Staff Report

Finance and IT Services

Report To: Committee of The Whole
Meeting Date: December 14, 2016
Report Number: FAF.16.113
Subject: Non-Engineered 2016 Asset Management Plan
Prepared by: Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets

A. Recommendations

THAT Council receive Staff Report FAF.16.113, entitled "Non-Engineered 2016 Asset Management Plan" and;

THAT Council receive the Non-Engineered Asset Management Plan created by Hemson Consulting Ltd. and;

THAT Council direct Staff to submit the 2014 Asset Management Plan and the 2016 Non-Engineered Asset Management Plan when requested for grant applications.

B. Overview

Starting in 2017, Federal Gas Tax requires that municipalities have an Asset Management Plan (AMP) for all tangible capital assets that are eligible for gas tax funding. For the Town this includes almost all assets. As a result, staff have included all remaining assets in the Non-Engineered 2016 Asset Management Plan that are owned and operated by the Town.

C. Background

The Town retained Hemson Consulting Ltd. (Hemson) in early 2016 to complete the required AMP (Attachment #1) for all remaining assets owned by the Town. This plan looks all at the asset types such as vehicles, equipment, facilities, land improvements, and solid waste that are owned and operated by the Town to deliver the services that the Public have come to expect.

The beginning of the AMP looks at each of the asset types owned by the Town. It then uses the useful life and age of each asset to calculate what state the asset is in. These states include Very Good, Good, Fair, Poor, and Very Poor condition. Using this information the Plan outlines how much the Town should be spending each year on capital rehabilitations and/or replacements and how much the Town should be saving each year.

The following charts summarize each asset type by condition and cost:

Facilities Total Cost ($)

Rating	Percentage	Cost
Very Good	23%	$7M
Good	18%	$5.6M
Fair	28%	$8.8M
Poor	14%	$4.3M
Very Poor	17%	$5.1M
Total	**100%**	**$30.8M**

Land Improvements Total Cost ($)

Rating	Percentage	Cost
Very Good	5%	$0.3M
Good	26%	$1.5M
Fair	19%	$1.1M
Poor	4%	$0.2M
Very Poor	46%	$2.6M
Total	**100%**	**$5.7M**

Vehicles Total Cost ($)

Rating	Percentage	Cost
Very Good	16%	$0.5M
Good	3%	$0.1M
Fair	44%	$1.5M
Poor	14%	$0.5M
Very Poor	23%	$0.8M
Total	**100%**	**$3.4M**

Equipment Total Cost ($)

Rating	Percentage	Cost
Very Good	10%	$1.7M
Good	19%	$3.1M
Fair	18%	$2.9M
Poor	7%	$1.2M
Very Poor	46%	$7.5M
Total	**100%**	**$16.4M**

Solid Waste Total Cost ($)

Rating	Percentage	Cost
Very Good	11%	$0.2M
Good	44%	$0.7M
Fair	14%	$0.2M
Poor	3%	$0.03M
Very Poor	28%	$0.4M
Total	**100%**	**$1.6M**

Total Non-Engineering Cost ($)

Rating	Percentage	Cost
Very Good	17%	$9.7M
Good	19%	$11M
Fair	25%	$14.5M
Poor	11%	$6.2M
Very Poor	28%	$16.5M
Total	**100%**	**$57.9M**

Although the Non-Engineered assets make up a small percentage of the overall assets owned by the Town is should be noted that $16.5M worth of assets are in Very Poor condition and should be considered for full replacement or major rehabilitation within the next few years.

Good Asset Management practice outlines that increased operating maintenance should be spent on the Good, Fair and Poor assets to keep them operating at the required level of service and extend their useful lives. The Town is going to see Facility and Site Maintenance costs increase over the next few years for this reason.

Another area that the Town needs to work on is tracking quantifiable service level targets. Table 6 of the Plan outlines a number of these levels for each department that owns these types of assets. Over the next few years staff will be working on customizing these targets, tracking the relevant information, and reporting this information to Council.

Hemson also noted that the Town needs to improve on having condition ratings for assets instead of relying solely on age versus useful life as a measurement. Currently the only assets that the Town collects conditions on are legislated, these being the Roads Needs Study and the Bi-Annual Bridge Assessments. Throughout 2017 staff will be compiling a comprehensive plan to gather these conditions and will be looking at bringing in third party consultants in 2018 to aid in the collection of the condition data. These will be studies such as CCTVing sewer and storm mains, and overall Facility Condition Indexing.

D. The Blue Mountains' Strategic Plan

Goal #4: Promote a Culture of Organizational and Operational Excellence
Objective #4: To Be a Financially Responsible Organization

E. Environmental Impacts

None.

F. Financial Impact

At this time staff are not recommending that Council approve one of the three funding strategies outlined in the Plan. As staff continue to work on asset management internally these

recommendations will be refined and a full funding strategy including long-term debt and other funding sources will be brought to Council for their consideration and approval.

However it should be noted that currently the Town is spending $2.3 million in 2016 from taxation on assets that require $44.2 million worth of funding (Table 16). This funding gap will only continue to increase if measures outlined by Hemson in the Plan are not put into action.

G. In consultation with

Ruth Prince, Director of Finance and IT Services
Andrew Mirabella, Hemson Consulting Ltd.
Christopher Balette, Hemson Consulting Ltd.

H. Attached

1. Non-Engineered 2016 Asset Management Plan

Respectfully Submitted,

_____
Sam Dinsmore
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_____
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ASSET MANAGEMENT PLAN: NON-ENGINEERING ASSETS

DRAFT REPORT

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December 2016

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EXECUTIVE SUMMARY

The following summarizes the findings of the Town of The Blue Mountains Asset Management Plan (the Plan) as it relates to non-engineered assets. The Plan applies to infrastructure assets related to: facilities, vehicles, equipment, land improvement (e.g. parking, ball diamonds, etc.) and solid waste asset related infrastructures. In addition, all core infrastructure assets which were examined as part of the 2014 Asset Management Plan (2014 Plan) have not been re-examined in this Plan. However, the results of the 2014 Plan have been incorporated into the State of the Local Infrastructure and Financing Strategy summary pages to provide a complete overview. Lastly, infrastructure in The Blue Mountains for which the County of Grey is responsible – County roads and social housing for example, is not included.

The Plan follows the format set out in the *Building Together: Guide for Municipal Asset Management Plans* document released by the Ontario Ministry of Infrastructure. The Plan was prepared to meet the requirements in the Town's Gas Tax Funding Agreement.

A. STATE OF THE LOCAL INFRASTRUCTURE

- The Town's infrastructure has a total replacement value of $444.0 million.
    - Tax Supported assets represent $246.9 million of the total replacement cost. Non-engineering assets represent about $57.9 million of this value; and
    - User rate supported assets (water and wastewater infrastructure) totals $197.1 million.
- Overall, a high proportion (about 61% or $270.6 million) of Town assets are considered to be in "Good" to "Very Good" condition. Less than 10% ($38.8 million) of infrastructure is considered to be in "Poor" to "Very Poor" condition.

B. LEVEL OF SERVICE

- Current service levels in The Blue Mountains have been developed based on a combination of internal asset management practices, community expectations, statutory requirements, and industry operation and safety standards;

- The Town has in the past been responsive to infrastructure repair needs to address immediate environmental or health risks and to infrastructure needs for new development; and

- The Town measures the level of services it provides using a number of key performance indicators. The table below shows that by these measures, service levels have remained relatively constant and in some cases have been increasing in recent years.

