years	<p>Within the next 10 years, the following equipment will require replacement:</p> <ul style="list-style-type: none"> <li>• Compressor and cascade system (\$35k)</li> <li>• Extraction jaws and pump (\$50k)</li> <li>• 30 Self-contained Breathing Apparatus units (\$250k total)</li> </ul>

Asset Class	Renewal Practices	Renewal Needs to 2031
		<ul style="list-style-type: none"> <li>• 4 driers (\$11k)</li> <li>• Generator at Fire Station #1 (\$23k)</li> <li>• 2 Thermal Cameras (\$19k)</li> <li>• Water Ice Rescue Unit (\$20k)</li> <li>• Mini Holmatro Cutters &amp; Cribbing (\$13k)</li> </ul> <b>TOTAL = \$420k</b>
Light Vehicles	Replace at 10 years	Within the next 10 years, two light vehicles will require replacement. <b>TOTAL = \$ 80k</b>
Other Equipment	Replace at 15 years	Within the next 10 years, two trailers, a utility vehicle and a side-by-side will require replacement. <b>TOTAL = \$ 65k</b>
Buildings	Based on condition assessment	Building condition assessment recommends \$0.52 million of replacement and repair over the next 10 years. This amount does not include repairs estimated at less than \$5k, as these are assumed to be covered by operating budgets. <b>TOTAL = \$0.52 million</b>
TOTAL RENEWAL NEED (2022-31) (excludes needs that will be funded by operating)		<b>\$ 3.69 million</b>

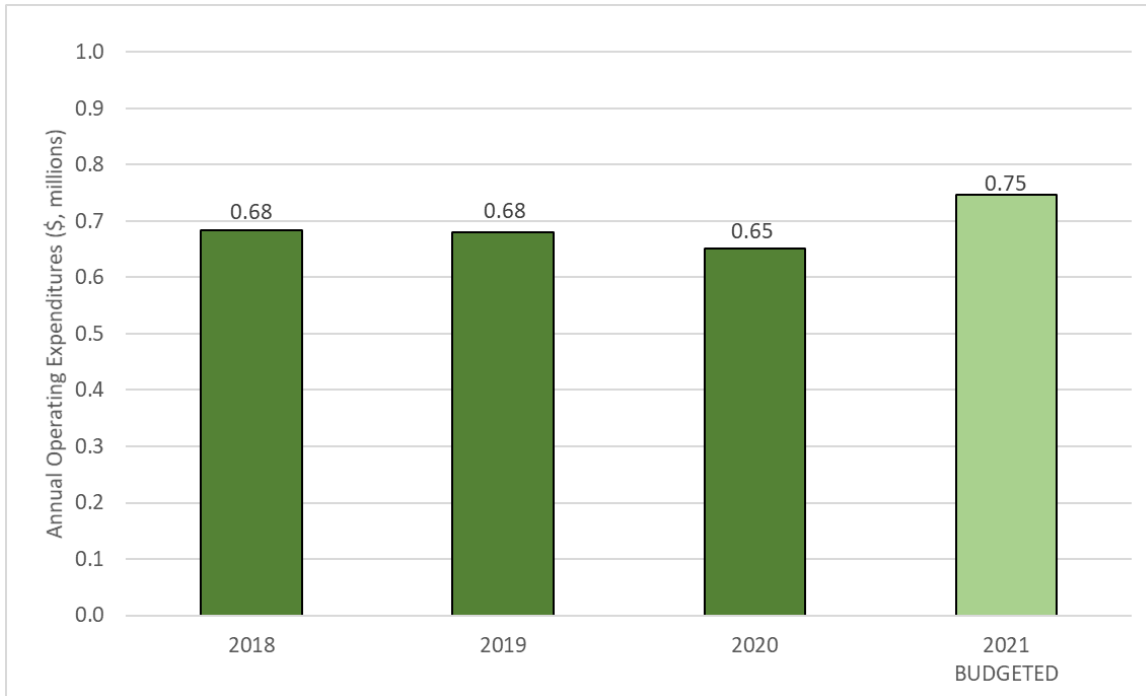
### F.5.3 Operations & Maintenance Needs

Operations costs include day-to-day costs associated with running and overseeing the Fire Service. This includes utilities for buildings, fuel for vehicles, and staff time to respond to calls, and manage the volunteer fire fighters. Maintenance activities include inspections, preventive maintenance and minor repairs for vehicles, equipment and building assets. Operations and Maintenance (O&M) activities are both funded by the Municipality’s operating budget.

Figure F-4 shows the operating expenditures for 2018-20, as well as the 2021 budget. According to staff input, the current funding level is sufficient to support the current level of service. A new fire station will be constructed in 2023, which will require additional vehicles, equipment and building maintenance. If the Fire Service remains a volunteer service, then no additional costs will be incurred for fire fighter staffing. On the other hand, as the Municipality grows, there may be a need to transition to a paid fire fighting service, to achieve faster chute and response times. This would significantly change the operating budget need.

At this time, there is insufficient information on the future fire station and associated equipment to estimate the impact on operating cost.

Figure F-4: Operating Expenditures 2018-20 and 2021 Budget – Fire Service



## F.6 Financial Impact

Figure F-5 compares the life cycle needs presented in Section F.5 with the Municipality’s historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure F-4. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and includes annual increases needed to operate and maintain growth assets. (Due to the scale, the increasing height of the light green bars is not apparent on the graph).

Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$0.63 million of capital projects that were budgeted in 2021, \$0.30 million will not be completed within the year and will be carried over to 2022. Another \$0.03 million is being carried over from the 2019 capital budget. These carry-over projects include the following expansion/upgrade projects:

- \$416 k to purchase land for a fire station
- \$ 35 k to upgrade the Fire Service communication system (carried over from 2019)

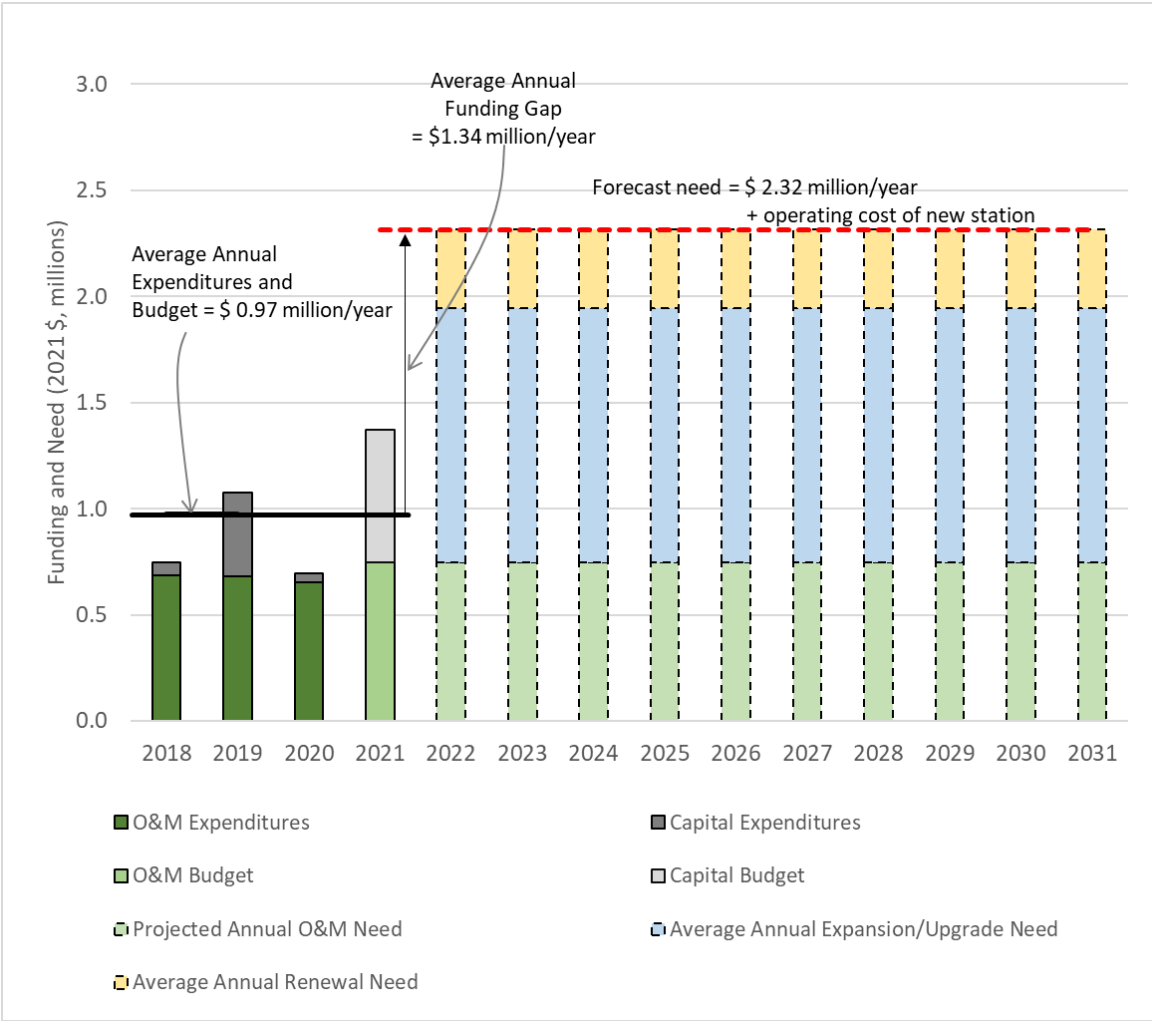
The following renewal project is also being carried over to 2022:

- \$ 6 k for pump at Fire Station #2 – North

The average annual expenditures and budget for 2018-2021 (black line) summed over expansion, upgrade, renewal and O&M activities is \$0.97 million/year for the period 2018-2021.

For years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). The average annual funding need includes \$ 1.20 million/year of expansion and upgrade work as discussed in Section F.5.1, \$ 0.37 million/year of renewal work as discussed in Section F.5.2, and an annual O&M need of \$ 0.75 million/year, as discussed in Section F.5.3. The annual funding gap is thus \$1.34 million/year. This gap does not include the anticipated Increase in operational costs associated with the new fire station, such as building utilities, fuel for vehicles, and additional staffing. To address the funding gap, the municipality may adjust service levels, defer activities on lower-risk assets, or seek additional revenues for example, through taxation, user fees or grants.

Figure F-5: Forecast Funding Gap 2022-31 – Fire Service



# Appendix G Health Services

## G.1 Inventory

The Municipality owns and maintains the Brighton Health Centre building at 170 Main St., which is leased to health care providers who support the community's health needs.

In addition, the Municipality recently purchased a single-storey building at 22 Dundas Street, which serves as a medical office, and is maintained by the tenant. This property was purchased late in development of the AM Plan, and is not included in this report. It will be incorporated into a future update of the AM Plan.

Table G-1 shows that the replacement value of the Brighton Health Centre building is \$5.3 million. This value includes only the building systems and components, and does not include any specialized health care equipment within the building.

Table G-1: Health Services Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
Building (Brighton Health Centre)	1	\$ 5.3
TOTAL		\$ 5.3

## G.2 State of the Infrastructure

The Brighton Health Centre was recently renovated. As shown in Figure G-1, 99.7% of the building is in Fair condition or better, and only 0.3% is in Poor condition. The asset in Poor condition consists of window and door caulking (\$14k).

Figure G-2 shows the average age of Health Services assets. The plot shows that within the Brighton Health Centre, the average age of systems within the building is 31, which is within the average service life of 38 (age and service life has been averaged based on replacement value of the building's systems and components). However, it is possible that the average age is actually lower. Specifically, the data lists an installation year of 1990 (original construction year of the building) for all assets within the building; however, some assets may have been replaced since then.

