ONTARIO CLEAN WATER AGENCY
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Town of Petawawa
2020 Asset Management Plan

AMP Issue and Revision Record					
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A	September 28, 2020	Nick Larson, OCWA	---	---	Preliminary Draft
B	October 13, 2020	Nick Larson, OCWA	Asset Management Working Group, Town of Petawawa	David Unrau, Town of Petawawa	Final

Executive Summary

Asset Management as a Management System

The Town of Petawawa's municipal infrastructure assets provide the foundation of the community. The Town allocates resources across asset portfolios to optimize the performance of assets relative to the available money.

The integrated series of processes in the Town that are used to decide when, why and how to spend money on infrastructure assets represents a corporate (asset) management system. The processes in this management system are used to realize value from assets in the achievement of the Town's objectives. An Asset Management Plan (AMP) is the tactical output of this management system.

The processes followed in the asset management system are:

- Understand the current state of the Town's infrastructure portfolio;

- Measure and monitor asset performance (i.e. levels of service);

- Establish the optimal timing and quantity of asset lifecycle activities that are required to achieve the Town's desired asset performance objectives or expectations;

- Develop a financing strategy to fund the asset lifecycle activities required to achieve the desired asset performance objectives; and

- Monitor the execution of the asset lifecycle activities and follow a continuous improvement feedback loop to adjust processes as necessary.

Maximizing Value from Infrastructure Spending

The asset management systems enables the Town to balance asset performance (level of service) expectations of constituents/stakeholders with financial affordability through two mechanisms.

1. Creating a 'cost to asset performance' relationship that forecasts expected changes in asset performance over a future planning horizon against spending levels. This is completed by analyzing the expected deterioration of asset performance over time against the improvement in asset performance caused by infrastructure spending. This helps to set overall spending levels by asset type.

2. Establishing a living management system that is used to prioritize the allocation of money to specific assets/projects. This is accomplished through the process of updating the current performance of each asset on a periodic basis, and developing annual spending plans that are targeted at the assets that are performing the furthest below the community's expectations.

These two mechanisms help the Town understand the asset groups where planned spending levels are not adequate to achieve their asset performance expectations. The Town then uses this understanding to prioritize the allocation of current funds between and within asset groups, or the allocation of net new funding to assets or asset groups. Over time, asset performance expectations will be adjusted to align with changing stakeholder needs or the Town's evolving corporate strategic objectives.

Asset Portfolio

The Town's assets are categorized into thirteen asset groups and five service categories. The infrastructure portfolio has an estimated replacement value of approximately $404 million.

Asset Network	Service Category	Quantity	Current Replacement Value (millions)*
Roads	Transportation	267 lane-km	$91.0
Sidewalks	Transportation	44 km	$4.4
Street Lights	Transportation	1023	$3.1
Street Signs	Transportation	748	$0.5
Facilities	Fire, Community Services and Culture, Transportation, General Government	8 large buildings, 4 small buildings	$36.5
Fleet	Fire, Transportation, Community Services and Culture	40 units	$6.7
Parks and Green Spaces	Community Services and Culture	328 pieces/equipment	$12.1
Storm Sewers	Environmental Services	31 km	$38.7
Stormwater Management Facilities	Environmental Services	16 facilities	$2.0
Wastewater Treatment and Collection Facilities	Environmental Services	1 WPCP, 4 Pumping Stations	$44.1
Water Treatment and Distribution Facilities	Environmental Services	1 WTP, 2 Booster Stations, 3 Towers	$22.1
Sanitary Sewers and Appurtenances	Environmental Services	49.0 km	$61.2
Watermains and Appurtenances	Environmental Services	85.4 km	$81.1
		Total	**$403.5**

*Note: Although the quantity of assets in the portfolio has not substantially increased since 2019, the estimated replacement value has increased to reflect recent market conditions.

Current Asset Performance

The best available asset information is combined with the judgement of subject matter experts to establish the current performance of each asset. The performance rating scale and current asset performance in each asset group is provided below.

PERFORMANCE CATEGORY	DESCRIPTION
Good	Asset performance meets or exceeds its objectives/requirements.
Fair	Asset performance is nearing the point where it will not meet its objectives/requirements.
Poor	Asset performance is not meeting its objectives/requirements.