C. ASSET MANAGEMENT STRATEGY

- The Town employs several actions to maintain assets in a state of good repair and to ensure that assets continue to be in service for their full life cycle, and in many cases, beyond the expected design life.

- The Town of The Blue Mountains currently has a corporate policy for procurement. The *Purchasing of Goods and Services Policy* ensure openness, accountability and transparency of Town purchasing while protecting the financial best interest of the Town of The Blue Mountains.

D. FINANCING STRATEGY

- The current 2016 infrastructure deficit for tax supported assets is calculated to be about $40.3 million. This represents the difference between the required in-year contributions to capital and the current contributions to capital for both the non-engineered assets in this Plan and the tax supported engineered assets included in the 2014 Plan.

- It is unrealistic in the current fiscal context to expect the Town to fully address the infrastructure deficit in the short-term;

- Three financing strategies were developed to determine what capital contributions would be required to meet asset replacement needs (Note: in any given year, actual capital expenditures may be greater or less than the noted capital contributions as reserves are assumed to accommodate variances between the contributions and actual expenditures);

    - Under the *first* strategy, the Town would need to increase capital contributions by about 8.4% per year for tax supported assets so the annual provision requirement is met in 15 years (e.g. annual funding gap is closed by 2030). The infrastructure deficit would be $92.8 million for tax supported assets by 2035;

- Under the *second* strategy, the Town would need to increase capital contributions by about 6.1% per year for tax supported assets so the annual provision requirement is met in 20 years (e.g. annual funding gap is closed by 2035). The infrastructure deficit would be $117.1 million for tax supported assets by 2035; and

- Under the *third* strategy, capital contributions are kept at current levels, increased contributions only accounts for inflationary adjustments at a rate of 2% per annum. Under this approach, the infrastructure deficit would be $146.4 million for tax supported assets in 2035.

E. KEY FINDINGS AND RECOMMENDATIONS

Overall, the Town will need to continue to increase capital contributions to address current and future infrastructure requirements in an effort to move forward with sustainable asset management planning.

1. Key Findings

- The Town of The Blue Mountains has made considerable effort in recent years to address the infrastructure gap and improve the condition of assets;

- The Town's asset base is extensive, valued at $444.0 million, in relation to the total permanent population of about 6,500 persons. The responsibility to maintain existing infrastructure is challenging, however, the Town will need to continue to increase capital contributions to address current and future infrastructure requirements;

  - Increasing operating expenditures (e.g. policing costs, salary increases, hydro expenditures, etc.) may restrict the Town's ability to fund capital related works at an increased level moving forward. This may also limit the Town's ability to regularly contribute funds to reserves for the future repair and replacement of infrastructure;

- Overall, a high proportion (about 61% or $270.6 million) of Town assets are considered to be in "Good" to "Very Good" condition. Less than 10% ($38.8 million) of infrastructure is considered to be in "poor" to "very poor" condition;

- The Town, through its annual capital budgeting process, have been addressing critical issues and assets in need for repair or replacement;

- The Town have some reserves available to fund capital projects; and

- The Town should continue to seek funding from the federal and provincial government (when available) to undertake capital related works.

2. Continue to Improve Capital Development Planning Process

- The Town should adopt multi-year capital budgets and forecasts for all services based on a minimum 10 year forecast horizon.

- Capital budgets and forecasts should identify and evaluate each capital project in terms of the following, including but not limited to:

    - gross and net project costs;
    - timing and phasing;
    - funding sources;
    - growth-related components;
    - potential financing and debt servicing costs;
    - long-term costs, including operations, maintenance, and asset rehabilitation costs;
    - capacity to deliver; and
    - alternative service delivery and procurement options.

- A range of quantifiable service level targets that incorporate the quantity and quality of capital assets should be established for all services. Targets should be measured, reported on, and adjusted annually.

- Repair and replacement capital works should be prioritized based on asset condition ratings with assets overdue for replacement and/or identified as "Very Poor" and "Poor" for immediate attention.

- Infrastructure assets which have been provided a "Fair" condition rating should be targeted for maintenance to ensure they continue to perform at the expected level.

- The Town should, where possible coordinate the construction of new (growth-related) infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

3. Ensure Asset Inventories are Updated Regularly

- Sound asset management decisions are only possible if information in the asset registry is accurate. The Town should regularly update the registry to account for asset purchases, upgrades and replacements, as well as asset condition ratings and information on useful life;

- The Town needs to refine the condition assessments for non-engineered assets considered under this plan;

- The Town should update this Asset Management Plan at a minimum every 3-5 years.

- Continue to ensure the Townships Core Team (asset management internal network) meets regularly.

4. Optimize the Use of Existing Assets

- The Town should implement a range of engineering and non-engineering approaches to extend the useful life of current assets. A number of municipalities in Ontario have had success in this regard by:
    - Regular and ongoing maintenance work;
    - Daily vehicle and equipment inspections; and
    - Substituting retrofitting and rehabilitation work for (more costly) full replacement of an asset.

I INTRODUCTION

Building on the Town's 2014 Asset Management Plan for engineered infrastructure, this Asset Management Plan is presented to the Council of the Town of The Blue Mountains and covers non-engineering related assets of facilities, vehicles, equipment land improvements and solid waste. The Plan follows the format set out by the Ministry of Infrastructure through the *Building Together: Guide for Municipal Asset Management Plans*.

A. ASSET MANAGEMENT OVERVIEW

Well-managed public infrastructure is vital to the prosperity and quality of life of communities. Given the range and scope of services provided, Ontario municipalities have a special responsibility in ensuring that infrastructure is planned, built, and maintained in a sustainable way. A detailed asset management plan is essential to carry out this responsibility. Asset management has several benefits, including:

- Can make informed and traceable decisions;
- Risks are managed where necessary and in advance so the Town has the opportunity to coordinate accordingly;
- Higher customer satisfaction;
- Documents funding plan and strategy to manage infrastructure; and
- Demonstrated compliance with regulations and legislation.

Asset management is an ongoing practice in the Town of The Blue Mountains. Council and staff have applied sound asset management principles to maintain records on tangible capital assets, monitor asset performance, and plan for infrastructure acquisition, repair, rehabilitation, and replacement over the long-term.

The purpose of the Plan is to build on existing practices by identifying how best to manage Town infrastructure over the period to 2035. A strategy for maintaining infrastructure so that desired service levels are achieved is an important element. In this respect, the Plan has been prepared with reference to the Town's recently completed Corporate Strategic Plan, in particular relating to the goal of ensuring the Town's infrastructure is sustainable. Ultimately, the Plan will provide Council with information that can guide sustainable infrastructure investment decisions.

B. ASSETS INCLUDED IN THIS PLAN

The Plan addresses all non-engineering related assets the Town owns and operates, including; facilities, land improvements, solid waste and vehicles and equipment. This plan builds on the 2014 Asset Management Plan prepared for the Town which included all engineered assets of water, wastewater, roads, bridges, culverts as well as all road related infrastructure (sidewalks, street lighting). It should be noted that:

- Section II: State of the Local Infrastructure of this Plan summarizes the total value of Town assets and the overall asset condition to be inclusive of both engineered infrastructure (2014 Plan) and non-engineered assets (2016 Plan).

- Section V: Financing Strategy of this Plan analyzes the funding requirements from a corporate-wide perspective, therefore, tax-supported capital requirements identified in the 2014 Plan are included in this document. The user rate supported capital requirements outlined in the 2014 Plan have also been included in this document for reference purposes (see Appendix A).

- All other sections of this Plan refer to only the non-engineered assets.