Figure G-1: Condition Distribution – Health Services

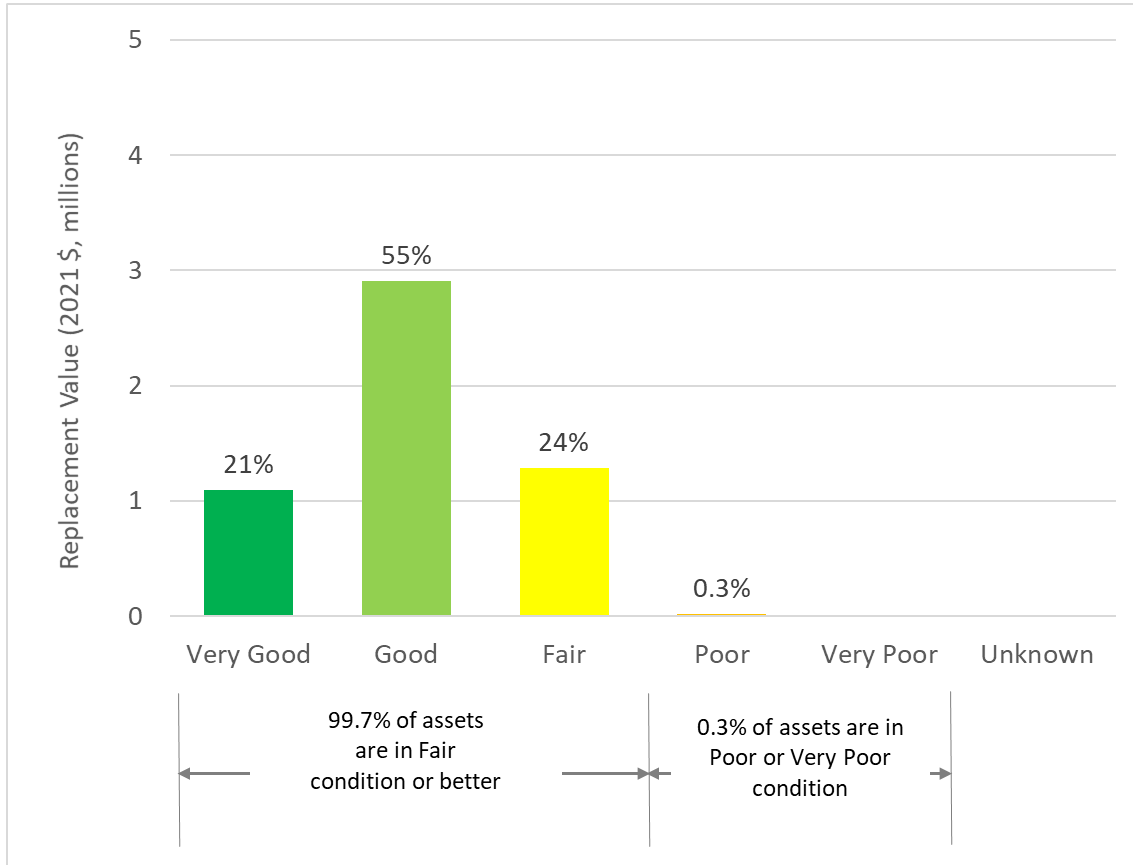
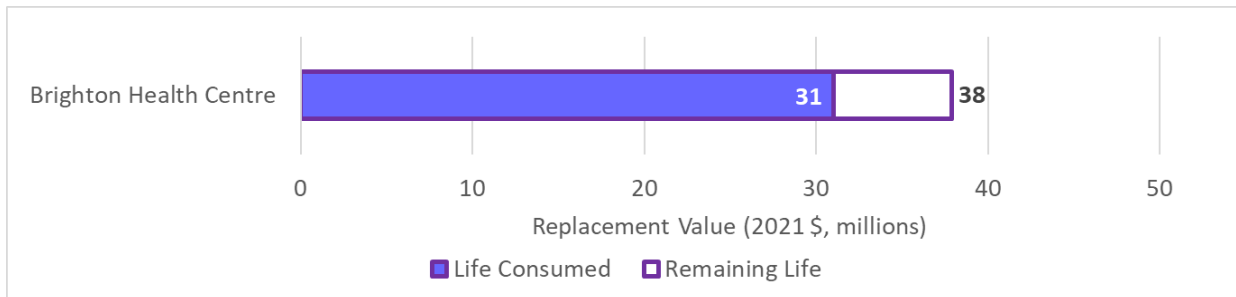


Figure G-2: Average Age of Assets – Health Services



### G.3 Levels of Service

This section presents Level of Service metrics and performance for the Health Services assets. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

For this service, the Quality aspect of LOS is assessed, and will indicate a need for renewal and maintenance activities. Table G-2 shows that 99.7% of assets in this service are in Fair condition or better.

Table G-2: Levels of Service – Health Services

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Assets are kept in a state of good repair	Percentage of assets in fair or better condition	99.7%

#### G.4 Risk Management

Risk exposure associated with renewal and repair needs are shown in Table G-3 for Health Services assets, specifically, the Brighton Health Centre. The table lists the cost of repairs recommended within the AM Plan period, 2022-31, as recommended by the Building Condition Assessment conducted in 2021. Building repair costs of \$5,000 or less are excluded, because it is assumed that these will be addressed through regular maintenance activities, and thus funded by operating budget.

Table G-3: Renewal Risk Exposure – Health Services

**Total value of assets in 2021 \$ 5.3 million**

PoF	1	2	3	4	5
5	-	-	-	-	-
4	-	-	-	-	\$ 0.01
3	-	\$ 0.06	-	-	\$ 0.17
2	-	\$ 0.08	-	\$ 0.01	\$ 0.04
1	-	-	-	-	-

**Consequence of Failure**

Risk Legend

Very Low	Low	Moderate	High	Very High
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As shown in the Table, there are \$0.01 million of assets considered to have Very High Risk Exposure. This consists of window and door caulking, with an estimated repair cost of \$14k.

#### G.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031) the Health Services asset life cycle needs include the following:

- Expansion & Upgrade none
- Renewal \$ 0.38 million
- Operations & Maintenance \$ 0.38 million / year

The following sub-sections provide details on the needs in each of these categories.

G.5.1 Expansion & Upgrade Needs

No expansion or upgrade needs have been identified for the Brighton Health Centre over the next 10 years.

G.5.2 Renewal Needs

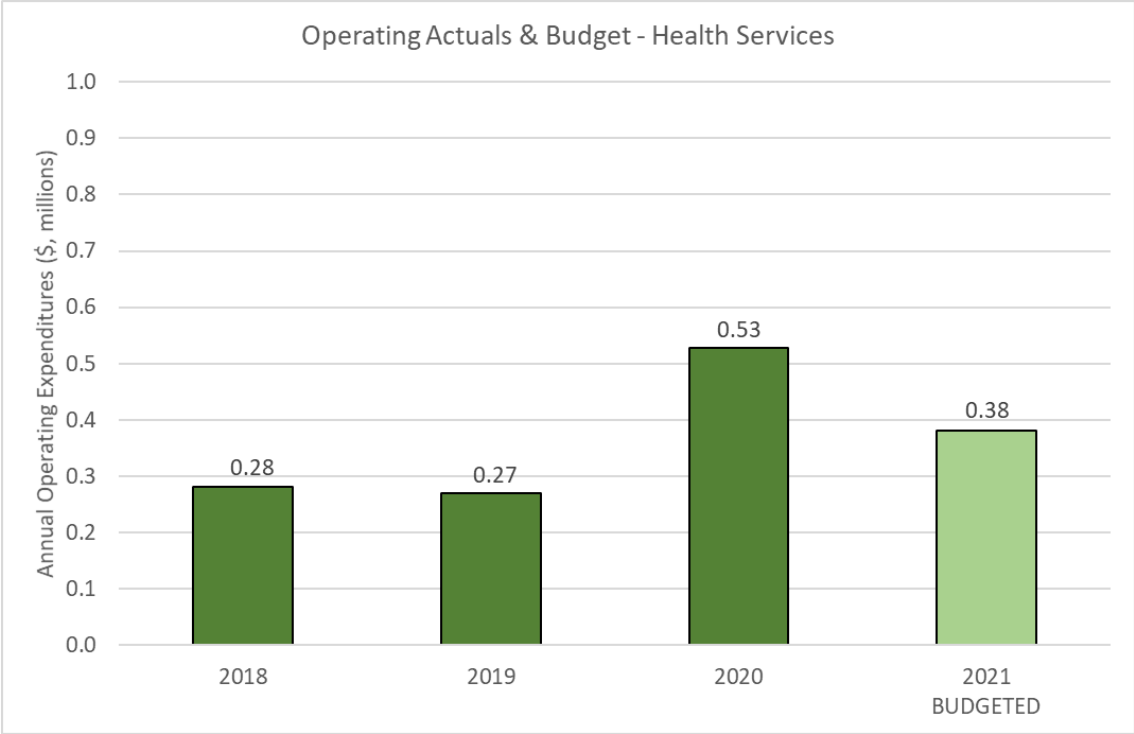
Renewal needs were identified by the 2021 Building Condition Assessment, and included \$0.38 million of capital needs over the next 10 years, or an average of \$0.04 million/year.

G.5.3 Operations & Maintenance Needs

Operations costs include day-to-day costs associated with the Brighton Health Centre, including electricity, water property taxes and insurance costs. Maintenance activities include inspection, preventive maintenance and minor repairs. Operations and Maintenance (O&M) activities are both funded by the Municipality’s operating budget.

Figure G-3 shows the operating expenditures for 2018-20, as well as the 2021 budget. Based on staff feedback, the 2021 budget amount is sufficient for current service levels and O&M activities.

Figure G-3: Operating Actuals & Budget – Health Services



G.6 Financial Impact

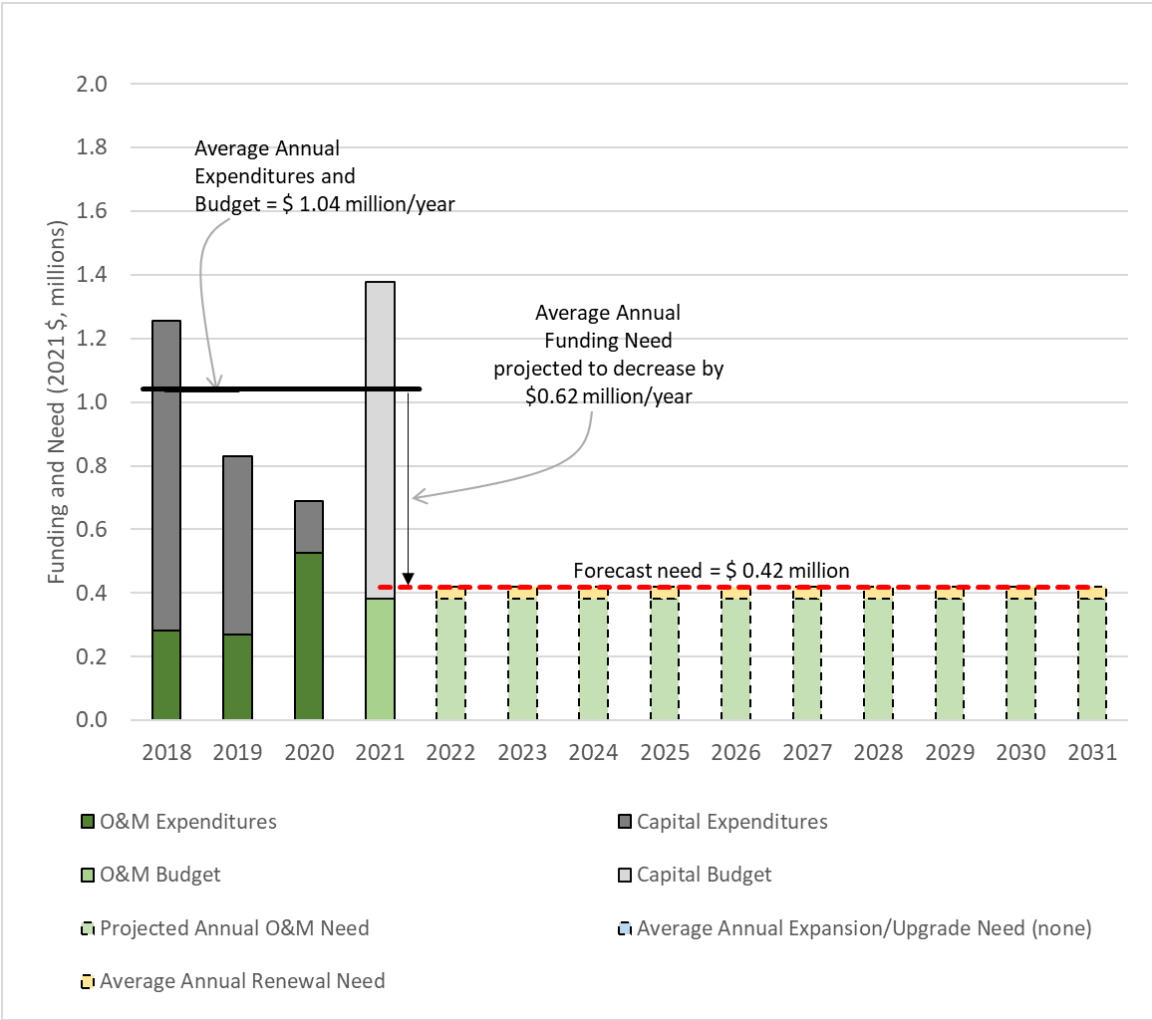
Figure G-4 compares the life cycle needs presented in Section G.5 with the Municipality’s historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021

operating budget is shown in light green. These amounts reflect what was shown in Figure G-3. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, and is assumed to remain steady at the 2021 budgeted amount.

Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Significant upgrades and renewals were completed in 2018-2021. For the upcoming ten-year period, the average annual capital need for 2022-2031 drops to \$0.04 million/year (renewals only).

The average annual expenditures and budget for 2018-2021 (black line) summed over expansion, upgrade, renewal and O&M activities is \$1.04 million/year for the period 2018-2021. Due to the decrease in capital needs, the average annual funding need of \$0.42 million (including renewal and O&M) for 2022-2031 represents a \$0.62 million/year decrease from the period prior to 2021.

Figure G-4: Forecast Funding Gap 2022-31 – Health Services



# Appendix H Municipal Administration

## H.1 Inventory

This Appendix discusses assets that support the Municipality’s administration activities and services, such as Council activities, development planning, economic development, by-law enforcement, human resources, finance, legal and IT services. These services rely primarily on the Municipal Centre and Library building for office space. This section also includes all of the organization’s IT assets, as well as two (2) light vehicles, one each to support development planning and by-law enforcement. The inventory of administration assets is shown in Table H-1.