2020 Asset Performance Summary
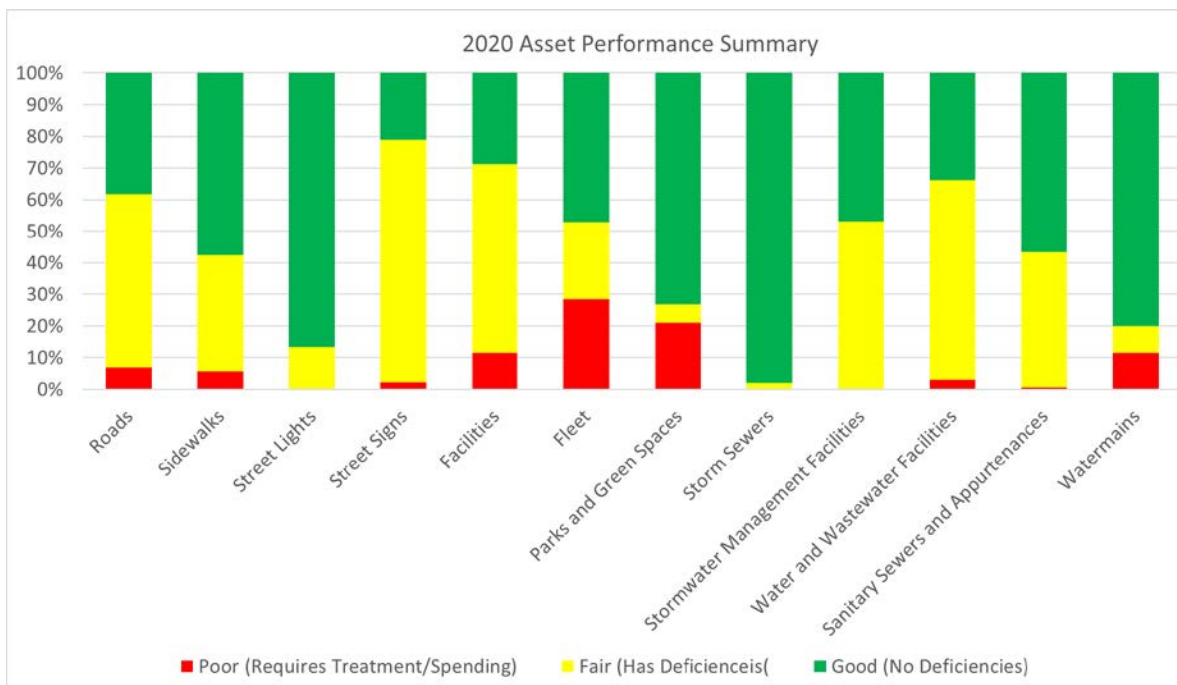
Analysis of Planned Spending and Performance Forecasting

The Town's budget was analyzed on a line-by-line basis to estimate future planned spending to rehabilitate or replace existing infrastructure assets. This financial information is combined with appropriate asset lifecycle logic on the deterioration rate of asset performance to forecast the expected change in the performance distribution over the next 25 years. If the performance distribution is expected to decline (i.e. more assets are expected to be in the poor performance category), then the analysis is repeated to estimate the additional spending level necessary to prevent a decline in asset performance.

Analysis Results

The analysis demonstrates that planned average annual spending is insufficient to maintain asset performance expectations for roads, street signs, Community Services and Cultural facilities, and parks and green spaces. The total annual funding shortfall is estimated to be approximately $813,000. The

following tables present the funding gap summary for the tax-supported and rate-supported asset groups, respectively

It is noted that the current performance of assets and performance forecasts are updated on a continual basis to reflect new information or changing organizational performance objectives or requirements.

Asset Group	Service Area(s)	Planned Average Annual Funding	Average Annual Expenditures Required to Maintain Asset Performance	Average Annual Funding Gap	Comments
Roads	Transportation	$1,800,000	$2,500,000	$700,000	No change from 2019 AMP
Sidewalks	Transportation	$60,000	$60,000	$0	No change from 2019 AMP
Street Signs	Transportation	$15,000	$20,000	$5,000	Increase from 2019 AMP
Street Lights	Transportation	$5,000	$5,000	$0	No change from 2019 AMP
Facilities	Fire	$43,000	$43,000	$0	No change from 2019 AMP
Facilities	Community Services and Culture	$32,000	$80,000	$48,000	Increase from 2019 AMP
Facilities	General Government	$90,000	$90,000	$0	No change from 2019 AMP
Facilities	Transportation	$55,000	$55,000	$0	No change from 2019 AMP
Fleet	Fire	$140,000	$140,000	$0	No change from 2019 AMP
Fleet	Transportation	$295,000	$295,000	$0	No change from 2019 AMP
Fleet	Community Services and Culture	$16,000	$16,000	$0	No change from 2019 AMP
Parks and Green Spaces	Community Services and Culture	$180,000	$240,000	$60,000	Increase from 2019 AMP
Storm Sewers	Environmental Services	$380,000	$380,000	$0	No change from 2019 AMP
Stormwater Management Facilities	Environmental Services	$2,000	$2,000	$0	No change from 2019 AMP
Total - Tax Supported		**$3,113,000**	**$3,926,000**	**$813,000**	**15% Increase from 2019 AMP**

Asset Category	Service Area(s)	Planned Average Annual Funding	Average Annual Expenditures Required to Maintain Asset Performance	Average Annual Funding Gap	Comments
Wastewater Treatment and Collection Facilities	Environmental Services	$1,800,000	$1,800,000	$0	No change from 2019 AMP 2020 Rate Study is designed to fund the expenditures required to achieve asset performance expectations
Water Treatment and Distribution Facilities	Environmental Services	$825,000	$825,000	$0	
Sanitary Sewers and Appurtenances	Environmental Services	$900,000	$900,000	$0	
Watermains and Appurtenances	Environmental Services	$950,000	$950,000	$0	
Total - Rate Supported		**$4,475,000**	**$4,475,000**	**$0**	**No change from 2019 AMP**

Maturity of Asset Information

The maturity of the asset information is an important consideration when determining when a funding gap exists. The maturity of asset information refers to the availability and quality of the information used in the asset management analysis. The confidence in forecasting asset performance against planned spending is proportional to the quality of the available information.