The assets included in this Plan, together with the 2014 Asset Management Plan for engineered assets are consistent with the asset categories included in Schedule 51 of the Town's Financial Information Return. The Plan, in conjunction with the 2014 Asset Management Plan for engineered assets, meet the requirements in the Town's Gas Tax Funding Agreement. Table 1 summarizes the assets included in both Plans.

Table 1
Assets Included in the 2014 and 2016 AMPs

2014 AMP Engineered Assets	2016 AMP Non-Engineered Assets
• Roads: roads, sidewalks, street lights, bridges and culverts*	• Facilities
• Water Infrastructure	• Land Improvements
• Wastewater Infrastructure	• Vehicles
	• Equipment
	• Solid Waste
Total Value: $386.1 Million*	**Total Value: $57.9 Million**

Note: The replacement value identified in the 2014 AMP was $363.8 million. This figure has been inflated to current 2016$ = $386.1 Million.*

It is important to note that the Town is going through extensive exercises to quantify the amount of stormwater related assets owned by the Town. At the time of preparing this document, stormwater related asset information was not available and therefore

this asset management plan does not include stormwater related infrastructure. It is anticipated that future iterations of this Plan will include stormwater assets.

C. ASSET MANAGEMENT PLANNING TIMEFRAME

The Plan builds on existing practices and identifies how best to manage the Town's non-engineered assets over the period to 2035. The Plan analyzes the replacement requirements of the Town's non-engineered assets and the financing strategies to manage the Town's infrastructure asset renewal requirements over a 20-year period. Importantly, the assumptions to formulate the financing strategies are determined based on the full life cycle of the assets.

D. TIMEFRAMES FOR REVIEW AND UPDATES

This AMP should be reviewed and updated on a regular basis. Recognizing that a full Asset Management Plan and related policies should only be updated at key intervals, however, other asset management components such as capital budgeting exercises, risk assessments and updates to the asset register should be integrated into staff's regular routine. Table 2 below outlines the key timelines for updates and reviews.

Table 2
Timeframes for Reviews and Updates

Asset Management Framework	Timeframe
Asset Management Policy	3-5 Years
Asset Management Plan	3-5 Years
Capital Budget	Annually
Asset Register and Data	Semi-Annually or Annually
Risk assessment (capital prioritization)	Semi-Annually or Annually

E. ASSET MANAGEMENT INTERNAL NETWORK

In order to operationalize a plan, it really starts with involving the necessary Town staff in the asset management process. In order to address asset management in the organization, an internal network (Asset Management Core Team) has been created. The Asset Management Core Team is comprised of representatives from Town departments such as: Fire, Community Services, Infrastructure and Public Works, Planning and Development, IT Management (incl. GIS) and Finance. Furthermore, to facilitate execution of any asset management strategy, the Town has appointed the Deputy Treasurer (Finance Department) to be the Town's asset management

"champion". The champion is intended to be the person who maintains and regulates the quality of the asset register and is fully informed on all asset management matters.

An asset management champion does not and should not be alone in the process. It is important that all other departments contribute to the process to ensure that reliable data is available. For example, as new assets are acquired for recreation services, it is required that community services staff provide the information to the champion to update the asset register. This ensures that the register is up to date and that there is no data loss.

To ensure buy-in and co-operation from all departments, the Core Team representatives and the data champion should meet frequently to identify and address any gaps or challenges that may arise throughout the process. This strengthens the internal network which facilitates communication between departments.

F. PLAN MONITORING

The Town should look to monitor the effectiveness of the Plan. This ensures that the Plan is utilized to it's full extent and any gaps are identified. The Town should look to review these six compliance mechanisms:

1. Compliance with legislative requirements – Is the Town meeting all legislated mandates?

2. Service delivery – 100% compliance with service targets or targets exceeded.

3. Capital project delivery outputs delivered to schedule (or better) and on budget (or better).

4. Operational and maintenance budgets met (or better).

5. Risk Management—No events occurring outside the risk profile. How have projects with high risk been handled?

6. Benchmarking with comparable jurisdiction — Maintain performance.

The Asset Management Plan is structured as follows:

Section II summarizes the state of the Town's infrastructure with reference to infrastructure quantity and quality.

Section III current service levels and service level targets are described.

Section IV sets out several strategies that will assist the Town in maintaining assets so that desired service levels are achieved.

Section V establishes how asset management can be delivered in a financially sustainable way.

Section VI provides recommendations based on the analysis undertaken as part of the Plan.

II STATE OF LOCAL INFRASTRUCTURE

The State of the Local Infrastructure section of the Plan provides a summary of Town assets with reference to asset quantity and quality. Asset replacement costs, based on the estimated cost of replacing individual asset components (accounting for various attributes such as size, material, type) are also provided. Current replacement costs for land improvements, vehicles and equipment are based on historical costs which have been inflated to 2016 dollars. Facility costs were based on a combination of the values identified through the Town's Development Charges Study (where available), which are more reflective of actual replacement values, and historical costs which have been inflated to 2016 dollars. Condition assessments for all the non-engineered assets are based on the useful life of the asset relative to its age. The useful life assumptions for the non-engineered assets were acquired from the Town's Tangible Capital Asset Accounting Guideline Policy and are summarized in Table 3 below.

Table 3
Useful Life Assumptions by Asset Category

Asset Category	Useful Life Assumptions (Years)
Facilities (includes components)	5-75
Land Improvements	10-50
Vehicles	5-25
Equipment	5-55

A. CONDITION ASSESSMENTS AND UPDATES

The Town's asset inventory is documented in a municipal asset registry which contains detailed information about the asset acquisition cost and year of emplacement, expansions and upgrades (if applicable), useful life and asset descriptions. The existing asset database does not include condition assessments for the assets considered under this 2016 Plan.

Consistent with the Canadian National Infrastructure Report Card as well as other major organizations and institutions reporting formats, a five-point rating scale, as shown in Table 4 below, was used to assign a condition to all assets. This 5-tier

condition assessment is based on the remaining useful life of the asset as a percentage of the assumed useful life of the asset.

Table 4

Condition Assessment Parameters		
Condition	**% Remaining Useful Life Range**	**Definition**
Very Good	80% - 100%	Well maintained, good condition, new or recently rehabilitated asset.
Good	60% - 80%	Good condition, few elements exhibit existing deficiencies.
Fair	40% - 60%	Some elements exhibit significant deficiencies. Asset requires attention.
Poor	20% - 40%	A large portion of the system exhibits significant deficiencies. Asset mostly below standard and
Very Poor	0% - 20%	Widespread signs of deterioration, some assets may be unusable. Service is affected.

Moving forward, updating and identifying asset conditions should be part of regular inventory updates. There are several methods to identify asset conditions. The ideal methods are outlined:

1. Condition rating systems based on engineered metrics and professional standards. For example, Facility Condition Index for buildings or professional mechanic inspections for vehicles. These metrics can then be translated into a 5-tier rating system.

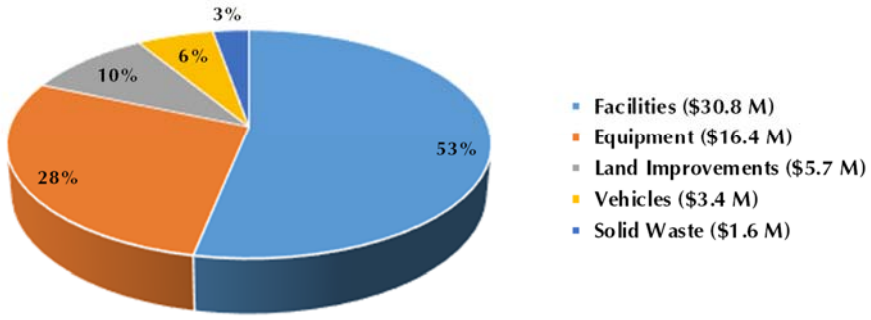
2. Estimates based on expert staff opinion. This approach is important where there is low confidence that age and useful life properly represents a particular asset.