This section includes the Library building, because it is adjacent to the Municipal Centre and managed by the Municipality; however, the Library’s contents and assets are not included.

Table H-1: Municipal Administration Asset Inventory

Asset Class	Quantity	Replacement Value (2021 \$, millions)
IT Assets	58 cell phones & tablets 53 laptop and desktop computers 22 desktop printers 3 leased multi-function printers corporate systems*	\$ 0.4
Vehicles	2 vehicles	\$ 0.8
Buildings	1 building	\$ 3.9
TOTAL		\$ 4.3

\* Server, telephone system, financial system

## H.2 State of the Infrastructure

Figure H-1 shows the condition distribution of Administration assets. The Figure shows that 96.5% of these assets are in Fair condition or better, while 0.2% are in Poor condition, and 3% are of unknown condition. Assets with unknown condition consist of devices and printers, due to a lack of age data.

Figure H-2 shows the average age of Administration assets by asset class. The plot shows that within the Municipal Building and Library, the average age has exceeded the average service life of systems within the building (age and service life has been averaged based on replacement value of the building’s systems and components). However, it is possible that the average age is actually lower. Specifically, the data lists an installation year of 1982 (original construction year of the building) for all assets within the building; however, some assets may have been replaced since then.

Figure H-1: Condition Distribution – Municipal Administration

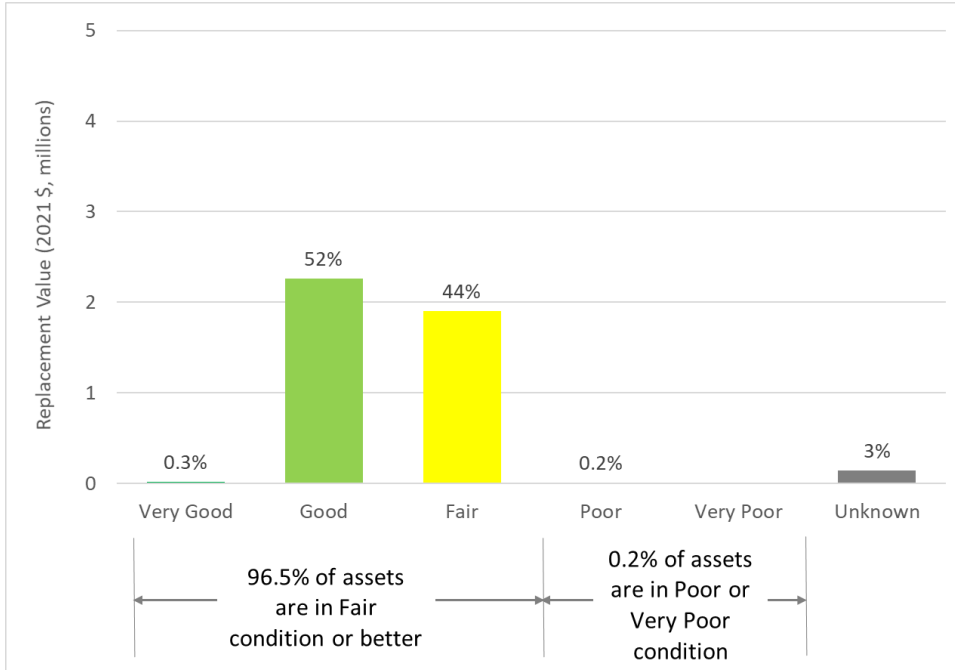
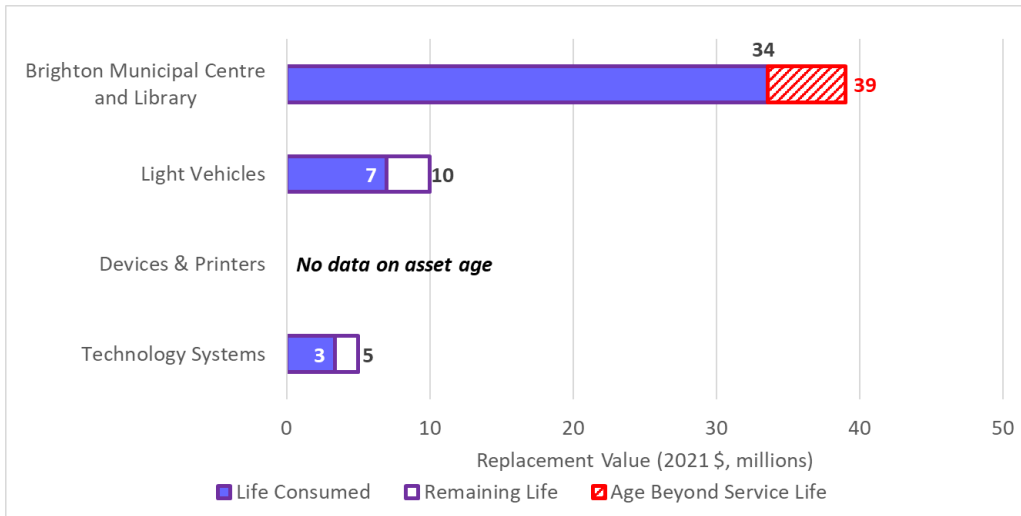


Figure H-2: Average Age of Assets – Municipal Administration



### H.3 Levels of Service

This section presents Level of Service metrics and performance for the Municipal Administration assets. LOS targets are not being set this iteration of the AM Plan. Instead, current performance is reported for each LOS metric, and will continue to be monitored to inform future LOS target-setting. O.Reg. 588/17 requires LOS targets to be proposed for all services in an AM Plan to be issued by July 1, 2025.

For this service, the Quality aspect of LOS is assessed, and will indicate a need for renewal and maintenance activities. Table H-2 shows that 96.5% of assets in this service are in Fair condition or better.

Table H-2: Levels of Service – Municipal Administration

Service Attributes	Service Expectations	Customer Objectives	Technical Levels of Service	Current Performance
<b>Quality:</b> Services are reliable and responsive to customers	Reliable assets	Assets are kept in a state of good repair	Percentage of assets in fair or better condition	96.5%

#### H.4 Risk Management

Risk exposure associated with renewal and repair needs are shown in Table H-3 for administration assets. For corporate IT assets and vehicles, the Table includes the full replacement value of the asset in the appropriate cell, based on Probability of Failure (condition) and Consequence of Failure. This reflects the assumption that the risk would be mitigated by replacement of the asset. Assets with unknown condition, such as end-user devices and printers, are excluded due to lack of condition data.

For the Municipal Building and Library, the table lists the cost of repairs recommended within the AM Plan period, 2022-31. Building repair costs of \$5,000 or less are excluded, because it is assumed that these will be addressed through regular maintenance activities, and thus funded by operating budget.

The Table shows that none of these assets is considered to be Very High risk. Assets considered to be High risk include the corporate server (\$40k) and various components of the Municipal Building (\$100k for repairs to gas furnace, electrical distribution panel, chair lift, exterior pot lights, brick veneer and vanity sink).

Table H-3: Renewal Risk Exposure – Municipal Administration

**Total value of assets in 2021 \$ 4.3 million**

PoF	1	2	3	4	5
5	-	-	-	-	-
4	-	-	-	\$ 0.01	-
3	-	-	-	\$ 0.01	\$ 0.12
2	-	\$ 0.08	\$ 0.17	\$ 0.04	\$ 0.83
1	-	-	-	-	-

**Consequence of Failure**

Risk Legend

Very Low	Low	Moderate	High	Very High
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## H.5 Life Cycle Management Strategy

Over the next 10 years (2022-2031) the Municipal Administration asset life cycle needs include the following:

- Expansion & Upgrade \$ 1.90 million
- Renewal \$ 1.91 million
- Operations & Maintenance \$ 0.78 million / year

The following sub-sections provide details on the needs in each of these categories.

### H.5.1 Expansion & Upgrade Needs

No expansion or upgrade needs are currently identified for the Municipal Administration building over the next 10 years; however, as the municipality grows, staffing may increase, a space plan may be needed to determine how the future need for office space will be addressed.

The Municipality has identified a need for a work order management system, and has budgeted **\$147k** toward this. It is likely that there will also be a need for additional funds for data collection and process re-design to support this technology-based business transformation project.

For the Library, the 2019 Development Charges Background Study indicates that \$329k is to be provided for additional collection materials over 2019-2029. Assuming that this annualized amount (approximately \$33k/year) will continue to 2031, then there is a need for **\$329k** for the period 2022-31.

In addition, the following growth-related studies are typically required every 5 years, and will thus be needed twice during the 10-year AM Plan period:

- Development Charges Background Study (estimated cost: **\$35k** per study)
- Official Plan Review (estimated cost: **\$200k** per study)
- Zoning By-Law update (estimated cost: **\$200k** per update)

The DCBS also identifies a need for Community Improvement Plans for brownfields (**\$30k/year for years 2022-21**), and a Secondary Plan is also in progress for Greenfields within the urban area. This study has an estimated cost of **\$250k** over two years.

H.5.2 The total need for expansion and upgrade improvements is **\$1.90 million** for 2022-2031, or \$0.19 million/year. **Renewal Needs**

Renewal needs are listed in Table H-3, and total \$1.91 million over the period 2022-31, or \$0.19 million/year.

Table H-4: Municipal Administration Asset Renewal Practices & Needs to 2031

Asset Class	Renewal Practices	Renewal Needs to 2031
Corporate IT Equipment (financial system, telephone system, server)	Replace at end of life	These assets have an estimated service life of 5 years. At the end of that time, the telephone system and server require

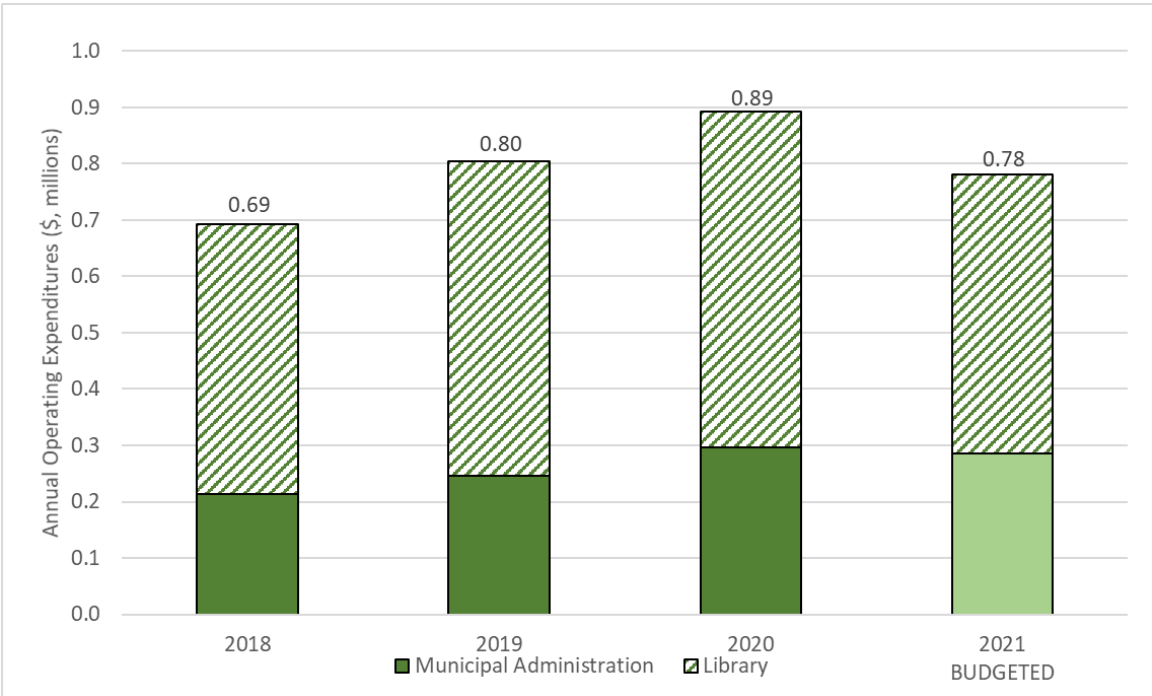
Asset Class	Renewal Practices	Renewal Needs to 2031
		<p>replacement, and the financial system typically requires software upgrade.</p> <p>Over the next ten years, these types of renewal will be required twice for each asset, resulting in a renewal need of \$0.49 million.</p> <p><b>TOTAL = \$0.49 million</b></p>
End-user IT Equipment (cell phones, tablets, laptops, desktop computers, printers, multi-function devices)	Replace at end of life	<p>Cell phones have a service life of 2 years, while tablets, laptops, computers and printers have a service life of 4 years. Replacing these on an end-of-life cycle will result in a renewal need of \$0.42 million over 10 years.</p> <p>End-user devices are leased, and do not require replacement. Leases are treated as an operating expense.</p> <p><b>TOTAL = \$0.42 million</b></p>
Vehicles and Equipment	Replace at 10 years	<p>Over the next 10 years, each vehicle will require replacement once.</p> <p><b>TOTAL = \$ 0.08 million</b></p>
Buildings	Based on condition assessment	<p>Building condition assessment recommends \$0.92 million of replacement and repair over the next 10 years. This amount does not include repairs estimated at less than \$5k, as these are assumed to be covered by operating budgets.</p> <p><b>TOTAL = \$0.92 million</b></p>
<b>TOTAL RENEWAL NEED (2022-31)</b> (excludes needs that will be funded by operating)		<b>\$ 1.91 million</b>

### H.5.3 Operations & Maintenance Needs

Operations costs include day-to-day costs associated with the Municipal Administration and Library building, the two light vehicles and IT assets, including fuel, water, janitorial costs and IT management services. Maintenance activities include inspection, preventive maintenance and minor repairs. Operations and Maintenance (O&M) activities are both funded by the Municipality's operating budget.