Generally, the maturity of the Town's asset information was average or above average compared to the Canadian asset management industry. Opportunities for improving asset information are:

1. Connect the defect information observed from sewer condition videos to the asset inventory. This will allow staff to make a more robust pipe-by-pipe long term rehabilitation and replacement plan.

2. Enhance how the community's objectives or expectations for Town facilities are considered in performance assessments and spending needs. The current information is from a technical perspective, which may not necessarily align with the community's expectations and priorities.

Financial Strategy

The following points summarize the financial strategy to close the annual funding shortfall:

1. Continue to pursue Federal and Provincial grants. The living AM system ensures that the Town can continually reprioritize assets/projects so they are at the top of the list when applications are made for external funding.

2. Consider modest revenue increases. An annual infrastructure funding shortfall of approximately $813,000 was identified for assets supported by the tax budget. An annual property tax increase of 1% above an inflationary budget increase will close this shortfall in 10 years. A larger increase of 1.75% would close the funding shortfall in 5 years. The Town could also decide to offset increases in the tax levy with increases to user fees.

3. Revisit stakeholder asset performance (level of service) expectations. The funding shortfall may also be eliminated by reducing expectations related to the performance of asset networks against affordability/willingness to pay considerations.

Pathway Forward

This Asset Management Plan is a living document that is the tactical output of a corporate management system. It should be updated on a periodic basis to reflect new information or changing organizational goals. The following points provide a roadmap to enhance asset management planning processes in the Town:

1. Continue to maintain the inventory of all assets owned by the Town.

2. Continue to strengthen the quality of asset-centric performance indicator data that is available to measure the current performance of assets and asset networks.

3. Continue to strengthen the connection between actual or planned spending and specific assets (or asset networks).

4. Engage the community to understand their current perspective on the performance of assets and asset networks (i.e. how well do the assets fulfill their expectations).

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1   INTRODUCTION

1.1   Overview

This AMP is a living document used during asset related decision-making processes, including informing the annual budgeting process and grant applications for infrastructure funding. Note that the AMP is the tactical output of a corporate management system which is described further in Subsection 1.4.

The approach to develop this AMP aligns with the new landscape of Asset Management (AM) in Ontario. This approach:

1. Ensures the Town is compliant with the Provincial AM regulation; and

2. Develops the processes to understand the relationship between infrastructure expenditures and asset performance.

1.2   Defining Asset Performance

ISO 55000 defines asset performance as "the ability of an asset to fulfill the organization's objectives or requirements". The performance of an asset, therefore, is directly related to the level of service it provides – an asset in the good performance category is one which is meeting the expectations of the community (i.e. providing an appropriate level of service). Conversely, an asset in the poor performance category is one which is not meeting expectations (i.e. not providing an appropriate level of service).

It should be emphasized that the community's asset performance expectations balance costs and affordability and are therefore unique to each community based on its infrastructure inventory, financial status and community/corporate priorities.

1.3   Provincial Asset Management Planning Requirements

The Province of Ontario developed Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act (2015). The following points summarize the requirements of O.Reg. 588/17:

- An AM policy is required to articulate specific principles and commitments that will guide decisions around when, why and how money is spent on the Town's infrastructure assets. The Policy is required by July 1, 2019. The Town successfully adopted their AM Policy in 2019.

- By July 1, 2021 the AMP will be required to establish the spending that is required **to maintain current** asset performance expectations for water, wastewater, stormwater, roads and bridges.

- By July 1, 2023 the AMP will be required to establish the spending that is required to **maintain current** asset performance expectations for all asset groups.

- By July 1, 2024 the AMP will be required to establish the spending that is required to **achieve desired** asset performance expectations, and the financial strategy to fund the required spending.

In 2019 the Town completed the first iteration of a comprehensive AMP for all asset groups that is compliant with the July 1, 2023 requirements. This report represents the second update to the Town's comprehensive AMP.

1.4 AMP Development Approach

The approach to develop this AMP has been guided by OCWA's Asset Stewardship Quality Management System (ASQMS) Framework, provided in Figure 1 The ASQMS Framework shows how technical asset lifecycle strategies are connected to community priorities to develop optimized asset stewardship plans that balance service levels and costs. Note that the input to an AMP (or the AMP itself) is a tactical output of the ASQMS.

The ASQMS has also been developed to align with the Provincial Building Together – Guide for Municipal Asset Management Plans that was published by the Ontario government in 2012, Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure, and ISO 55000 It should be noted that O.Reg. 588/17 has some new/different requirements for the content of an AMP, and therefore the content in the enclosed AMP may not explicitly match the 2012 Guide.

Figure 1: ASQMS Framework

The development of this AMP leverages the Town's best available asset and financial information, staff input, subject matter expert professional judgement, and AM best practices, to complete the following steps:

1. Develop a complete listing of infrastructure assets to be included in the AMP, including attributes such as size/material/type, useful life, age, and current valuation. Current valuations were updated to 2020 dollars, where required, using applicable inflationary indices.

2. Assess current performance (level of service) of the assets based on existing information.

3. Prepare an asset lifecycle management strategy (i.e. expenditure plan) that maintains the current performance distribution of the Town's infrastructure assets.