3. Estimates based on age and the remaining useful life of the asset. This has been used for all assets in the Plan. It is the intention that the Town move towards a condition assessment methodology using approach 1 and 2 above.

B. STATE OF LOCAL INFRASTRUCTURE: NON-ENGINEERED ASSETS

The replacement cost of all non-engineered Town assets in the Plan, is estimated at $57.9 million (represented in constant $2016). The largest share is related to facilities accounting for about $30.8 million (53%) of the total replacement cost. Approximately $16.4 million (28%) is related to equipment and $5.7 million (10%) is related to land improvements. Solid Waste assets represent the smallest component (3% or $1.6 million) of the total value. Figure 1 below illustrates the value of assets by category.

Figure 1:
Non-Engineered Assets Total Replacement Cost (2016 $)

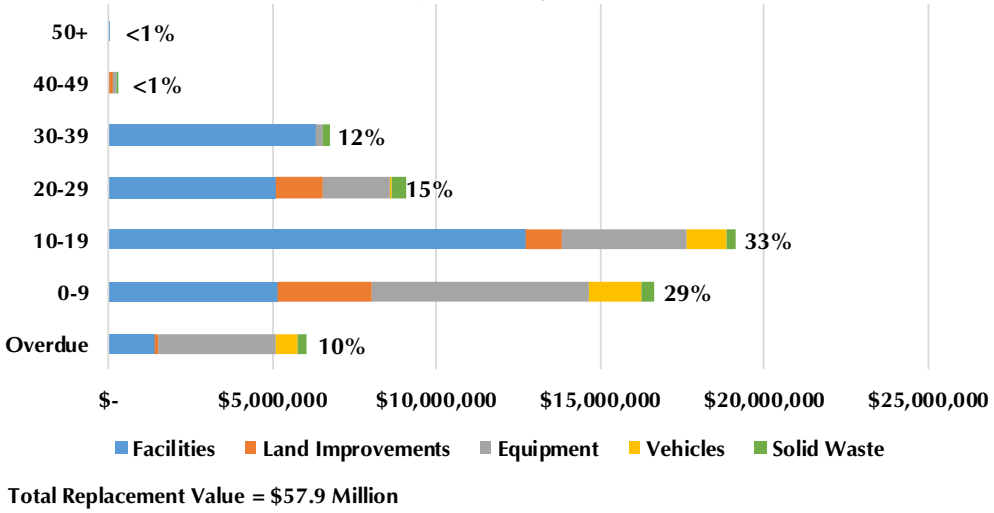


Total Replacement Value = $57.9 Million

It should be noted that although this Plan relates to non-engineering asset categories, the total replacement value of all infrastructure owned by the Town is estimated at $444.0 Million (engineered assets included). Of that amount, the Town's engineered infrastructure represents 87%, or $386.1 million, while the balance of the assets relates to non-engineered infrastructure considered under this Plan.

Most of the non-engineered assets considered in this AMP have less than 20 years remaining useful life. Approximately $6.0 million (10%) of the non-engineered assets are considered overdue for replacement and an additional $16.7 million (29%) are near the end of their useful life and have less than 10 years remaining. The majority of the asset base, $19.1 million (33%), are due for replacement in the medium term and have 10-19 years of useful life remaining. Figure 2 below summarizes the assets by remaining useful, by category.

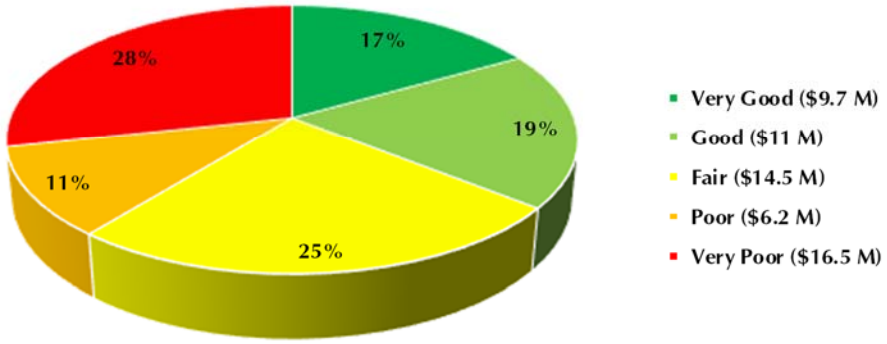
Figure 2:
Assets by Remaining Useful Life



Total Replacement Value = $57.9 Million

In total, the Town maintains about 36%, or $20.7 million, of the non-engineered assets in Good to Very Good condition. Approximately, $14.5 million (25%) are considered to be in Fair condition. The balance of the asset base, 39% or $22.7 million, are considered to be in Poor to Very Poor condition and may require immediate repair/replacement. Much of assets in the Very Poor to Poor condition category can be attributed to the Town's land improvement and equipment assets. These assets, in general, are considered overdue or close to overdue for replacement by virtue of design life. That being said, many assets remain in use and continue to provide services despite being well beyond the engineered design life. As the Town moves to further refine the Plan and assess the assets based on engineered analyses and staff inspections, it can be expected that asset conditions will be adjusted. The asset replacement cost by condition rating is summarized in Figure 3.

Figure 3:
Non-Engineered Assets by Condition Rating



Total Replacement Value = $57.9 Million

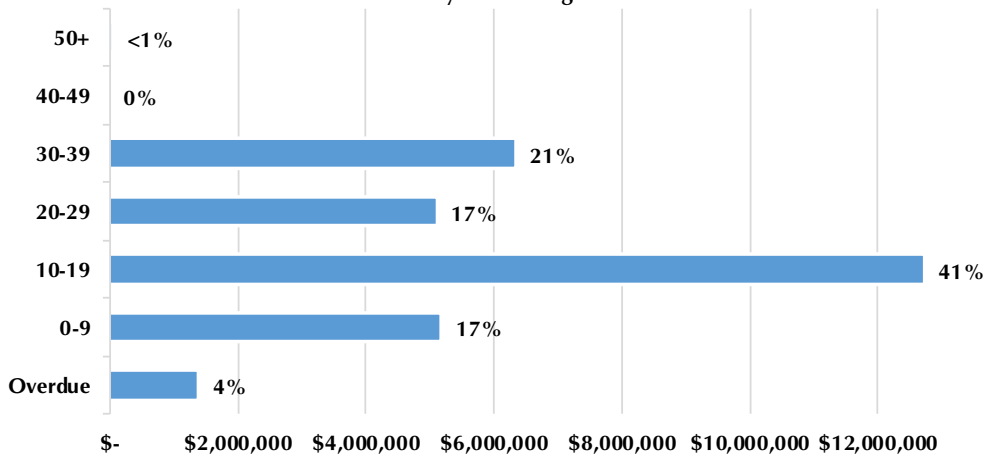
Importantly, as this plan only examines the non-engineered assets, which represent less than 15% of the total value of the Town's assets, it is crucial the condition assessment be considered from a Town-wide perspective. In considering all Town owned infrastructure, 61% of all assets are considered to be in Good to Very Good condition while less than 10% ($38.8 million) of all infrastructure is considered to be in Poor to Very Poor condition.