Figure H-3 shows the operating expenditures for 2018-20, as well as the 2021 budget. Based on staff feedback, the 2021 budget amount is sufficient for current service levels and O&M activities. Transfer costs to the Library are highlighted. Based on staff feedback, the 2021 budget amount is sufficient for current service levels and O&M activities. As such, the 2021 budget amount (\$0.78 million) is assumed to reflect the future O&M need for the next ten years, since no expansion or upgrade of these assets the municipal administration assets (administration building, IT assets or vehicles) is expected.

Figure H-3: Operating Actuals & Budget – Municipal Administration & Library



### H.6 Financial Impact

Figure H-6 compares the life cycle needs presented in Section H.5 with the Municipality’s historical expenditures (2018-2020) and 2021 budget, to identify and quantify the gap. Specifically, annual operating expenditures for 2018-2020 are shown in dark green and the 2021 operating budget is shown in light green. These amounts reflect what was shown in Figure H-5. For 2022-2031, the projected operating budget need is shown in light green with a dotted-line border, at the same level as the 2021 budget amount.

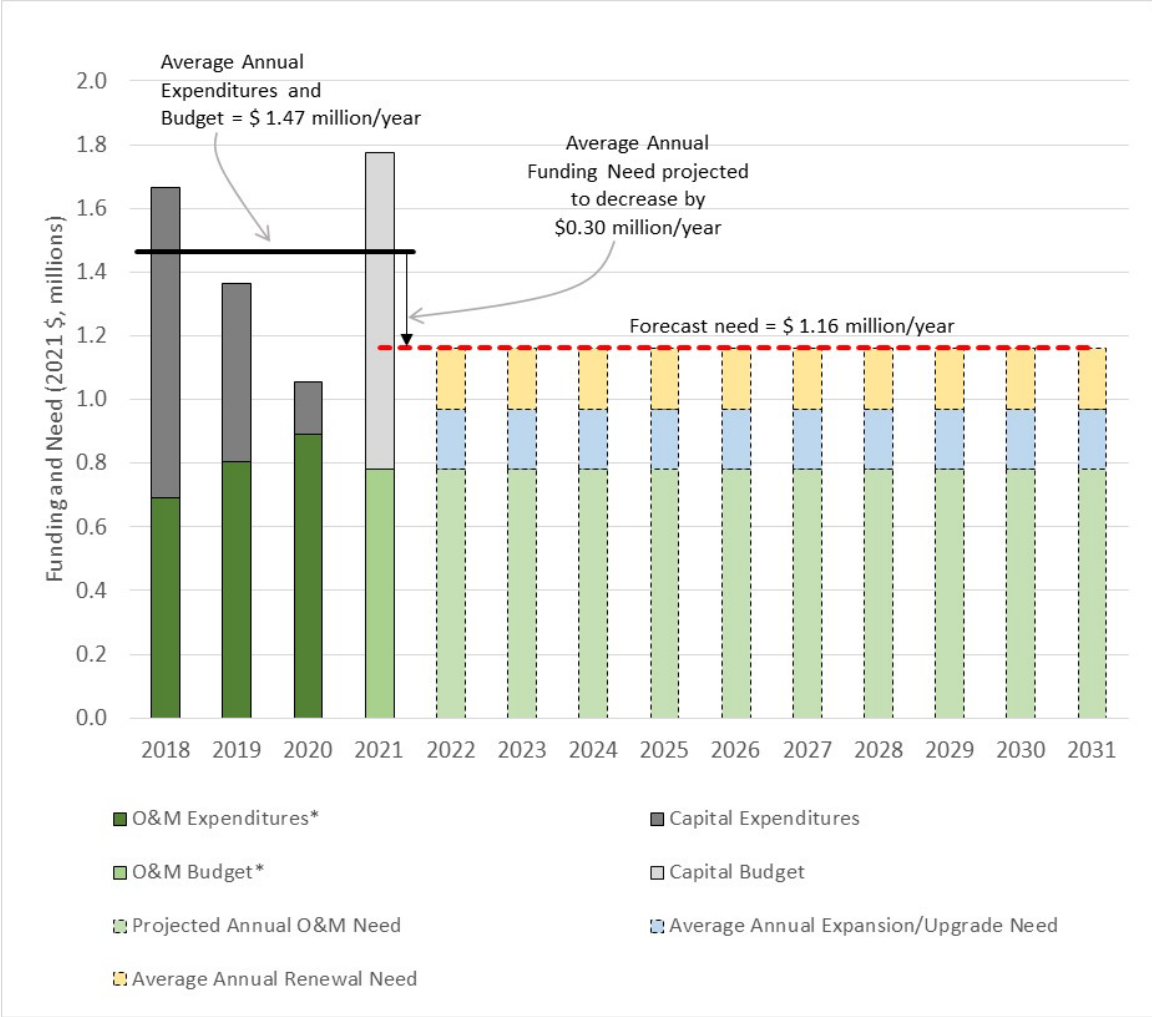
Historical annual capital spending is shown as dark grey stacked bars for 2018-2020, and includes combined spending on asset expansion, upgrade and renewal projects. For 2021, the light grey bar shows the capital amount budgeted for 2021. Of the \$1.00 million of capital projects that were budgeted in 2021, \$0.72 million will not be completed within the year and will be carried over to 2022. This includes the following expansion (growth) projects:

- \$125 k for the Secondary Plan
- \$147 k for Asset Management software (work order management system)

There are no renewal projects being carried over for administration assets.

For years 2022-2031, capital needs are divided into renewal needs (yellow) and expansion/upgrade needs (blue). The average annual funding need includes \$ 0.19 million/year of expansion and upgrade work as discussed in Section H.5.1, \$ 0.19 million/year of renewal work as discussed in Section H.5.2, and an annual O&M need of \$ 0.78 million/year as discussed in Section H.5.3. For 2022-2031, the funding need is projected to drop by annual average of \$0.30 million from the average actual expenditures of \$1.47 million/year for the period 2018-2021.

Figure H-4: Forecast Funding Gap 2022-31 – Municipal Administration



# Appendix I Regulatory Compliance

The following chart represents the Municipality’s position with respect to the asset management requirements identified in O.Reg. 588/17 for Core and Non-Core Assets for July 1, 2024 (current Levels of Service).

Table I-1: Compliance with O.Reg. 588/17 (2022 and 2024 Deadlines)

Plan Section	O.Reg. 588/17 Compliance Practices (Current LOS)	Transportation Service assets, including Roads & Bridges	Stormwater Service assets	Water Service assets	Wastewater Service assets	Parks & Recreation Service assets	Fire Service assets	Health Services assets	Municipal Administration Service assets
State of Local Infrastructure	For each asset category, the AM Plan provides								
State of Local Infrastructure	<ul style="list-style-type: none"> <li>a summary of the assets,</li> </ul>	Section A.1	Section B.1	Section C.1	Section D.1	Section E.1	Section F.1	Section G.1	Section H.1
State of Local Infrastructure	<ul style="list-style-type: none"> <li>the replacement cost of the assets,</li> </ul>	Section A.1	Section B.1	Section C.1	Section D.1	Section E.1	Section F.1	Section G.1	Section H.1
State of Local Infrastructure	<ul style="list-style-type: none"> <li>the average age of the assets,</li> </ul>	Section A.2	Section B.2	Section C.2	Section D.2	Section E.2	Section F.2	Section G.2	Section H.2
State of Local Infrastructure	<ul style="list-style-type: none"> <li>the condition of the assets,</li> </ul>	Section A.2	Section B.2	Section C.2	Section D.2	Section E.2	Section F.2	Section G.2	Section H.2

Plan Section	O.Reg. 588/17 Compliance Practices (Current LOS)	Transportation Service assets, including Roads & Bridges	Stormwater Service assets	Water Service assets	Wastewater Service assets	Parks & Recreation Service assets	Fire Service assets	Health Services assets	Municipal Administration Service assets
State of Local Infrastructure	<ul style="list-style-type: none"> <li>the approach to assessing condition of assets.</li> </ul>	Section 3	Section 3	Section 3	Section 3	Section 3	Section 3	Section 3	Section 3
Levels of Service	For each asset category, the AM Plan reports the current LOS performance. For core assets, the AM Plan provides the qualitative community descriptions and technical metrics as required by O.Reg. 588/17, and the current performance.	Section 4, Section A.3	Section 4, Section B.3	Section 4, Section C.3	Section 4, Section D.3	Section 4, Section E.3	Section 4, Section F.3	Section 4, Section G.3	Section 4, Section H.3
Asset Management Strategy	For each asset category, the AM Plan provides the lifecycle activities that would need to be undertaken to provide the	Section 6, Section A.5	Section 6, Section B.5	Section 6, Section C.5	Section 6, Section D.5	Section 6, Section E.5	Section 6, Section F.5	Section 6, Section G.5	Section 6, Section H.5

Plan Section	O.Reg. 588/17 Compliance Practices (Current LOS)	Transportation Service assets, including Roads & Bridges	Stormwater Service assets	Water Service assets	Wastewater Service assets	Parks & Recreation Service assets	Fire Service assets	Health Services assets	Municipal Administration Service assets
	proposed LOS for each of the next 10 years.								
<b>Financial Strategy</b>	<p>A description of assumptions regarding future changes in population or economic activity.</p> <p>For each asset category, the AM Plan provides the costs of providing the lifecycle activities that would need to be undertaken to maintain the current LOS for each of the next 10 years.</p>	<p>Section 6.2, Section 6.5, Section A.5</p> <p>Section A.5</p>	<p>Section 6.2, Section 6.5, Section B.5</p> <p>Section B.5</p>	<p>Section 6.2, Section 6.5, Section C.5</p> <p>Section C.5</p>	<p>Section 6.2, Section 6.5, Section D.5</p> <p>Section D.5</p>	<p>Section 6.2, Section 6.5, Section E.5</p> <p>Section E.5</p>	<p>Section 6.2, Section 6.5, Section F.5</p> <p>Section F.5</p>	<p>Section 6.2, Section 6.5, Section G.5</p> <p>Section G.5</p>	<p>Section 6.2, Section 6.5, Section H.5</p> <p>Section H.5</p>
<b>Background Information</b>	The AM Plan indicates how the background information and reports upon which the state of infrastructure	Section 1.2	Section 1.2	Section 1.2	Section 1.2	Section 1.2	Section 1.2	Section 1.2	Section 1.2

Plan Section	O.Reg. 588/17 Compliance Practices (Current LOS)	Transportation Service assets, including Roads & Bridges	Stormwater Service assets	Water Service assets	Wastewater Service assets	Parks & Recreation Service assets	Fire Service assets	Health Services assets	Municipal Administration Service assets
	section is based will be made available to the public.								