4. Determine a financing strategy to support the asset lifecycle management strategy, establishing how the expenditure plan to maintain asset performance will be funded.

5. Prepare a comprehensive Asset Management Plan report.

1.5   Updating the Asset Management Plan

The AMP should be updated on a periodic basis to reflect the latest information and respond to evolving asset performance expectations in the community. This can be accomplished annually in conjunction with the Town's budget processes, or more frequently if required to support funding applications.

1.6   Asset Management Plan Scope

This AMP includes all infrastructure assets owned by the Town. Section 2 summarizes the Town's infrastructure asset portfolio.

1.7   Growth Planning

The Town completed a Development Charges Background Study in 2019. The population and employment forecasts are provided in Figure 2. It is apparent that the Town is expected to grow in the next 15 years, and new infrastructure will be required to service this growth. The Background Study included an asset management analysis that determined that the proposed infrastructure to service new growth is financially sustainable. Future updates to this AMP will incorporate the expenditure needs of any new assets as they are built to service growth.
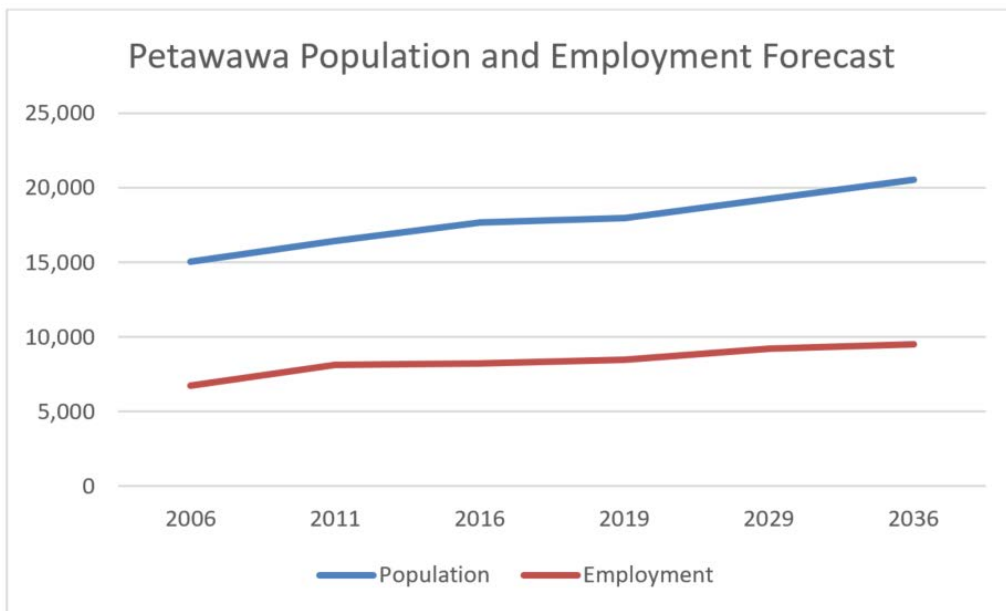

Figure 2: Growth Forecast

2 OVERVIEW OF ASSET PORTFOLIO

The Town of Petawawa has an infrastructure portfolio with an estimated replacement value of approximately $404 million (refer to Table 1).

Table 1 : Petawawa's Infrastructure Portfolio

Asset Network	Service Category	Quantity	Current Replacement Value (millions)
Roads	Transportation	267 lane-km	$91.0
Sidewalks	Transportation	44 km	$4.4
Street Lights	Transportation	1023	$3.1
Street Signs	Transportation	748	$0.5
Facilities	Fire, Community Services and Culture, Transportation, General Government	8 large buildings, 4 small buildings	$36.5
Fleet	Fire, Transportation, Community Services and Culture	40 units	$6.7
Parks and Green Spaces	Community Services and Culture	328 pieces/equipment	$12.1
Storm Sewers	Environmental Services	31 km	$38.7
Stormwater Management Facilities	Environmental Services	16 facilities	$2.0
Wastewater Treatment and Collection Facilities	Environmental Services	1 WPCP, 4 Pumping Stations	$44.1
Water Treatment and Distribution Facilities	Environmental Services	1 WTP, 2 Booster Stations, 3 Towers	$22.1
Sanitary Sewers and Appurtenances	Environmental Services	49.0 km	$61.2
Watermains and Appurtenances	Environmental Services	85.4 km	$81.1
		Total	**$403.5**

Note: Actual costing values are subject to market forces at the time of infrastructure construction / improvement activity, above values are based on historical averages and industry standards.

3 ASSET PERFORMANCE ASSESSMENT

As described in Section 1, the new landscape of AM that aligns with ISO 55000 defines asset performance as the ability for an asset to fulfill its objectives or requirements. This means that the performance of an asset is directly proportional to the level of service it provides. Levels of service are also at the core of O.Reg. 588/17 which requires municipalities to understand the cost to achieve higher or lower levels of service.

3.1 Measuring Asset Performance

The Town's asset inventory contains performance information for all infrastructure assets. This includes information related to both asset condition and asset function. The performance information is collected from a variety of sources, ranging from sophisticated technologies to collect road condition data to visual observations from qualified professionals. All asset performance data is combined with the professional judgment of subject matter experts to establish the current performance of each asset as defined in Table 2 below.