1. Facilities

In total the Town maintains over 10 landmark buildings (arenas, library, fire hall, etc.) with several other small structures valued at $30.8 million. Of this total inventory, a small portion ($1.4 million or 4%) of the facilities assets are considered overdue for replacement, although, $5.2 million (or 17%) of the facilities are near the end of their useful life and have less than ten years remaining. The majority, $12.7 million (41%), are due for replacement in the medium term and have 10-19 years of remaining useful life. Figure 4 summarizes the remaining useful life all facilities.

This information highlights that the majority of the Town's facilities are not required for replacement immediately but future capital works may be required in 15 to 20 years as those assets continue to age.

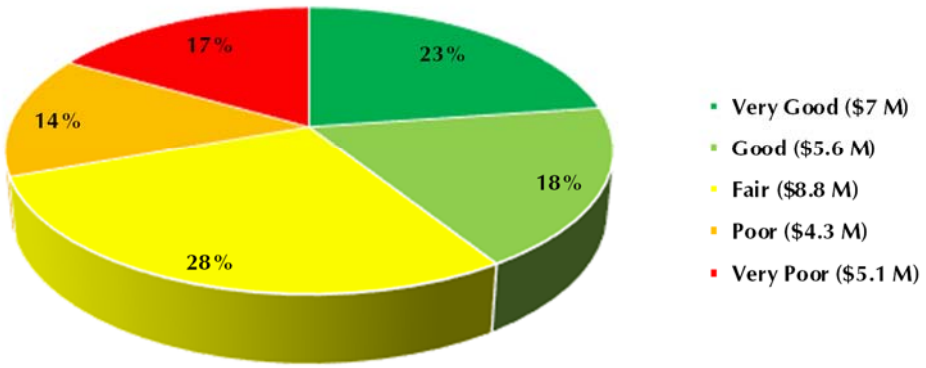
Figure 4:
Facilities by Remaining Useful Life



Total Replacement Value = $30.8 Million

In total, the Town maintains $7.0 million (23%) of the facilities in Very Good condition and $5.6 million (18%) are considered to be in Good condition. Although, about 31% ($9.4 million) of these assets are considered to be in Poor to Very Poor condition and may require immediate repair/replacement. Figure 5 summarizes the condition of the facility assets.

Figure 5:
Facilities by Condition Rating



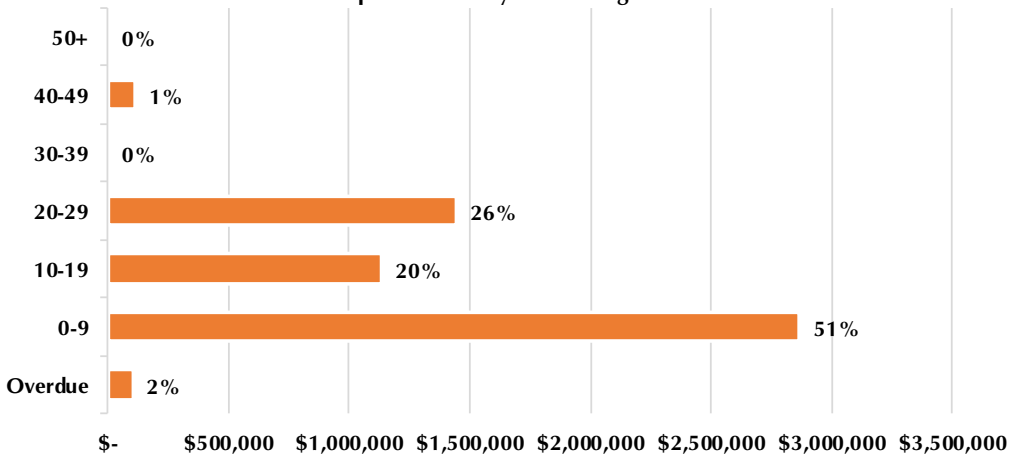
Total Replacement Value = $30.8 Million

2. Land Improvements

Only a small portion, $102,000 or 2%, of land improvement assets are considered overdue for replacement. That being said, $2.9 million (51%) of the land improvement

assets are near the end of their useful life and have less than 10 years remaining. Figure 6 summarizes the age and value of the land improvement inventory.

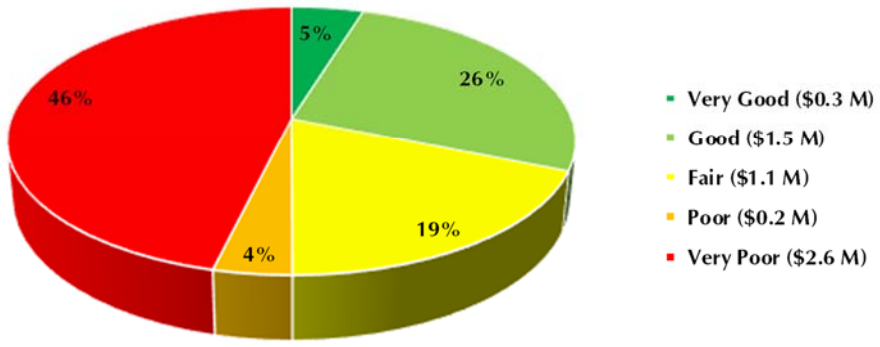
Figure 6:
Land Improvements by Remaining Useful Life



Total Replacement Value = $5.7 Million

In total, the Town maintains over 30% ($1.8 million) of the land improvements in Good to Very Good condition. However, about 50% of infrastructure is considered to be in Poor to Very Poor condition which may require immediate repair/replacement. It should be noted that as the asset condition assessments have been based on the remaining useful life of the asset, the condition ratings will need to be refined with more detailed empirical data that better reflects asset condition – these updates will be reflected in future iterations of this Plan. Figure 7 summarizes the age and value of the land improvement inventory.

Figure 7:
Land Improvements by Condition Rating

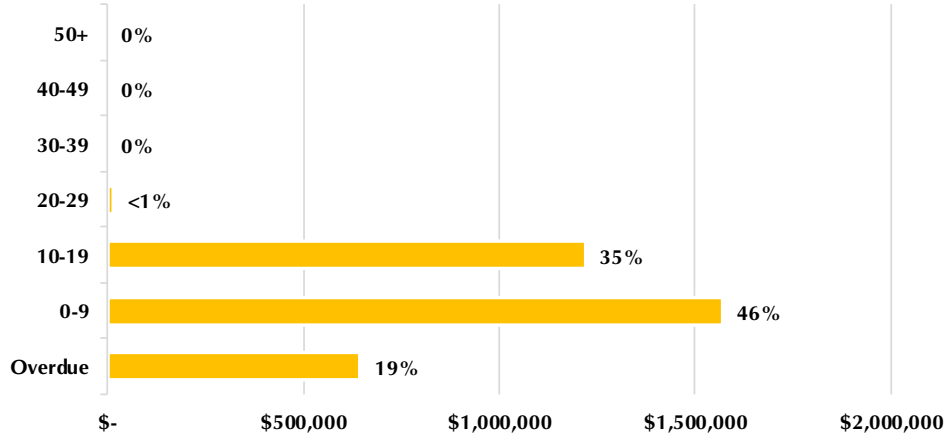


Total Replacement Value = $5.7 Million

3. Vehicles

In total, the Town is responsible for maintaining 36 vehicles valued at $3.4 million. As illustrated in Figure 8, 19% ($646,000) of the Town's fleet is considered overdue for replacement. That being said, the balance of the inventory is still relatively new with 10-20 years remaining.