## Appendix J List of Capital Needs 2022-2031

Table J-1: List of Capital Needs 2022-2031

Service	Asset Type	Type of Need	Description of Improvement Action Needed	Corridor Information for Corridor Reconstruction: From	Corridor Information for Corridor Reconstruction: To	Corridor Information for Corridor Reconstruction: Road Section or Bridge Site Number	Corridor Information for Corridor Reconstruction: Length (m)	Corridor Information for Corridor Reconstruction: Road Component Cost	Corridor Information for Corridor Reconstruction: Water Component Cost	Corridor Information for Corridor Reconstruction: WW Component Cost	Corridor Information for Corridor Reconstruction: SWM Component Cost	Cost (2021 \$) per occurrence	Timing (First Occurrence in 2022-2031)	Timing (Second Occurrence in 2022-2031)	Consequence of Failure (5-highest, 1-lowest)
Transportation	Roads	Expansion	Overpass/underpass at John Street east of No Frills									3,000,000	2026 (Plan due)		staff to assess
Transportation	Roads	Expansion	Design a Connecting Link between Industrial Park and Country Road									3,000,000	2022 (Design due)		staff to assess
Transportation	Roads	Expansion	Salt and sand storage (Fund from Operating Budget)									10,000	2022		staff to assess
T/W/WW/SWM	Corridor	Renewal	Re-construct Loyalist Drive (see PW 6-year capital plan)	Prince Edward Street	Applewood Drive		490	990,600	156,000	91,000	113,100	1,350,700	2022		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Prince Edward Street (see PW 6-year capital plan)	Elizabeth Street	Harbour Street		1,850		2,270,000	2,350,000		4,620,000	2022		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Harbour Street (see PW 6-year capital plan)	Prince Edward Street	Ontario Street		2,100	2,675,000	1,698,000	1,757,000	1,317,000	7,447,000	2023		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Walas Street (see PW 6-year capital plan)	Raglan Street	Harbour Street		240	430,000	33,000	33,000	106,000	602,000	2023		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Marina Drive (see PW 6-year capital plan)	Raglan Street	Harbour Street		335	561,000	61,000	68,000	148,000	838,000	2023		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Pinnacle Street South (see PW 6-year capital plan)	Elizabeth Street	End		280	566,000	360,000	372,000	178,000	1,476,000	2023		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Presquile Parkway (see PW 6-year capital plan)	Ontario Street	Park Entrance		1,150	1,500,000				1,500,000	2023		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Main Street (see PW 6-year capital plan)	Young Street	Urban Limits to West of Cheer Farms		2,450		3,100,000	2,040,000		10,760,000	2024		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Applewood Drive (see PW 6-year capital plan)	Loyalist Drive	End (North)		405	623,000	141,000	140,000		904,000	2026		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Addison Street (see PW 6-year capital plan)				200					710,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Baldwin Street (see PW 6-year capital plan)				980					3,470,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Chapel Street (see PW 6-year capital plan)				630					2,230,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Chatten Road (see PW 6-year capital plan)	County Road 30	East entrance of North Shop		280					360,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Cheer Drive (see PW 6-year capital plan)				240					850,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Division Street North (see PW 6-year capital plan)				530					1,880,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Division Street South (see PW 6-year capital plan)				400					1,420,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Drummond (see PW 6-year capital plan)	County Road 2	Smith Street		610					790,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Dundas Street (see PW 6-year capital plan)	Georgina Street	start of High School Property		620					2,200,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Elgin Street - East and West (see PW 6-year capital plan)				690					2,450,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Elizabeth Street (see PW 6-year capital plan)	Prince Edward Street	Terry Fox Drive		440					1,560,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Grimes Street (see PW 6-year capital plan)				180					640,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Gross Street (see PW 6-year capital plan)				240					850,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Hope Street (see PW 6-year capital plan)				330					1,170,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Kingsley Avenue (see PW 6-year capital plan)	Sanford Street	Proctor Park		375					1,330,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Little Lake Road (see PW 6-year capital plan)	County Road 30	Top of Hill		230					300,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Lyons Street (see PW 6-year capital plan)				170					600,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Napoleon Street (see PW 6-year capital plan)				220					780,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct North Drive (see PW 6-year capital plan)				135					480,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Platt Street (see PW 6-year capital plan)				140					500,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Price Street - East and West (see PW 6-year capital plan)				900					3,190,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Re-construct Queen Street - East and West (see PW 6-year capital plan)				490					1,740,000	TBD		see inventory

Service	Asset Type	Type of Need	Description of Improvement Action Needed	Corridor Information for Corridor Reconstruction: From	Corridor Information for Corridor Reconstruction: To	Corridor Information for Corridor Reconstruction: Road Section or Bridge Site Number	Corridor Information for Corridor Reconstruction: Length (m)	Corridor Information for Corridor Reconstruction: Road Component Cost	Corridor Information for Corridor Reconstruction: Water Component Cost	Corridor Information for Corridor Reconstruction: WW Component Cost	Corridor Information for Corridor Reconstruction: SWM Component Cost	Cost (2021 \$) per occurrence	Timing (First Occurrence in 2022-2031)	Timing (Second Occurrence in 2022-2031)	Consequence of Failure (5-highest, 1-lowest)
T/W/WW/SWM	Corridor	Renewal	Re-construct Whites Road (see PW 6-year capital plan)	Georgina Street	Scriver Road		1735					710,000	TBD		see inventory
T/W/WW/SWM	Corridor	Renewal	Reconstruct Meade St (350m)				350	360,000	225,000	225,000	90,000	900,000	TBD		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Long Reach Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Lakeshore Rd	Lakeshore Rd		400					22,400	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Lakeshore Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Kelly Ln	Rabbit Run		2600					145,600	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Greenway Circle (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Lakeshore Rd	Lakeshore Rd		800					44,800	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Geogina St (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Hardy Ln	Whites Rd		1400					78,400	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Fish Hatchery Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 27	End		900					50,400	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Telephone Rd West (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	Waites Rd		2900					162,400	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Lakecrest Circle (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Lakeshore Rd	Lakeshore Rd		500					28,000	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Huff Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Tracks	Lakeshore Rd		2000					112,000	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Huff Rd North (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 2			600					33,600	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Waite's Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Telephone Rd	CR 21		1900					106,400	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Percy St (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 2	End		800					44,800	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Long Reach Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 26	End		1200					67,200	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Walt St (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Smith St	Whites Rd		1000					56,000	2022		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Guertin Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	End		700					39,200	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Bullis Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Telephone Rd	200m North of Whites Road		1900					106,400	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Old York Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 2	Oak Ridge Rd		200					11,200	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Oakridge Drive (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Old York Rd	End		300					16,800	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Grandview Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 2	End		200					11,200	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Twin Ln (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	Richmond St		100					5,600	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Township Hall Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Chattan Rd	CR 30		200					11,200	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Florence Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Chatten Rd	End		100					5,600	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Bonn Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	Smith St	End		1000					56,000	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Hanson Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	CR 26		3400					190,400	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Carman Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	CR 26		2500					140,000	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Carman Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 26	Coltman Rd		5300					296,800	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Young St (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	0.3km N of George St	End		300					16,800	2023		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Newton Ln (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	End		500					28,000	2024		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Cemetary Rd (see PW 6-year capital plan - assuemes \$7/sqm, 8m width)	CR 30	Richmond St		500					28,000	2024		see inventory

Service	Asset Type	Type of Need	Description of Improvement Action Needed	Corridor Information for Corridor Reconstruction: From	Corridor Information for Corridor Reconstruction: To	Corridor Information for Corridor Reconstruction: Road Section or Bridge Site Number	Corridor Information for Corridor Reconstruction: Length (m)	Corridor Information for Corridor Reconstruction: Road Component Cost	Corridor Information for Corridor Reconstruction: Water Component Cost	Corridor Information for Corridor Reconstruction: WW Component Cost	Corridor Information for Corridor Reconstruction: SWM Component Cost	Cost (2021 \$) per occurrence	Timing (First Occurrence in 2022-2031)	Timing (Second Occurrence in 2022-2031)	Consequence of Failure (5-highest, 1-lowest)
Transportation	Roads - Surface Treated	Renewal	Resurface Alexander Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Little Lake Rd		800					44,800	2024		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Telephone Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 26	QW Boundry		7000					392,000	2024		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Old Wooler Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Lord Rd	QW Boundry		5100					285,600	2024		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Rush Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 41	Hansen Rd		1200					67,200	2024		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Lord Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 41	Old Wooler Rd		1200					67,200	2024		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Richmond St South (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 21	Endnd (South)		1000					56,000	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Moran Dr (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Richmond St	Richmond St		500					28,000	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Middle Ridge Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Telephone rd	End		1100					61,600	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Goodrich Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Sumach Ln		2000					112,000	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Loomis Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Pinewood School Rd	CR 30		2900					162,400	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Whites Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Scriver Rd	0.5KM west of Scriver Rd		500					28,000	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Richmond St (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 21	End (North)		4500					252,000	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Sumach (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Goodrich Rd	End		850					47,600	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Cramahe Hill Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Pine Grove Rd	CR 27		3100					173,600	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Cameron Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Goodfellow Rd	0.5 S of Goodfellow Rd		500					28,000	2025		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Cowan Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Old Wooler Rd	Jamison Rd		900					50,400	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Laird Nelson Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Old Wooler Rd	Deadend		200					11,200	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Percy Boom Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 29	Boundary Rd		1000					56,000	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Jamison Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Cowan Rd	Dalmas Rd		2450					137,200	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Donaldson Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Deadend		1300					72,800	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Stewart Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 64	Martin Rd		600					33,600	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Martin Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Stewart Rd	Deadend		200					11,200	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Cedardale Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Stoney Point Rd South	Deadend		400					22,400	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Tillings Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Deadend		500					28,000	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Aranda Way (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Goodfellow Rd	CR 30		5500					308,000	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Bauer Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Telephone Rd	Deadend		300					16,800	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Allison St (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Deadend		500					28,000	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Goodfellow Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Cameron Rd		2300					128,800	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Stone Ln (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Hansen Rd	End		150					8,400	2026		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Lisgar (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR2	Smith St		620					34,720	2026		see inventory

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Transportation	Roads - Surface Treated	Renewal	Resurface Bayshore Road (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Lighthouse Ln	End		4000					224,000	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Stoney Point Rd South (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Bayview Lane	Boundary		3600					201,600	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Shoal Point Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Stoney Point Rd South	End		800					44,800	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Boundary Road (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Little Lake Rd	0.7 km north of Hwy 2		1700					95,200	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Stoney Point Road (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 2	CR 64		2400					134,400	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Old Wooler Road (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 30	Lord		5300					296,800	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Pinewood School Rd (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Goodrich Rd	Boundary Rd		2300					128,800	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Simpson St (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	CR 2	End		1300					72,800	2027		see inventory
Transportation	Roads - Surface Treated	Renewal	Resurface Tee's Ln (see PW 6-year capital plan - assumes \$7/sqm, 8m width)	Little Lake Rd	End		200					11,200	2027		see inventory
Transportation	Roads - Gravel	Renewal	Re-gravel Stone Rd	Hansen Rd	Dead End	775	2,071					80,152	2030		2
Transportation	Roads - Gravel	Renewal	Re-gravel Barrett Ln	Northumberland #41	Northumberland #41	750	1,832					28,356	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Sumach Rd	Goodrich Rd	Dead End	1235	1,641					63,515	2030		2
Transportation	Roads - Gravel	Renewal	Re-gravel Brook's Cres	Hansen Rd	Hansen Rd	780	3,519					73,903	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Ross Rd	McCann Rd	Dead End	640	4,594					88,889	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Laird Neilson Rd	Old Wooler Rd	Dead End	705	412					15,932	2030		2
Transportation	Roads - Gravel	Renewal	Re-gravel McCann Rd	Highway #30	Highway #30	635	3,601					139,371	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Gainforth Rd	Old Wooler Rd	Dead End	700	2,586					100,063	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Goodfellow Rd	Cameron Rd	The East Limit of the Municipality	655	4,697					181,790	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Hardy Ln	Georgina St	Dead End	1052	145					4,296	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Florence Rd	Chatten Rd	Dead End	820	259					10,022	2026	2031	2
Transportation	Roads - Gravel	Renewal	Re-gravel Dallison Ln	Northumberland Rd #26	Dead End	790	846					32,739	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Clearview Ln	Goodfellow Rd	Dead End	660	1,302					50,380	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel			0	806					31,188	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel McLean Rd	Northumberland Rd #26	Dead End	805	431					16,693	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel			0	263					8,274	2022	2027	2
Transportation	Roads - Gravel	Renewal	Re-gravel Elm St	Highway #30	King St	1225	227					6,752	2026	2031	2
Transportation	Roads - Gravel	Renewal	Re-gravel Rosslyn dr			0	257					7,639	2025	2030	2
Transportation	Roads - Gravel	Renewal	Re-gravel Cameron Rd	0.5km South of Goodfellow Rd	Jamieson Rd	685	14,675					435,853	2028	2031	3
Transportation	Roads - Gravel	Renewal	Re-gravel Dale Rd	County Rd #21	Penryn Road	1160	8,506					329,169	2022	2028	3
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	2,118					81,953	2022	2028	3
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	124					4,808	2022	2028	3
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	1,488					57,576	2022	2027	unknown
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	299					11,588	2022	2027	unknown
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	4,435					171,625	2022	2027	unknown
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	4,264					165,009	2022	2027	unknown
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	5,292					204,812	2022	2027	unknown
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	6,139					237,582	2022	2027	unknown
Transportation	Roads - Gravel	Renewal	Re-gravel (see inventory for info on segment)			0	621					19,574	2022	2027	unknown
Transportation	Bridges	Renewal	Goodfellow Road Bridge (West) - minor rehab			1						116,000	2025		5
Transportation	Bridges	Renewal	Lord Road Bridge - minor rehab			3						162,000	2025		5
Transportation	Bridges	Renewal	Monck Street Bridge - Replace Structure			4						486,000	2025		5
Transportation	Bridges	Renewal	Grosjean Road Bridge - minor rehab			5						30,000	2025		5
Transportation	Bridges	Renewal	Bayshore Road Bridge - minor rehab			6						167,000	2022		5
Transportation	Culverts	Renewal	Drummond Street Box Culvert - minor rehab			7						104,000	2025		5
Transportation	Culverts	Renewal	Smith Street Box Culvert - minor rehab			8						71,000	2025		5