Table 2 : Asset Performance Rating Descriptions

PERFORMANCE CATEGORY	DESCRIPTION
Good	Asset performance meets or exceeds its objectives/requirements.
Fair	Asset performance is nearing the point where it will not meet its objectives/requirements.
Poor	Asset performance is not meeting its objectives/requirements.

3.2 Current Asset Performance

The current performance distribution of each asset group is provided in Figure 3. It is apparent that the facilities, parks and green spaces, fleet and watermains asset groups have the largest proportion of assets in the poor performance category (i.e. are not meeting objectives/requirements). The performance category of each asset is updated on a continual basis to reflect new asset data and changing asset performance objectives or requirements.
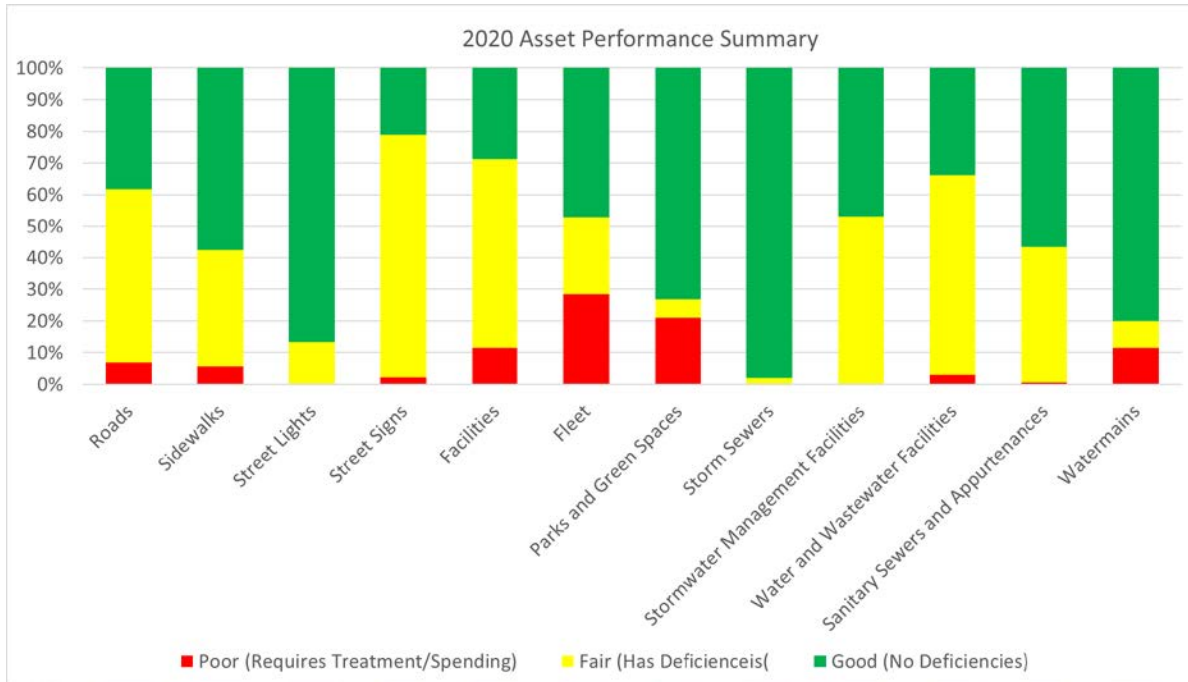
Figure 3: Current Performance Profile by Service Category

4   ASSET LIFECYCLE MANAGEMENT

4.1   Asset Lifecycle Activities Overview

An overview of typical asset lifecycle activities that are applied to public infrastructure are provided in Table 3.

Table 3 : Typical Asset Lifecycle Activities

Lifecycle Activity	Description	Examples
Operational	Actions or studies that support service delivery	Operational activities, routine preventative maintenance, studies on asset performance
(Major) Maintenance	More significant repairs or routine replacement of small equipment	Sewer spot repairs, road patching, meter replacement.
Rehabilitation	Significant project, typically costing between 30% and 70% of asset replacement value.	Structural lining of sewers, road resurfacing, pump rebuilds
Replacement	Significant project resulting in an asset that meets top industry and community expectations.	Plant refurbishment, process area overhaul, road reconstruction, watermain replacement.
Disposal	Activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed by the municipality	Salvage of equipment
New Asset	Construction or purchase of new asset that results in net growth of the net asset inventory	New recreation centre to service growing community

4.2 Planned Expenditures

The Town completes a range of major maintenance, rehabilitation, and replacement lifecycle activities on infrastructure assets that support each service area. Table 4 summarizes the best estimate of currently planned spending on major maintenance, rehabilitation and replacement activities by asset group.