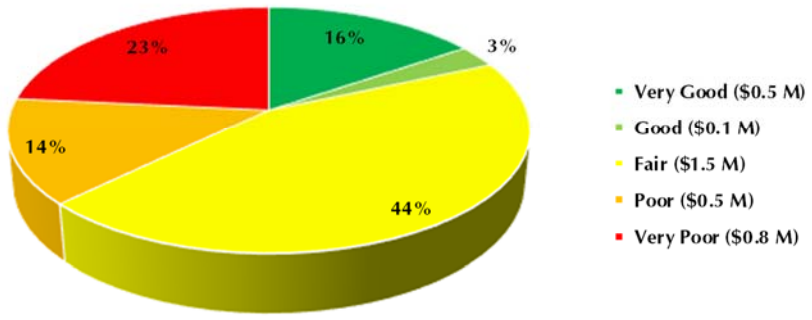
Figure 8:
Vehicles by Remaining Useful Life



Total Replacement Value = $3.4 Million

In total, the Town maintains 44% or $1.5 million of the vehicles in fair condition. Although, about 37%, or $1.3 million, of the vehicles are considered to be in Poor to Very Poor condition. The balance of the inventory (19% at $600,000) are in Good to Very Good condition. Figure 9 summarizes the condition of the vehicle assets.

Figure 9:
Vehicles by Condition Rating



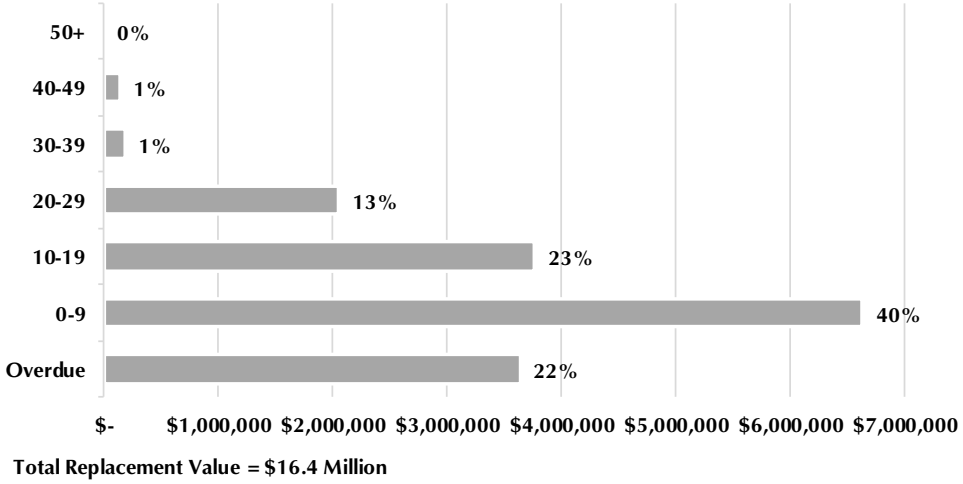
Total Replacement Value = $3.4 Million

4. Equipment

The Town is responsible for numerous pieces of equipment and material valued at $16.4 million. The equipment category encompasses assets from all departments,

including; computers, library materials, fire equipment, etc. As illustrated in Figure 10 below, 40% ($6.6 million) of the equipment assets have less than 10 years remaining useful life and approximately $3.6 million (22%) of the equipment assets are considered overdue for replacement.

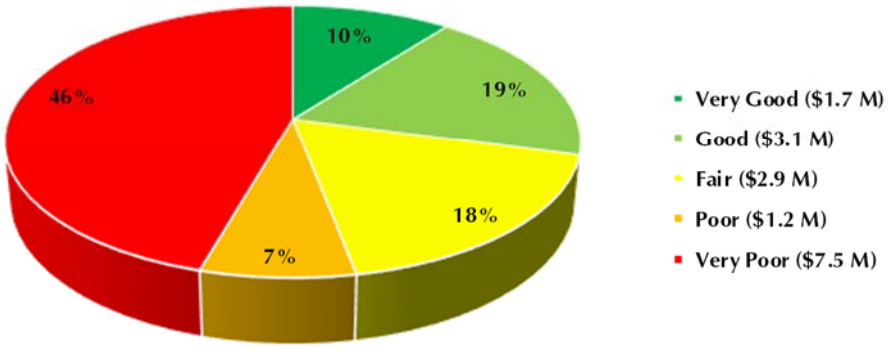
Figure 10:
Equipment by Remaining Useful Life



Total Replacement Value = $16.4 Million

In total, $4.8 million (29%) of the equipment is considered to be in in Good to Very Good condition. About $2.9 million (18%) is considered to be in fair condition. The balance of the assets, $8.7 million or 53%, are in Poor to Very Poor condition and may require immediate repair/replacement. It should be noted that as the condition ratings have been based on the remaining useful life of the asset, the asset condition assessments will need to be refined with more detailed empirical data that better reflects asset condition – these updates will be reflected in future iterations of this Plan. Figure 11 summarizes the condition of the equipment inventory.

Figure 11:
Equipment by Condition Rating

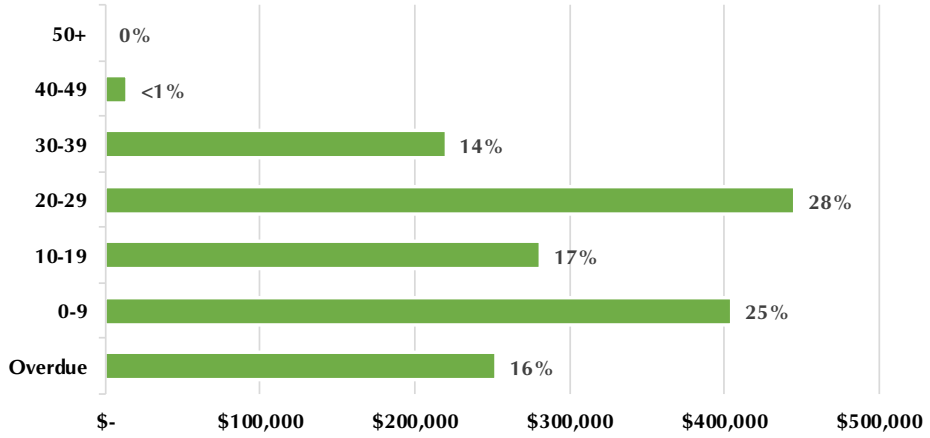


Total Replacement Value = $16.4 Million

5. Solid Waste

The Town is responsible for the operation of one landfill site located at 788090 Grey Road 13. The assets associated with the operation of the landfill are valued at $1.6 million. It is important to note that the land acquisition costs and site improvement expenditures associated with the landfill are considered to be one-time costs and are not considered to be replaced and therefore excluded from this analysis. As illustrated in Figure 12 below, 41% ($656,000) of the solid waste assets have less than 10 years remaining useful life – approximately $252,000 (16%) of this figure are related to assets considered overdue for replacement. The balance of the assets (nearly 60%) are considered to be relatively new and have more than ten years of useful life remaining.