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Transportation	Culverts	Renewal	White's Road Box Culvert - minor rehab			9						84,000	2025		5
Transportation	Culverts	Renewal	Huff Road Box Culvert - minor rehab			10						97,000	2022		5
Transportation	Culverts	Renewal	Aranda Way Culvert (at Codrington) - minor rehab			12						49,000	2025		5
Transportation	Culverts	Renewal	Aranda Way Culvert - minor rehab			13						71,000	2025		5
Transportation	Culverts	Renewal	Scriver Road Concrete Culvert - minor rehab			14						82,000	2025		5
Transportation	Culverts	Renewal	Gerorge Street Culvert - minor rehab			15						58,000	2025		5
Transportation	Culverts	Renewal	Main Street Concrete Culvert - minor rehab			16						221,000	2025		5
Transportation	Culverts	Renewal	Ontario Street Culvert - minor rehab			17						209,000	2022		5
Transportation	Culverts	Renewal	Cedar Street Culvert - minor rehab			18						128,000	2025		5
Transportation	Culverts	Renewal	Harbour Street Concrete Culvert - minor rehab			19						106,000	2022		5
Transportation	Culverts	Renewal	Elizabeth Street Concrete Culvert - minor rehab			20						96,000	2022		5
Transportation	Culverts	Renewal	Hutchinson CSP Culvert - minor rehab			21						17,000	2025		5
Transportation	Culverts	Renewal	Bullis Road Culvert - Replace Structure			22						396,000	2025		5
Transportation	Culverts	Renewal	Lawson Settlement Road Culvert - minor rehab			23						58,000	2025		5
Transportation	Culverts	Renewal	White's Road Culvert - Replace Structure			24						446,000	2025		5
Transportation	Culverts	Renewal	Alexander Road Culvert - minor rehab			25						58,000	2025		5
Transportation	Culverts	Renewal	Cameron Road Twin Culverts - minor rehab			26						58,000	2025		5
Transportation	Culverts	Renewal	Presqu'ille Parkway Culvert - minor rehab			27						25,000	2025		5
Transportation	Culverts	Renewal	Division Street Culvert - minor rehab			28						64,000	2022		5
Transportation	Culverts	Renewal	Prercy Street Culvert - Replace Structure			29						256,000	2025		5
Transportation	Culverts	Renewal	Simpson Street Culvert - minor rehab			30						58,000	2025		5
Transportation	Culverts	Renewal	Scriver Road Culvert - Replace Structure			31						177,000	2025		5
Transportation	Culverts	Renewal	Richardson Road Culvert - Replace Structure			32						248,000	2025		5
Transportation	Culverts	Renewal	Old Wooler Road Culvert - minor rehab			33						54,000	2025		5
Transportation	Culverts	Renewal	Hansen Road Culvert - Replace Structure			34						248,000	2022		5
Transportation	Culverts	Renewal	Goodrich Road Culvert - minor rehab			35						58,000	2025		5
Transportation	Culverts	Renewal	Butler Street Culvert - minor rehab			37						55,000	2025		5
Transportation	Culverts	Renewal	Prince Edward Street Culvert - minor rehab			38						90,000	2025		5
Transportation	Culverts	Renewal	McCann Road Culvert - Replace Structure			39						322,000	2025		5
Transportation	Culverts	Renewal	County Road 2 Culvert - Replace Structure			40						158,000	2025		5
Transportation	Culverts	Renewal	Stoney Point Road South Culvert - Replace Structure			41						165,000	2025		5
Transportation	Traffic Signals	Renewal	Replace traffic signals at Main St and Division St. N									250,000	2025		5
Transportation	Streetlight Bulbs / Heads	Renewal	Replace streetlight bulbs/heads									415,000	2024		2
Transportation	Sidewalks	Renewal	Replace sidewalks (cost over 10-year period)									5,800,000	2022-2031		3
Transportation	Vehicles & Equipment	Renewal	Mower (not zero turn)									19,718	2022	2027	3
Transportation	Vehicles & Equipment	Renewal	Hoist									8,386	2025		3
Transportation	Vehicles & Equipment	Renewal	2015 Ford F550									62,000	2025		3
Transportation	Vehicles & Equipment	Renewal	2019 Ford F550 4x4									75,000	2029		3
Transportation	Vehicles & Equipment	Renewal	2009 Chevrolet Ext Cab 4x4									45,000	2022		3
Transportation	Vehicles & Equipment	Renewal	2011 GMC 2500									50,000	2022		3
Transportation	Vehicles & Equipment	Renewal	2015 Chevrolet Silverado Crew Cab									50,000	2025		3
Transportation	Vehicles & Equipment	Renewal	2017 Ford F250									50,000	2027		3
Transportation	Vehicles & Equipment	Renewal	2019 Chev Silverado Crew 4x4									45,000	2029		3
Transportation	Vehicles & Equipment	Renewal	2019 Dodge Ram Crew 4x4									50,000	2029		3
Transportation	Vehicles & Equipment	Renewal	2021 Hyundai Kona - eSUV									45,000	2031		3
Transportation	Vehicles & Equipment	Renewal	Surveying Equipment/Plotter									12,716	2022		3

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Transportation	Vehicles & Equipment	Renewal	Gas Monitoring System									18,791	2022		3
Transportation	Vehicles & Equipment	Renewal	401 Sign Illumination									23,596	2025		5
Transportation	Vehicles & Equipment	Renewal	Reflectometer									12,425	2026		3
Transportation	Vehicles & Equipment	Renewal	GPS for Vehicles (37)									27,079	2030		3
Transportation	Vehicles & Equipment	Renewal	Portable Radar Speed Signs (2)									9,859	2028		3
Transportation	Vehicles & Equipment	Renewal	Black Cat Speed Monitors (3)									10,515	2028		4
Transportation	Vehicles & Equipment	Renewal	2010 Vermeer Chipper									60,000	2030		3
Transportation	Vehicles & Equipment	Renewal	2009 John Deere Backhoe									170,000	2029		4
Transportation	Vehicles & Equipment	Renewal	Line Painter									7,385	2025		4
Transportation	Vehicles & Equipment	Renewal	Loader Scales (2)									27,079	2025		4
Transportation	Vehicles & Equipment	Renewal	Drop in Water Tank for Dump Truck									40,000	2025		3
Transportation	Vehicles & Equipment	Renewal	Sidewalk Planer									18,888	2028		4
Transportation	Vehicles & Equipment	Renewal	post hole auger for McCormick									4,278	2028		3
Transportation	Vehicles & Equipment	Renewal	2014 Wacker Sidewalk Plow									180,500	2024		5
Transportation	Vehicles & Equipment	Renewal	2019 MaClean Sidewalk Plow									180,500	2029		5
Transportation	Vehicles & Equipment	Renewal	2011 International Tandem									350,000	2022		5
Transportation	Vehicles & Equipment	Renewal	2013 International Tandem									350,000	2023		5
Transportation	Vehicles & Equipment	Renewal	2015 Freightliner Tandem									350,000	2025		5
Transportation	Vehicles & Equipment	Renewal	2018 International Tandem									350,000	2028		5
Transportation	Vehicles & Equipment	Renewal	2008 Sterling Single Axle - spare (certifiable state)									70,000	2022		5
Transportation	Vehicles & Equipment	Renewal	2017 International Single Axle									315,000	2027		5
Transportation	Vehicles & Equipment	Renewal	2019 International Single Axle									315,000	2029		5
Transportation	Vehicles & Equipment	Renewal	Backup Cameras (15)									15,000	2024		4
Transportation	Vehicles & Equipment	Renewal	Cardlock System/Fuel Tank									12,425	2026		4
Transportation	Vehicles & Equipment	Renewal	Cardlock System/Fuel Tank									70,430	2027		4
Transportation	Buildings	Renewal	Public Works Building North - B. Shell - Replace Overhead Doors									36,000	2027		5
Transportation	Buildings	Renewal	Public Works Building North - C. Interiors - Replace Hollow Metal Doors									9,000	2021		3
Transportation	Buildings	Renewal	Public Works Building North - C. Interiors - Replace Paint									5,500	2024		2
Transportation	Buildings	Renewal	Public Works Building North - C. Interiors - Replace Epoxy Coating									10,000	2022		2
Transportation	Buildings	Renewal	Public Works Building North - D. Services - Repair Hot Water Boilers									6,000	2030		5

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Transportation	Buildings	Renewal	Public Works Building North - D. Services - Replace Overhead Space Heaters									15,000	2030		5
Transportation	Buildings	Renewal	Public Works Building North - D. Services - Replace Main Electrical Panel/ Main Disconnect									35,000	2030		5
Transportation	Buildings	Renewal	Public Works Building North - D. Services - Replace Interior Lights									6,000	2022		5
Transportation	Buildings	Renewal	Public Works Building North - G. Building Sitework - Replace Asphalt Pavement									240,000	2025		3
Transportation	Buildings	Renewal	Public Works Building North - G. Building Sitework - Replace Entrance Gates									6,000	2023		3
Transportation	Buildings	Renewal	Sand Dome - B. Shell - Repair Framing & Sheathing - Front Entrance									7,500	2021		5
Transportation	Buildings	Renewal	Sand Dome - C. Interiors - Repair Interior Wood Retaining Walls									10,000	2025		3
Transportation	Buildings	Renewal	Sand Dome - G. Building Sitework - Repair Asphalt Pavement									220,000	2021		3
Transportation	Buildings	Renewal	Coverall Salt Shed - B. Shell - Replace Sectional Canvas Overhead Door									10,000	2027		5
Transportation	Buildings	Renewal	Coverall Salt Shed - B. Shell - Replace Canvas Roof									75,000	2027		5
Transportation	Buildings	Renewal	Coverall Salt Shed - C. Interiors - Replace Asphalt									21,000	2026		2
Transportation	Buildings	Renewal	Public Works Building South - B. Shell - Repair Original - Pre-engineered steel structure with prefinished metal									20,000	2031		5
Transportation	Buildings	Renewal	Public Works Building South - B. Shell - Replace Caulking at window and door perimeter (Original and first addition)									14,000	2021		5
Transportation	Buildings	Renewal	Public Works Building South - B. Shell - Replace Caulking at window and door perimeter (Second addition)									7,000	2025		5
Transportation	Buildings	Renewal	Public Works Building South - B. Shell - Replace Original - Insulated metal overhead door									45,000	2021		5
Transportation	Buildings	Renewal	Public Works Building South - B. Shell - Replace First addition - Insulated metal overhead door									18,000	2029		5
Transportation	Buildings	Renewal	Public Works Building South - B. Shell - Replace Original - Standing seam metal									225,000	2031		5
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace Original - Hollow metal door									27,000	2031		3
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace Paint - Throughout									70,000	2031		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace Original - Vinyl tile									21,000	2031		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace Original - Carpet									18,000	2028		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace First addition - Vinyl tile									12,000	2031		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace First addition - Carpet									7,000	2031		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Repair Original - Prefabricated vinyl & fiberglass insulation Blanket									100,000	2031		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Repair First addition - Prefabricated vinyl & fiberglass insulation Blanket									45,000	2026		2
Transportation	Buildings	Renewal	Public Works Building South - C. Interiors - Replace Ceiling tiles - Throughout									25,000	2030		2
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Repair Original - Eavestrough and downspout									6,000	2031		4
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace Suspended gas fired heater									10,000	2029		5
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace Gas furnace with cooling unit - York									25,000	2029		5

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Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace Gas furnace uth cooling unit- Bryant									25,000	2029		5
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace AED units & safety cabinets									12,500	2026		5
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace Original - Interior lighting (flourescent & wall mounted fixtures) and branch wiring									20,000	2031		5
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace Original - Interior lighting (HID) and branch wiring									7,000	2031		5
Transportation	Buildings	Renewal	Public Works Building South - D. Services - Replace Security alarm system & cameras									15,000	2030		3
Stormwater Service	Study	Upgrade	Uupdate the Stormwater Master Plan									60,000	2023	2028	staff to assess
Stormwater Service	Sub-watershed Improvements	Upgrade	Stormwater MP sub-watershed improvements (Cost over 10 years)									2,490,000	2022-2031		staff to assess
Stormwater Service	Study	Upgrade	Wetland study									20,000	2022		staff to assess
Stormwater Service	Pipes	Renewal	Reconstruction of pipes									7,900,000	2022-2031		staff to assess
Stormwater Service	Ponds	Renewal	Clean out Lucas pond									36,000	2023		staff to assess
Stormwater Service	Ponds	Renewal	Clean out Roos pond									80,000	2024		staff to assess
Stormwater Service	Ponds	Renewal	Clean out Orchard Gate pond									156,000	2024		staff to assess
Stormwater Service	Ponds	Renewal	Clean out Brighton by the Bay pond									97,000	2025		staff to assess
Stormwater Service	Vehicles & Equipment	Renewal	Replacement of Street Sweeper									400,000	2028		staff to assess
Water Service	Pipes	Expansion	New 150mm watermain on Applewood to connect Loyalist to Stephen (145m)									160,000	2022-2031		staff to assess
Water Service	Pipes	Expansion	Replace 150mm with 250mm on Main St from Prince Edward St. to Ontario St.									940,000	2022-2031		staff to assess
Water Service	Pipes	Expansion	Replace 100 mm with 250 mm on Main St from Ontario St to service boundary									1,180,000	2022-2031		staff to assess
Water Service	Pipes	Expansion	Replace 100mm with 150mm on Lyons St from Prince Edward St. to Division St S (160m)									165,000	2022-2031		staff to assess
Water Service	Pipes	Expansion	Replace 100mm with 150mm on Division St S from Lyons St to Butler St (115m),									270,000	2022-2031		staff to assess
Water Service	Pipes	Expansion	10% allowance for engineering and design costs of projects									285,000	2022-2031		staff to assess
Water Service	Pipes	Expansion	Expand the 50mm (2") service connection at County Road 30 at Spring									40,000	2022-2031		staff to assess
Water Service	PRV	Renewal	Replace PRV and chambers in poor condition at Baldwin St, Ontario St, and Morrow Ave									390,000	2022		staff to assess
Water Service	Study	Renewal	Develop water meter replacement program study									30,000	2022		staff to assess
Water Service	Water Meters	Renewal	Replace water meters (cost over 10-year period)									1,000,000	2022-2031		staff to assess
Water Service	Vertical Assets	Upgrade	Upgrade infrastrucutre at Lakeview Heights BPS									6,000	2022		staff to assess
Water Service	Vertical Assets	Renewal	Replace duty centrifugal pumps at Lakeview BPS and Dundas BPS									1,400	2022		staff to assess
Water Service	Vertical Assets	Renewal	Replace duty centrifugal pumps at Dundas BPS									8,000	2022		staff to assess
Water Service	Vertical Assets	Renewal	Assess condition of building and process equipment at BPS									4,000	2022	2027	staff to assess
Water Service	Vertical Assets	Renewal	Condition assessment for building and process equiment at 3 wells									5,000	2022	2027	staff to assess
Water Service	Vertical Assets	Renewal	Water Treatment Plant - C. Interiors - Replace Paint									7,000	2022		2
Water Service	Vertical Assets	Renewal	Water Treatment Plant - D. Services - Replace Dehumidifier - Dectron MAM series									20,000	2030		5
Water Service	Vertical Assets	Renewal	Water Treatment Plant - D. Services - Replace Radiant tube IR heaters									24,000	2030		5
Water Service	Vertical Assets	Renewal	Water Treatment Plant - D. Services - Replace Fire alarm system									20,000	2030		5
Water Service	Vertical Assets	Renewal	Water Treatment Plant - D. Services - Replace Gas Detection System									12,000	2030		5
Water Service	Vertical Assets	Renewal	Water Treatment Plant - D. Services - Replace Interior lighting (flourescent) and branch wiring									14,000	2030		5