Table 4 : Planned Average Annual Funding by Asset Group

Asset Group	Service Area(s)	Planned Average Annual Funding
Roads	Transportation	$1,800,000
Sidewalks	Transportation	$60,000
Street Signs	Transportation	$15,000
Street Lights	Transportation	$5,000
Facilities	Fire	$43,000
Facilities	Community Services and Culture	$32,000
Facilities	General Government	$90,000
Facilities	Transportation	$55,000
Fleet	Fire	$140,000
Fleet	Transportation	$295,000
Fleet	Community Services and Culture	$16,000
Parks and Green Spaces	Community Services and Culture	$180,000
Storm Sewers	Environmental Services	$380,000
Stormwater Management Facilities	Environmental Services	$2,000
Total - Tax Supported		**$3,113,000**
Wastewater Treatment and Collection Facilities	Environmental Services	$1,800,000
Water Treatment and Distribution Facilities	Environmental Services	$825,000
Sanitary Sewers and Appurtenances	Environmental Services	$900,000
Watermains and Appurtenances	Environmental Services	$950,000
Total - Rate Supported		**$4,475,000**

The values in Table 4 have been determined through a line-by-line analysis of the Town's current and past budgets, and discussions with Town staff to understand where recent spending was not consistent with historical trends.

4.3   Forecasted Performance based on Planned Expenditures

The planned spending by asset group is combined with the analysis of asset information to forecast the expected change in asset performance. The forecast logic applies industry best practices related to the expected rate of performance deterioration (i.e. the rate of consumption of the asset performance by the community) and the improvement to performance resulting from planned expenditures.

The following conclusions are provided as informed by the analysis.

Roads

The analysis indicates that road performance is expected to decline if planned spending levels are sustained. Additional spending is required to maintain asset performance expectations. It is also noted that recent road construction costs observed in the Town are increasing which puts additional strain on the spending needed to maintain asset performance expectations.

Sidewalks

The analysis indicates that sidewalk performance is expected to be maintained if planned spending levels are sustained.

Street Signs

The analysis indicates that street sign performance is expected to decline if planned spending levels are sustained. Additional spending is required to maintain asset performance expectations.

Facilities

The analysis indicates that facilities performance is expected to decline if planned spending levels are sustained. Additional spending is required to maintain asset performance expectations of the Community Services and Culture facilities.

Fleet

The analysis indicates that fleet performance is expected to be maintained if planned spending levels are sustained.

Parks and Green Spaces

The analysis indicates that parks performance is expected to decline if planned spending levels are sustained. Additional spending is required to maintain asset performance expectations of the asset group, attributed to the need to improve parking lots and other civil infrastructure assets.

Stormwater

The analysis indicates that stormwater asset performance is expected to be maintained if planned spending levels are sustained. It is noted the stormwater infrastructure portfolio is relatively new. The Town will continue to monitor stormwater asset performance, including the impacts of climate change, and update future AMPs accordingly.

Wastewater Treatment Facilities

The analysis indicates that the performance of the wastewater facilities is expected to be maintained since the required spending has been incorporated into the 2020 Rate Study.   This includes the future expansion of the wastewater treatment plant to service the growing community.

Water Treatment Faculties

The analysis indicates that the performance of the water facilities is expected to be maintained since the required spending has been incorporated into the 2020 Rate Study. This includes the future upgrades to the water plant to service growth and address filter performance issues.

Watermains and Sewers

The analysis indicates that the performance of the watermains and sanitary sewers is expected to be maintained since the required spending has been incorporated into the 2020 Rate Study.

4.4   Required Expenditures to Maintain Current Performance Distribution

The total annual funding shortfall is estimated to be approximately $813,000 for all asset group. The following table presents the funding gap summary for the tax-supported and rate-supported asset networks.

Table 5 : Average Annual Funding Gap by Asset Group

Asset Group	Service Area(s)	GL Account(s)	Planned Average Annual Funding	Average Annual Expenditures Required to Maintain Asset Performance	Average Annual Funding Gap	Comments
Roads	Transportation	04.03.02.0500, 04.03.02.0510,	$1,800,000	$2,500,000	$700,000	No change from 2019 AMP
Sidewalks	Transportation	04.03.01.0400	$60,000	$60,000	$0	No change from 2019 AMP
Street Signs	Transportation	04.03.03.0510	$15,000	$20,000	$5,000	Increase from 2019 AMP
Street Lights	Transportation	04.03.04.0500	$5,000	$5,000	$0	No change from 2019 AMP
Facilities	Fire	tbd	$43,000	$43,000	$0	No change from 2019 AMP
Facilities	Community Services and Culture	04.05.05.0770, 04.05.08.0700, 04.05.08.0710	$32,000	$80,000	$48,000	Increase from 2019 AMP
Facilities	General Government	tbd	$90,000	$90,000	$0	No change from 2019 AMP
Facilities	Transportation	04.03.08.0700	$55,000	$55,000	$0	No change from 2019 AMP
Fleet	Fire	04.02.01.0720	$140,000	$140,000	$0	No change from 2019 AMP
Fleet	Transportation	04.03.07.0720, 04.03.07.0710	$295,000	$295,000	$0	No change from 2019 AMP
Fleet	Community Services and Culture	tbd	$16,000	$16,000	$0	No change from 2019 AMP
Parks and Green Spaces	Community Services and Culture	04.05.01.0710, 04.05.01.0711, 04.05.01.0770,	$180,000	$240,000	$60,000	Increase from 2019 AMP
Storm Sewers	Environmental Services	As part of Road Reconstruction Capital Projects	$380,000	$380,000	$0	No change from 2019 AMP
Stormwater Management Facilities	Environmental Services	04.03.01.0550	$2,000	$2,000	$0	No change from 2019 AMP
Total - Tax Supported			**$3,113,000**	**$3,926,000**	**$813,000**	**15% Increase from 2019 AMP**
Wastewater Treatment and Collection Facilities	Environmental Services	04.08.01.0401, 04.08.01.0700	$1,800,000	$1,800,000	$0	No change from 2019 AMP 2020 Rate Study is designed to fund the expenditures required to achieve asset performance expectations
Water Treatment and Distribution Facilities	Environmental Services	04.07.01.0401, 04.07.01.0700	$825,000	$825,000	$0	
Sanitary Sewers and Appurtenances	Environmental Services	04.08.01.0400, 04.08.01.0790	$900,000	$900,000	$0	
Watermains and Appurtenances	Environmental Services	04.07.01.0790, 04.07.01.0795	$950,000	$950,000	$0	
Total - Rate Supported			**$4,475,000**	**$4,475,000**	**$0**	**No change from 2019 AMP**