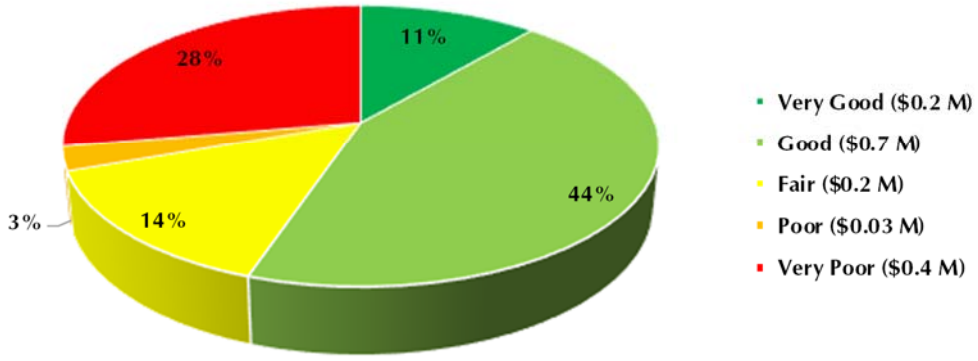
Figure 12:
Solid Waste by Remaining Useful Life



Total Replacement Value = $1.6 Million

In total, about $892,000 (55%) of the solid waste assets are considered to be in in Good to Very Good condition. A portion of the assets, $492,000 or 31%, are in Poor to Very Poor condition and may require immediate repair/replacement. It should be noted that as the condition ratings have been based on the remaining useful life of the asset, the asset condition assessments will need to be refined with more detailed empirical data that better reflects asset condition – these updates will be reflected in future iterations of this Plan. Figure 13 summarizes the condition of the solid waste inventory.

Figure 13:
Solid Waste by Condition Rating



Total Replacement Value = $1.6 Million

It is important to recognize that the Town's landfill site operates safely and within the regulations prescribed by the Ministry of the Environment. The Town's landfill site is projected to reach its final approved capacity of 570,000 m^3 by 2040 and will close when the site is at capacity. The cost to close the landfill in 2040 is estimated at $1.27

million and the Town will need to ensure the necessary funds are available. Once the landfill site is closed, annual post-closure maintenance and monitoring expenditures will be required for the next fifty-years (to 2090) to try and allow the site to return to some beneficial use. The annual post-closure maintenance and monitoring costs can be paid for by way of any Town operational savings associated with ceasing landfill operations. The financing strategy, Section V of this Plan, accounts for the cost to replace the infrastructure assets ($1.6 million) when required and to save for the eventual closure of the landfill in 2040 for a cost of $1.27 million.

C. TOWN OWNED LAND

The Town also accounts for land assets in the tangible capital asset registry. According to the Town's 2015 Financial Information Return, the total value of Town owned lands is estimated at approximately $6 million. As land is generally an "appreciating" asset which does not necessarily require renewal or replacement requirements, this category has been excluded from the analysis.

III LEVEL OF SERVICE

A. LEVEL OF SERVICE OVERVIEW

Asset management decisions must be made with reference to the level of service planned for by the Town. Current service levels in The Blue Mountains have been developed based on a combination of internal asset management practices, community expectations, statutory requirements, and industry operation and safety standards. Typically, the level of asset investment made by the Town in any one year has been determined by funding availability. That said, the Town has in the past been responsive to repair needs to address immediate environmental or health risks.

In our experience, the community expects that services be delivered in a cost effective and efficient way. Generally, community expectations revolve around the Town's accessibility of "soft" services (e.g. recreation facilities; libraries; fire stations) within neighbourhoods.

Developing levels of service and tracking over time is essential to measuring the success of service delivery and the asset management strategy overall. This section outlines historical levels of service and performance of the non-engineered services.

B. COPORATE GOALS AND LEVELS OF SERVICE MEASURE

The Town has recently completed a Citizen Satisfaction Survey as part of the development of the Town's Strategic Plan in an effort to try and understand how residents view services and what priorities Council should consider moving forward. The results showed that the top spending priority for residents was infrastructure replacement at 48% support. As a result, the Town considers asset management and infrastructure renewal to be at the forefront of future decision making.

The Town of The Blue Mountains Corporate Strategic Plan and Leisure Plan identify several overarching corporate and strategic community goals which the Town aims to fulfill. The corporate goals provide a high level expectation as to what should be achieved by Council, staff and through the services provided. The table below outlines the corporate goals established by the Town as they relate to the delivery of services.

Table 5
Town of The Blue Mountains Corporate Goals

Create opportunities for sustainability	Engage our community partners	Support healthy lifestyles	Promote a culture or organizational and operational excellence	Ensure our infrastructure is sustainable

In order to measure if the corporate goals are being met, levels of services need to be established and performance indicators need to be measured. Level of service measures vary widely across services and municipalities. Where information to establish level of service measures is available for one service, it may be difficult to obtain for another. Table 6 on the following page provides a range of service levels and associated performance measures which the Town should look to utilize. Of the list of service levels and performance measure identified, the Town has been tracking a select few. Moving forward, the Town should look to incorporate and track, at a minimum, the remaining performance measures so these indicators can be incorporated into future iterations of the Plan.

Table 7 illustrates the key performance indicators for which the Town tracks relative to a target level. At this time, the target level of service has been developed in keeping with existing trends and through discussions with Town staff. Moving forward, as the Town continues to build and refine their level of service database, targeted levels of service should be developed in consultation with Council and the Public. Target levels of service are the main benchmark to measure whether the Town has met a particular corporate goal.

Table 6
Suggested Service Level Descriptions and Associated Service Measures

Asset Category	Level of Service	Level of Service Measure
Fire Vehicles, Equipment and Stations	• Provide fire and emergency services that meet best practices as recommended by the Ontario Fire Marshalls office and regulatory authorities. • Provide timely and efficient emergency response times. • Maintain fire emergency vehicles and equipment in a state of good repair. • Maintain fire stations in state of good repair.	• Number of staffed fire in-service vehicle hours per capita for both the rural and urban areas • Total fire cost per in-service vehicle hour for both the rural and urban areas. • Percentage of repair work hours that is for non-planned/emergency repairs for fire vehicles and equipment. • Number of outstanding repair/rehabilitation activities at the Craigleith Fire Hall and Thornbury Fire Hall.
Vehicles and Equipment (other than Fire)	• Provide timely and efficient service and response times. • Maintain vehicles and equipment in state of good repair. • Perform preventative maintenance and repairs to meet industry standards of safety and operation.	• Percentage of repair work hours that is for non-planned/emergency repairs for vehicles and equipment. • Number of in-service vehicle hours per capita. • Number of equipment units inspected (weekly, monthly, etc). • Total cost to operate a vehicle per kilometre.
Buildings (including Recreational)	• All buildings should comply with the Accessibility for Ontarians with Disabilities Act (AODA) • Minimize the number of liable accidents and legal action attributed to improper facility maintenance. • Maintain facilities in a state of good repair.	• Number of facilities in the Town that do not meet AODA regulations. • Number of accidents and legal action directly attributed to improper facility maintenance. • Number of outstanding repair/rehabilitation activities for all facilities. • Proportion of facilities in good to very good condition. • Total cost of facility maintenance per square meter by facility type.
Parks and Recreation	• Provide variety of different sized parks for residents. • Provide a trail network that offers local and regional linkages to land and water. • Maintain outdoor park space in a state of good repair. • Provide residents with a variety of recreational services and amenities to promote active living.	• Number of parks by size and type. • Square meters of maintained and natural parkland per person. • Length of trails in kilometres per person. • Number of access points on trails to land and water. • Total square meters of indoor recreation space per capita • Total cost to operate parks per person. • Total cost to operate parks per square meter.
Library	• Provide a wide range of educational materials and learning tools for all Town residents	• Total library uses (i.e. collection materials) in your municipality • Total collection materials per capita • Total number of electronic uses vs. non-electronic uses

Table 7 Performance Indicators						
	2011	2012	2013	2014	2015	Target
Dwelling Units						
Dwelling Units	6,200	6,259	6,315	6,403	6,506	
Trails						
Total Kilometres of Trails	397	397	397	397	397	**397**
Total Kilometres of Trails per Dwelling Unit	0.064	0.063	0.063	0.062	0.061	**0.061**
Recreation						
Square metres of indoor recreation facilities (municipally owned)	3,715	3,715	3,715	4,711	4,711	**4,711**
Square metres of indoor recreation facility space per Dwelling Unit (municipally owned)	0.60	0.59	0.59	0.74	0.72	**0.72**
Square metres of outdoor recreation facility space (municipally owned)	305,537	305,537	305,537	765,275	765,275	**765,275**
Square metres of outdoor recreation facility space per Dwelling Unit (municipally owned)	49.28	48.82	48.38	119.52	117.63	**117.63**
Facility						
Number of facilities in the Town that do not meet AODA regulations.	5	5	5	5	5	0
Number of accidents and legal action directly attributed to improper facility maintenance	0	0	0	0	0	0
Fire						
Emergency Responses - Total	-	-	176	187	196	-

Note: Dwelling units include residential, commercial resort and hotel/motel units.