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Water Service	Vertical Assets	Renewal	Water Treatment Plant - E. Equipment - Replace Cabinetry									6,000	2030		3
Water Service	Vertical Assets	Renewal	Water Treatment Plant - G. Building Sitework - Replace Asphalt paved parking lot									12,500	2030		3
Water Service	Vertical Assets	Renewal	Water Treatment Plant - H. Processes - Replace Back-up Power									46,624	2022		5
Water Service	Vertical Assets	Renewal	Water Treatment Plant - H. Processes - Replace Gas Chlorinator B									7,000	2030		5
Water Service	Vertical Assets	Renewal	Water Treatment Plant - H. Processes - Replace Well pump 1									7,000	2030		5
Water Service	Vertical Assets	Renewal	Wells - H. Processes - Replace Well pump 1									12,000	2026		3
Water Service	Vertical Assets	Renewal	Wells - H. Processes - Replace Well pump 2									12,000	2030		3
Water Service	Vertical Assets	Renewal	Wells - H. Processes - Replace Well pump 3									12,000	2031		3
Water Service	Vehicles & Equipment	Renewal	Confined Space Equipment									15,000	2023		4
Water Service	Vehicles & Equipment	Renewal	GPS units for 3 vehicles									1,486	2023		2
Water Service	Vehicles & Equipment	Renewal	Leak Detector									7,500	2023		2
Water Service	Vehicles & Equipment	Renewal	2013 GMC									45,000	2023		3
Water Service	Vehicles & Equipment	Renewal	2019 GMC Sierra 1/2 T Crew cab 4x4									45,000	2029		3
Water Service	Vehicles & Equipment	Renewal	Mower – Zero Turn									39,866	2022		3
Water Service	Vehicles & Equipment	Renewal	Valve Turner									46,127	2022		2
Water Service	Vehicles & Equipment	Renewal	Water and Wastewater Financial Plan study									50,000	2022	2027	4
Wastewater Service	Vertical Assets	Expansion	Improvements to the WPCP for ammonia removal									8,800,000	2022-2024		staff to assess
Wastewater Service	Vertical Assets	Expansion	Upgrade lift station / Harbour St. SPS and force main									3,000,000	staff to advise		staff to assess
Wastewater Service	Vertical Assets	Expansion	Construct garage at lagoon									65,000	staff to advise		staff to assess
Wastewater Service	I&I	Expansion	Explore Inflow and Infiltration reduction									150,000	2022-2025		staff to assess
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - A. Substructure - Repair Cast-in-place concrete foundations									850,000	2024		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - B. Shell - Repair Split Face Concrete Block									85,000	2021		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - B. Shell - Replace Hollow Metal Doors									6,000	2024		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - C. Interiors - Replace Handrails									15,000	2022		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - C. Interiors - Replace Faced insulation									21,000	2021		2
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - D. Services - Replace Generator									50,000	2023		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - D. Services - Replace Main Electrical Panel									30,000	2024		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - G. Building Sitework - Repair Gravel Paved Parking Pad									5,250	2029		3
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - H. Processes - Pumps									800,000	2029		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - H. Processes - Piping, valves									200,000	2029		5
Wastewater Service	Buildings	Renewal	Harbour Street Sewage Lift Station - H. Processes - Hvac for drywell, this is above normal for buildings									75,000	2029		5
Wastewater Service	Buildings	Renewal	WPCP - B. Shell - Replace Hollow metal door in metal frame									6,000	2022		5
Wastewater Service	Buildings	Renewal	WPCP - C. Interiors - Replace Painted Concrete Block Masonry									6,500	2029		2
Wastewater Service	Buildings	Renewal	WPCP - H. Processes - Lab equipment									25,000	staff to advise		5

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Wastewater Service	Buildings	Renewal	WPCP - H. Processes - MPL depends on erosion rates Berm 1									40,000	staff to advise		5
Wastewater Service	Buildings	Renewal	WPCP - H. Processes - Dosing System									10,000	staff to advise		5
Wastewater Service	Vehicles & Equipment	Renewal	Digital CCTV Camera									8,429	2026		3
Wastewater Service	Vehicles & Equipment	Renewal	Confined Space Equipment									3,150	2023		4
Wastewater Service	Vehicles & Equipment	Renewal	GPS units for 2 vehicles									495	2023		2
Wastewater Service	Vehicles & Equipment	Renewal	2013 Chevrolet									45,000	2022		3
Wastewater Service	Vehicles & Equipment	Renewal	2019 Dodge									50,000	2022		3
Wastewater Service	Vehicles & Equipment	Renewal	Mower – Zero Turn									39,866	2029		2
Wastewater Service	Vehicles & Equipment	Renewal	Wastewater Financial Plan									50,000	2022	2027	
Parks and Recreation Services	Trails	Expansion	Trail expansions – Grimes / Simpsons Property									272,000	2023		
Parks and Recreation Services	Trails	Expansion	Trail expansions – Stalwood Property section									27,000	TBD		
Parks and Recreation Services	Parks	Expansion	4 Pickleball Courts									150,000	2022		
Parks and Recreation Services	Buildings	Expansion	Curling Club & Arena — Design Study									54,000	2022		
Parks and Recreation Services	Study	Expansion	Recreation Master Plan Update Study									75,000	2022-2031		
Parks and Recreation Services	Parks	Expansion	Building a new park and facility on purchased land									20,000,000	2025		
Parks and Recreation Services	Parks	Renewal	Replace soccer field, ball diamonds and tennis courts									625,000	2022-2031		
Parks and Recreation Services	Parks	Renewal	Replace half of play structures and original part of skateboard park									400,000	2022-2031		
Parks and Recreation Services	Vehicles & Equipment	Renewal	2007 Woods Backhoe BH70X									12,500	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2012 Reist Ball Groomer									10,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2000 Ball Park Bannerman Groomer									10,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2014 Zamboni 445-16085									90,000	2024		3
Parks and Recreation Services	Vehicles & Equipment	Renewal	2004 Chevrolet Silverado									55,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2007 Ford F150									45,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2010 Chevrolet Silverado 3/4 Ton									50,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2016 Chevrolet Silverado 1/2 ton									40,000	2026		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2019 Chev Silverado 1/2 ton									40,000	2029		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2007 Woods Loader 1008									10,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2011 Ferris Walk-Behind Mower									28,000	2022	2027	2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2017 Ferris Stand-up Mower (used as spare)									30,000	2022	2027	2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2013 Zero-Turn Mower									14,718	2022	2027	2

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Parks and Recreation Services	Vehicles & Equipment	Renewal	2014 Ferris Zero-Turn Mower									36,000	2022	2027	2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2017 Ferris zero turn									18,000	2027		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2019 72" zero turn mower (John Deere)									36,000	2024	2029	2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2019 72" zero turn mower (John Deere)									36,000	2024	2029	2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2008 Aquacide Sprayer									21,353	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	1977 Allis Chalmers Tractor									20,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2007 New Holland TC 30 Tractor									35,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	1997 Husquavarna Tractor										2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2010 Sure FT7 – What is this? Trailer									7,500	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	Tandem Axle Trailer - car hauler									12,000	2022		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2017 Mid-size Tandem Axle Trailer (Belongs to Grass Crew)									8,500	2027		2
Parks and Recreation Services	Vehicles & Equipment	Renewal	2020 Kubota Uility Vehicle (UTV) (Model Number: RTV-X900)									17,500	2030		2
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - A1010 Standard Foundations - Repair Concrete Block Foundations									6,750	2031		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - B2020 Exterior Windows - Replace Metal Framed Windows									15,000	2024		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - B2030 Exterior Doors - Replace Hollow Metal Doors									7,500	2030		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - B3010 Roof Coverings - Replace Metal Roofing									162,000	2030		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - C1020 Interior Doors - Replace Hollow Metal Doors									22,500	2027		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - C3010 Wall Finishes - Replace Paint									8,000	2023		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - C3020 Floor Finishes - Replace Carpet Flooring									7,500	2024		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - C3030 Ceiling Finishes - Replace Suspended Ceiling Tiles									9,000	2030		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - D2010 Plumbing Fixtures - Replace Toilets, Sinks									8,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - D3010 Energy Supply - Replace Generator/Transfer Switch									60,000	2022		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - D5010 Electrical Service & Distribution - Replace Main Electrical Panel									25,000	2027		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - D5020 Lighting & Branch Wiring - Replace Lighting									12,500	2023		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - E2010 Fixed Furnishings - Replace Book Shelves									20,000	2024		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - E2010 Fixed Furnishings - Replace Kitchen Cabinetry									27,000	2024		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2020 Parking Lots - Replace Asphalt Pavement									120,000	2030		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2040 Site Development - Replace Entrance Canopy									12,000	2021		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2040 Site Development - Replace Gazebo									45,000	2021		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2040 Site Development - Replace Wood Canopy									160,000	2031		3

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Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2040 Site Development - Replace Storage Shed									60,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2050 Landscaping - Replace Planters									50,000	2021		3
Parks and Recreation Services	Buildings	Renewal	Codrington Community Centre - G2050 Landscaping - Replace Flag Poles									20,000	2029		3
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - A1010 Standard Foundations - Repair Stone wall foundations									6,000	2021		2
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - B2010 Exterior Walls - Repair Stone Veneer									5,400	2030		2
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - C3010 Wall Finishes - Replace Wood Paneling									6,000	2021		2
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - C3020 Floor Finishes - Replace Vinyl Tile									7,000	2023		2
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - C3030 Ceiling Finishes - Replace Ceiling Tile Suspended									6,000	2026		2
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - G2020 Parking Lots - Replace Asphalt Parving									12,000	2022		2
Parks and Recreation Services	Buildings	Renewal	Hilton Hall (Heritage) - G2030 Pedestrian Paving - Replace Concrete Walkways									12,000	2022		2
Parks and Recreation Services	Buildings	Renewal	King Edward Park Canteen & Washroom - C3030 Ceiling Finishes - Repair Painted gypsum ceiling									5,500	2027		2
Parks and Recreation Services	Buildings	Renewal	King Edward Park Canteen & Washroom - D5030 Communications & Security Systems - Replace Security system with cameras and keypad									8,000	2025		2
Parks and Recreation Services	Buildings	Renewal	King Edward Park Canteen & Washroom - E2010 Fixed Furnishings - Replace Wood cabinetry and laminate countertops									7,000	2024		2
Parks and Recreation Services	Buildings	Renewal	King Edward Park Canteen & Washroom - G2030 Pedestrian Paving - Replace Asphalt walkways									7,000	2027		2
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - B2030 Exterior Doors - Replace Wood doors									6,000	2025		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - C3020 Floor Finishes - Replace Carpet									45,000	2028		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D2020 Domestic Water Distribution - Replace Electric domestic hot water heater									7,000	2026		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D3030 Cooling Generating Systems - Replace Refrigeration system									15,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D4030 Fire Protection Specialties - Replace Fire Alarm System w/ Pull Stations									20,000	2029		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D4030 Fire Protection Specialties - Replace Emergency Lights and Exit Signage									8,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D5010 Electrical Service & Distribution - Replace Main Panel									10,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D5010 Electrical Service & Distribution - Replace Electrical distribution panel									18,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Brighton & District Curling Club - D5030 Communications & Security Systems - Replace Security Alarm System									12,000	2030		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B2010 Exterior Walls - Repair Concrete Block Masonry									15,000	2021		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B2010 Exterior Walls - Repair Metal Siding									10,000	2021		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B2010 Exterior Walls - Replace Painting									20,000	2027		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B2010 Exterior Walls - Replace Sealant									10,000	2026		3