4.5   Risk Management

The approach to managing risk in this AMP is to consider the overall criticality of each asset related to the role it plays in providing services to the community. This is completed by understanding the required performance of each asset based on its size, location, function, etc. This understanding is then used to judge when an asset is not meeting its objectives or requirements based on the available technical performance indicators and subject matter expert judgement. More critical assets have higher performance expectations, while less critical assets have lower performance expectations.

4.6   Managing Climate Change

The expected impacts of climate change have been considered and included throughout the analysis used to inform this AMP. This includes consideration of climate change when establishing the current performance category of an asset, forecasting the deterioration rate of an asset, or establishing the lifecycle activities completed on an asset.

5 FINANCING STRATEGY

5.1 Introduction

The financing strategy of an AMP sets out the approach to ensuring that the appropriate funds are available to support the delivery of infrastructure services. The financing strategy in this AMP reflects the 2019 financial state of Petawawa.

This financing strategy starts by providing an overview of the financial situation for context prior to discussing the options for addressing the infrastructure funding gap (if applicable) in each asset group.

5.2 Financial Overview

The Town has two primary budget streams – a tax-supported budget and a rate-supported budget. The 2019 revenues for the tax budget and rate budget were approximately $18.5 million and $7.3 million, respectively. Figure 4 provides a breakdown of the source of revenue in each budget.
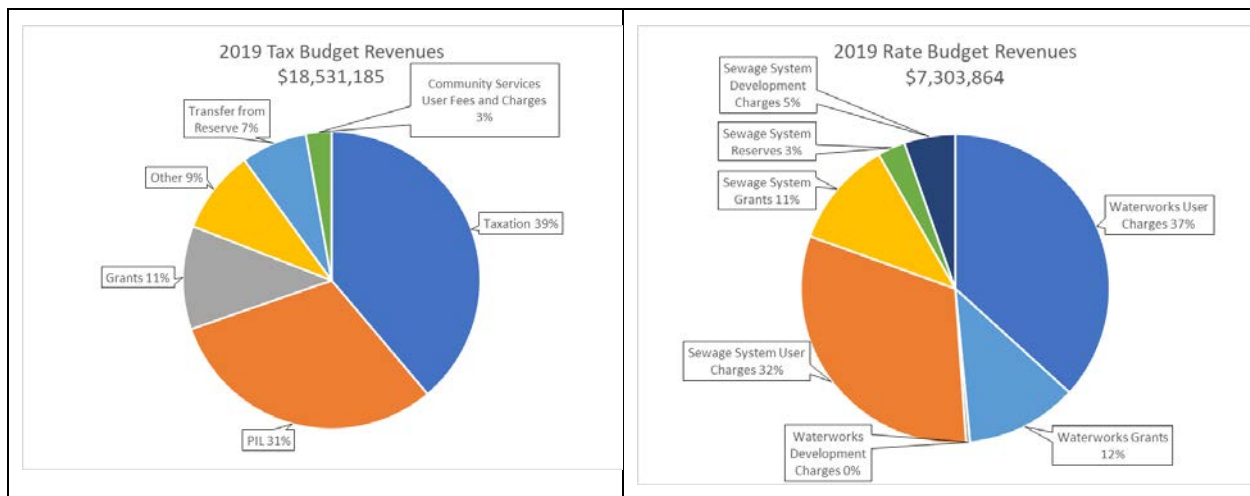

Figure 4: Source of 2019 Revenues for Tax and Rate Budget

5.3 Current Financial Strategies

The following points describe the current Financial Strategy in the Town:

- The Town has a single annual budget which funds all operating costs, as well as asset rehabilitation or replacement activities.

- The Town uses primarily a pay-as-you-go approach to funding infrastructure, where assets are rehabilitated or replaced using the available annual in-year funding.

- The Town uses reserve funds to save money to fund larger projects that cannot be accommodated within a single-year budget.

- The Town does not currently have any debt.

5.4 Infrastructure Funding Shortfall Summary

The technical analysis established an infrastructure funding gap of approximately $813,000 primarily related to the need to increase road spending. This represents approximately 4.4% of the Town's total revenues in the tax-supported budget and approximately 11.3% of the total 2019 property tax levy revenue.