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Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B2030 Exterior Doors - Replace Hollow Metal Doors									6,000	2030		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B2030 Exterior Doors - Replace Overhead Doors									15,000	2031		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - B3010 Roof Coverings - Replace Flat Roofing Systems									400,000	2021		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - C1030 Specialties - Replace Benches									6,000	2023		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - C2020 Stair Finishes - Replace Paint									8,000	2026		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - C3010 Wall Finishes - Replace Paint									7,500	2026		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - C3020 Floor Finishes - Replace Rubber Flooring									30,000	2024		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - D2020 Domestic Water Distribution - Replace In-Floor Heating Distribution									40,000	2031		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - D4010 Fire Protection Sprinkler Systems - Repair Sprinkler System									10,000	2025		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - E2010 Fixed Furnishings - Replace Bathroom Stalls									6,400	2023		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - E2010 Fixed Furnishings - Repair Bleachers									20,000	2029		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - F1042-A - Ice Skating Equipment - Replace Chiller									67,000	2021		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - F1042-A - Ice Skating Equipment - Replace Compressor 1									50,000	2021		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - F1042-A - Ice Skating Equipment - Repair Brine System & Distribution									75,000	2031		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - G2010 Roadways - Replace Asphalt Pavement Phase 1									120,000	2024		3
Parks and Recreation Services	Buildings	Renewal	King Edward Park Arena - G2010 Roadways - Replace Asphalt Pavement Phase 2									120,000	2031		3
Parks and Recreation Services	Buildings	Renewal	Parks & Recreation Garage - B2030 Exterior Doors - Replace Roll up garage doors									30,000	2030		3
Parks and Recreation Services	Buildings	Renewal	Parks & Recreation Garage - D3070 Special HVAC Systems & Equipment - Replace CO2 monitoring system									6,000	2027		3
Parks and Recreation Services	Buildings	Renewal	Parks & Recreation Garage - G2040 Site Development - Replace Chain-linked fencing									15,000	2030		3
Fire Protection Service	Study	Expansion	Fire master plan									80,000	2022		
Fire Protection Service	Study	Expansion	Community Risk Assessment									80,000	2022		
Fire Protection Service	Buildings	Expansion	Combined fire/ambulance land cost									300,000	2022		
Fire Protection Service	Buildings	Expansion	Combined fire/ambulance design and construction									10,000,000	2023-2024		
Fire Protection Service	Buildings	Expansion	Combined fire/ambulance additional vehicles									1,500,000	2024		
Fire Protection Service	Vehicles & Equipment	Upgrade	Fire Service communication system									35,000	2023		
Fire Protection Service	Vehicles & Equipment	Renewal	1988 International 51900									500,000	2022		5
Fire Protection Service	Vehicles & Equipment	Renewal	1995 Freightliner Pumper									700,000	2022		5
Fire Protection Service	Vehicles & Equipment	Renewal	2003 Freightliner Pumper									700,000	2023		5
Fire Protection Service	Vehicles & Equipment	Renewal	2006 GMC C55 Mini Pumper									700,000	2024		5

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Fire Protection Service	Vehicles & Equipment	Renewal	Compressor and Casade System									35,047	2030		3
Fire Protection Service	Vehicles & Equipment	Renewal	Extraction Jaws and Pump									49,732	2022		3
Fire Protection Service	Vehicles & Equipment	Renewal	Self Contained Breathing Apparatus									250,000	2022		3
Fire Protection Service	Vehicles & Equipment	Renewal	Driers									10,964	2022	2027	3
Fire Protection Service	Vehicles & Equipment	Renewal	South Hall Generator									22,676	2022	2027	3
Fire Protection Service	Vehicles & Equipment	Renewal	Thermal Cameras									18,872	2027		3
Fire Protection Service	Vehicles & Equipment	Renewal	Water Ice Rescue Unit									20,015	2025		5
Fire Protection Service	Vehicles & Equipment	Renewal	Mini Holatro Cutters & Cribbing									12,724	2031		5
Fire Protection Service	Vehicles & Equipment	Renewal	2008 Ford F150 XLT 4 x 4									70,000	2022		5
Fire Protection Service	Vehicles & Equipment	Renewal	2019 Gmc Crew 4x4									70,000	2030		5
Fire Protection Service	Vehicles & Equipment	Renewal	2010 LBW Trailer									15,000	2022		5
Fire Protection Service	Vehicles & Equipment	Renewal	2009 Suzuki LTA 750									15,000	2022		5
Fire Protection Service	Vehicles & Equipment	Renewal	1999 TB7 Trailer									15,000	2022		5
Fire Protection Service	Vehicles & Equipment	Renewal	2019 Polaris Side By Side									20,000	2030		5
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - B2010 Exterior Walls - Repair Concrete Block									5,400	2025		5
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - B2020 Exterior Windows - Replace Metal Framed windows									6,500	2025		5
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - B2030 Exterior Doors - Replace Overhead Doors									56,000	2031		5
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - C1020 Interior Doors - Replace Hollow Metal Doors									10,500	2030		3
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - C3010 Wall Finishes - Replace Paint									15,000	2024		2
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - C3020 Floor Finishes - Replace Vinyl Tile									11,000	2029		2
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - D2010 Plumbing Fixtures - Replace Toilet, Urinal, Sink, Shower									7,000	2025		4
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - D3020 Heat Generating Systems - Replace Ceiling mounted heating units									24,000	2025		5
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - G2020 Parking Lots - Replace Asphalt Pavement									75,000	2024		3
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - G2030 Pedestrian Paving - Replace Concrete Walkways									9,000	2024		3
Fire Protection Service	Buildings	Renewal	Fire Station #2 (North) - G2030 Pedestrian Paving - Replace Accessibility Ramp									10,000	2024		3
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B2010 Exterior Walls - Repair Brick Masonry									10,000	2027		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B2010 Exterior Walls - Replace Fibreboard Panels									40,000	2022		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B2010 Exterior Walls - Repair EIFS									25,000	2026		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B2020 Exterior Windows - Replace Aluminum Framed									9,000	2025		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B2030 Exterior Doors - Replace Hollow Metal Doors									8,000	2029		5

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Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B2030 Exterior Doors - Replace Ovehead Doors									45,000	2030		5
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - B3010 Roof Coverings - Replace Conventional assembly with EPDM membrane									14,000	2022		5
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - C3010 Wall Finishes - Replace Paint									25,000	2030		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - C3020 Floor Finishes - Replace Vinyl Tile									10,000	2024		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - C3030 Ceiling Finishes - Repair Wood Slats									12,000	2031		2
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - D3020 Heat Generating Systems - Replace Furnaces									15,000	2031		5
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - D5020 Lighting & Branch Wiring - Replace Lighting									10,000	2029		5
Fire Protection Service	Buildings	Renewal	Fire Station #1 (South) - G2020 Parking Lots - Replace Asphalt Paving									70,000	2025		3
Health Services	Buildings	Renewal	Brighton Health Centre - B2010 Exterior Walls - Repair Original - Architectural Concrete Block Masonry									27,500	2022		5
Health Services	Buildings	Renewal	Brighton Health Centre - B2010 Exterior Walls - Replace Original - Caulking At Window And Door Perimeter									14,000	2024		5
Health Services	Buildings	Renewal	Brighton Health Centre - B2030 Exterior Doors - Replace Original - Hollow Metal Door In Metal Frame									6,000	2030		5
Health Services	Buildings	Renewal	Brighton Health Centre - B3010 Roof Coverings - Replace Original - EPDM - Flat platform for mechanical equipment									21,000	2027		5
Health Services	Buildings	Renewal	Brighton Health Centre - C3010 Wall Finishes - Replace Original -Paint									35,000	2029		2
Health Services	Buildings	Renewal	Brighton Health Centre - C3020 Floor Finishes - Replace Original - Vinyl tile									10,000	2031		2
Health Services	Buildings	Renewal	Brighton Health Centre - C3020 Floor Finishes - Replace Original - Vinyl Sheet									9,000	2029		2
Health Services	Buildings	Renewal	Brighton Health Centre - C3020 Floor Finishes - Replace Original - Carpet									45,000	2028		2
Health Services	Buildings	Renewal	Brighton Health Centre - C3030 Ceiling Finishes - Replace Original - Ceiling tiles									40,000	2030		2
Health Services	Buildings	Renewal	Brighton Health Centre - D4020 Standpipe & Hose System - Replace Fire Alarm Panel									25,000	2025		5
Health Services	Buildings	Renewal	Brighton Health Centre - D4030 Fire Protection Specialties - Replace Original - Emergency exit signage									10,000	2031		5
Health Services	Buildings	Renewal	Brighton Health Centre - D5020 Lighting & Branch Wiring - Replace Original - Interior lighting (flourescent) and branch wiring									120,000	2031		5
Health Services	Buildings	Renewal	Brighton Health Centre - D5020 Lighting & Branch Wiring - Replace Original - Exterior lighting									9,000	2031		5
Health Services	Buildings	Renewal	Brighton Health Centre - E1010 Commercial Equipment - Replace Appliances									8,000	2031		4
Municipal Administration	IT Equipment	Upgrade	Work order management system									147,000	2022		staff to assess
Municipal Administration	Library Materials	Upgrade	Additional collection materials for the library (total over 10 years)									330,000	\$30k annually		staff to assess
Municipal Administration	Study	Upgrade	Development charges background study									70,000	2024	2029	staff to assess
Municipal Administration	Study	Upgrade	Offical plan review									400,000	2024	2029	staff to assess
Municipal Administration	Study	Upgrade	Zoning By-Law update									400,000	2025	2030	staff to assess
Municipal Administration	Study	Upgrade	Community improvement plans for brownfields									300,000	2022		staff to assess

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Municipal Administration	Study	Upgrade	Secondary plan for Greenfields within the urban area									250,000	2023		staff to assess
Municipal Administration	IT Equipment	Renewal	Update Financial System									186,185	2023	2028	5
Municipal Administration	IT Equipment	Renewal	Replace Server									38,767	2022	2027	5
Municipal Administration	IT Equipment	Renewal	Update Telephone System									21,068	2022	2027	4
Municipal Administration	IT Equipment	Renewal	Replace Cell Phones - total cost over 10 years									105,000	Each device every 2 years		2
Municipal Administration	IT Equipment	Renewal	Replace Tablets - total cost over 10 years									23,000	Each device every 4 years		3
Municipal Administration	IT Equipment	Renewal	Replace Laptops - total cost over 10 years									175,000	Each device every 4 years		3
Municipal Administration	IT Equipment	Renewal	Replace PC Computers (Desktop) - total cost over 10 years									90,000	Each device every 4 years		3
Municipal Administration	IT Equipment	Renewal	Replace Desktop Printers - total cost over 10 years									22,000	Each device every 4 years		1
Municipal Administration	Vehicles & Equipment	Renewal	Replace 2014 Toyota Matrix - Bylaw									40,000	2024		3
Municipal Administration	Vehicles & Equipment	Renewal	Replace 2014 Toyota Matrix - Buildings									40,000	2024		3
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - B2010 Exterior Walls - Repair Brick veneer									16,000	2025		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - B2020 Exterior Windows - Replace Metal framed									54,000	2026		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - B3010 Roof Coverings - Replace Metal sheet									390,000	2029		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - B3010 Roof Coverings - Replace Inverted flat roof									25,000	2028		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - C1020 Interior Doors - Repair Metal / wood doors									50,000	2030		3
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - C3010 Wall Finishes - Replace Gypsum board / Painted concrete block									18,000	2028		2
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - C3020 Floor Finishes - Replace Carpet									45,000	2031		2
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - C3030 Ceiling Finishes - Replace Painted drywall ceiling									13,500	2028		2
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D2010 Plumbing Fixtures - Replace Toilet / Urinals									14,000	2028		4
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D2010 Plumbing Fixtures - Replace Vanity Sink / Janitor Sinks									8,000	2025		4
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D2020 Domestic Water Distribution - Replace Electric domestic hot water heater									12,000	2031		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D3020 Heat Generating Systems - Replace Gas Furnace									12,000	2024		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D3020 Heat Generating Systems - Replace Heat Recovery Ventilation System									8,000	2025		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D4030 Fire Protection Specialties - Replace Fire Alarm System w/ Pull Stations and Alarms									40,000	2029		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D4030 Fire Protection Specialties - Replace Emergency Lights and Exit Signage									17,500	2031		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D5020 Lighting & Branch Wiring - Replace Light fixtures									96,000	2026		5

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Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D5010 Electrical Service & Distribution - Replace Main Panel									40,000	2031		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - D5010 Electrical Service & Distribution - Replace Electrical distribution panel									18,000	2031		5
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - E1040 Other Equipment - Replace Chair lift									6,000	2021		4
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - G2020 Parking Lots - Replace Asphalt parking lot									11,350	2026		3
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - G2040 Site Development - Replace Concrete stairs									8,000	2031		3
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - G2040 Site Development - Repair Chain link fence									13,650	2027		3
Municipal Administration	Buildings	Renewal	Brighton Municipal Centre and Library - G2040 Site Development - Replace Metal columns									7,500	2029		3