5.5 Strategies to Address the Funding Shortfalls

The Town places importance on the use of pay-as-you-go infrastructure financing and saving in advance for future large infrastructure spending needs via the use of reserves and reserve funds. The Town also strives to limit the use of debt to fund its infrastructure activities.

The first strategy to address the infrastructure funding shortfall is to examine the tradeoffs between the allocation of current funds between and within asset group. The analysis enabled by the asset management planning processes used to develop this AMP can be used to analyze the expected impact of transferring spending from one service area to another. Using this type of analysis, the Town may decide to reallocate current revenues to address the funding shortfall in one asset group.

The next strategy to address the infrastructure funding shortfall is to increase overall net spending to improve the performance of assets. There are two general categories to this strategy:

1. Continue to seek grants from the Provincial or Federal government to fund infrastructure.

2. Consider modest above-baseline revenue increases to fund the infrastructure funding shortfall summarized in the previous section.

A financial analysis has been completed to provide perspective on the revenue increases that would be required if the Town decides to collect additional revenue to address the funding identified (refer to Table 6). The analysis establishes the magnitude of net increases in revenue versus the number of years until the funding shortfall is closed (i.e. larger increase addresses the shortfall sooner; smaller increases will take more time to address shortfall). The financial analysis focuses on the tax levy revenue source since no funding gap was identified in the rate-supported asset groups.

Table 6: Magnitude of Tax Levy Increase versus Years to Close Infrastructure Funding Gap

ADDITIONAL ANNUAL INCREASE TO TAX LEVY	YEARS TO CLOSE ANNUAL INFRASTRUCTURE FUNDING GAP
0.50%	24
1.00%	10
1.25%	8
1.50%	7
1.75%	5
3.00%	3

An annual tax increase of 1% above an inflationary budget increase will close the funding gap on the current estimated funding gap on the tax-supported asset groups in 10 years. A larger increase of 1.75% would close the funding gap on the tax-supported asset groups in 5 years. The Town could also decide to offset the need for increases in the tax levy by increasing user fees.

A final strategy for addressing the funding shortfall is to adjust asset performance expectations. The funding shortfall may be reduced by revisiting stakeholder expectations related to the performance of asset networks against affordability/willingness to pay considerations. This would improve the current performance of assets (i.e. an asset that was not considered to be meeting expectations is now considered acceptable) and reduce the future spending required to maintain the performance of the asset networks.

6 DISCUSSION AND NEXT STEPS

This AMP represents the tactical output of the second iteration of a corporate management system. The corporate management system is the series of interconnected processes that work together to realize value from assets. This AMP has been developed using the best available asset and financial information that support the Town's decision-making processes related to spending on infrastructure assets. The AMP is a living document that should be updated on a periodic basis to reflect new information and changing community priorities.

6.1 Trending Performance

The Town must establish proposed asset performance (i.e. the desired proportion of assets that are able to meet level of service objectives or requirement) by July 1, 2024 to comply with regulatory requirements.

The corporate management system in the Town creates a 'cost to asset performance' relationship to provide insight into the expected impact on asset performance (levels of service) from adjusting spending levels between and across asset groups.

Moving forward, the Town is required by Regulation to provide an annual update on the progress of the AMP. The practical steps to complete these activities are as follows:

1. Each year, the asset inventory is updated with the best available asset data. This ensures that assets are added/removed as appropriate and any new technical performance indicator data is used to adjust the current performance category of assets.

2. Each year, the technical performance indicators are updated with the best available information.

3. Each year, the spending analysis is updated to understand what assets money was spent on, and to connect planned spending to assets or asset networks.

As illustrated in Figure 5, these three steps will be used to update the forecast of the changing performance distribution versus spending levels. Over time, the Town will be able to see connections between the changing performance distribution, annual spending levels, and the values of the various technical indicators. This will help the Town to confidently establish proposed asset performance values before the July 1, 2024 regulatory requirement. This annual update process will also help to calibrate the long-term performance forecasts by providing greater insight into how changing spending levels have impacted the known asset performance distributions.

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Figure 5: Roadmap for Trending Spending versus Asset Performance

6.2   Roadmap for Enhancing Asset Management Processes

The following points provide a roadmap to enhance asset management planning processes in the Town:

1. Continue to maintain the inventory of all assets owned by the Town. This should be at the granularity of typical asset renewal spending decisions (i.e. all sidewalks on a road as one asset versus individual sidewalk bays as separate assets).   Asset inventories should be comprehensive of all assets in an asset network.

2. Continue to strengthen the quality of asset-centric performance indicator data that is available to measure the current performance of assets and asset networks. All asset performance indicators are based on a measure of the severity and extent of an assets' deficiency that related to an attribute of the service. Specific data fields to collect have not been provided - staff responsible for each subject matter expert group should collect the appropriate performance indicator data to be able to compare asset performance to asset expectations.

3. Continue to strengthen the connection between actual or planned spending and specific assets (or asset networks). This will provide greater line of sight from the current or planned spending and the resulting performance improvement in an asset or asset network.

4. Engage the community to understand their current perspective on the performance of assets and asset networks. This understanding can be used to calibrate the current performance of the asset networks and to prioritize the allocation of funding to improve the performance of asset networks relative to community expectations.