Source: 2011-2015 FIR.

The table shows that by these numbers, service levels have remained relatively constant and have increased in some instances.

C. GAS TAX PROJECT OUTCOMES

Moving forward it is expected that municipalities will report on various performance metrics to meet the federal gas tax funding requirements. These "project outcomes" are due March 31st 2017 for projects completed between April 1st 2014 and December 31st 2016. Municipalities are required to report on at least one outcome per asset category to demonstrate positive benefits to communities and to show benefits of gas tax funds as a predictable funding source. Best practice is for the Town to begin tracking these project outcomes for all assets. Table 8 shows project outcomes relevant to the assets included in the Plan.

Table 8 Relevant Project Outcomes Required for Gas Tax Funding	
Category	**Outcomes**
Sport Infrastructure	• Number of visitors (sports tourism) to the community • Available ice/field time per year (hours) • Number of registered users per year • Sporting events held per year
Recreational Infrastructure	• Number of registered users per year • Number of residents who will benefit from the new or upgraded recreational infrastructure
Cultural Infrastructure	• Number of residents benefitted from the investment • Number of cultural events held per year • Number of people participating in cultural activities in the community
Tourism Infrastructure	• Number of businesses positively affected by the investment • Number of visitors • Number of online or in-person inquiries at visitor information centre(s) • Number of room-nights sold in a year
Disaster Mitigation Infrastructure	• Area of properties projected to be less at-risk due to the investment • Emergency response costs

Source: AMO.

For 2016, it is expected that the Town report on the assets included in this Asset Management Plan as a percentage of total assets. It is expected that this 2016 Plan in conjunction with the 2014 Plan will update this value to 100% of total assets included for 2017, meeting the gas tax funding requirement.

IV ASSET MANAGEMENT STRATEGY

This section sets out an action plan that will assist the Town in maintaining assets so that desired service levels are achieved. The asset management strategy relates to a set of actions that, taken together, has the lowest total cost to maintain assets in a state of good repair as defined in the *Building Together: Guide for Municipal Asset Management Plans.*

The asset management strategy includes current practices and potential future practices related to non-infrastructure solutions, maintenance activities, renewal/rehabilitation, disposal and expansion activities. The final component of this section includes a risk matrix which can be used to assist Town staff and Council assess and manage risks to achieve desired levels of service.

A. SET OF PLANNED ACTIONS TO PROVIDE DESIRED LEVELS OF SERVICE

The Town employs various practices to achieve desired levels of service. This set of existing actions involve activities to maintain assets in a state of good repair and to ensure that assets continue to be in service for their full life cycle, and in many cases, beyond the expected design life. The planned actions are summarized for each of the asset categories in the Plan.

Facilities

There are a variety of facilities in the Town that are utilized for various purposes. Customized maintenance plans are required for each facility depending on their purpose. Table 9 summarizes general actions that can be employed to ensure that Town facilities are maintained in a state of good repair.

Table 9 Planned Actions: Facilities	
Areas	**Planned Actions**
Non-Infrastructure Solutions	• Operating budgets should be informed by condition assessments and regular inspections as needed. • Business cases, special studies and consultation with stakeholders should be done when constructing a new facility or modifying an existing facility. • Adjust service levels if necessary.
Maintenance Activities	• Facilities inspected monthly in accordance with occupational health and safety regulations. • HVAC and heating systems inspected annually. • Maintain electrical systems to Electrical Safety Authority standards (Inspections are done by ESA on an annual or bi-annual basis). • Quarterly elevator inspections. • Fire alarms, fire extinguishers and emergency lights inspected monthly.
Renewal/Rehabilitation	• Regular component repairs based on inspections.
Replacement	• Component replacement based on inspections.
Disposal	• Selling or demolishing facilities that are no longer in use. • Re-use or sell land not in use.
Expansion	• Identify needs through regular capital planning. • Assumptions on required facility space through development agreements. • Service improvements made where possible (accessibility, etc.)

Land Improvements

The land improvement assets are mostly encompassed in Town parks, trails and parking lots. Actions related to maintaining land improvement related assets can be applied across this category. Table 10 summarizes general actions that are taken to ensure that Town land improvement related assets are maintained in a state of good repair.

Table 10 Planned Actions: Land Improvements	
Areas	**Planned Actions**
Non-Infrastructure Solutions	• Operating budgets should be informed by condition assessments and regular inspections as needed. • Business cases, special studies, consultation with stakeholders should be done when constructing a new park or playground. • Adjust service levels if necessary. • Implementation of recommendations in the 2015 Leisure Activity Plan.
Maintenance Activities	• Playground equipment inspected monthly. • All Parks department equipment inspected daily before each use. • Town staff to walk the trails frequently for inspections and report on who would complete any repairs necessary. Additionally, trails are audited twice a year. • Town staff to inspect parks frequently. Inspections should include trees, grass, fields, etc. • Snow and ice removal from trails.
Renewal/Rehabilitation	• Regular component repairs based on inspections. • Dragging of baseball diamonds is completed daily for premier fields. All other diamonds are dragged three times per week. • Tree trimming to avoid potential damage due to storms. • Regular tree cutting to curb Emerald Ash Borer infestation.
Replacement	• Component replacement based on inspections.
Disposal	• Dispose or sell of assets that are no longer in use or are in poor condition. • Re-use or sell land not in use.
Expansion	• Identify needs through regular capital planning. • Assumptions on required park space and assets through development agreements. • Service improvements made where possible (accessibility, etc.)

Vehicles

Fleet vehicles considered include all service areas including Fire, Infrastructure and Public Works, Community Services and other general government vehicles. Actions related to maintaining vehicles can be applied across this category. Table 11 summarizes general actions that can be taken to ensure that Town vehicles are maintained in a state of good repair.

Table 11
Planned Actions: Vehicles

Areas	Planned Actions
Non-Infrastructure Solutions	• Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Orderly scheduling of repair work orders.
Maintenance Activities	• Preventative maintenance program. • Regular inspection, service and certification performed in accordance with regulatory requirements. • Schedule and perform ongoing repairs in accordance with frequency and user department requirements. • Replacement schedule reviewed annually.
Renewal/Rehabilitation	• Regular component repairs based on inspections.
Replacement	• Vehicle replacement based on inspections.
Disposal	• Dispose or sell of assets that are no longer in use or are in poor condition.
Expansion	• Identify needs through regular capital planning. • Service improvements made where possible (new technologies, etc.).

Equipment

Equipment assets vary widely in their type and utilization. Customized maintenance plans are required for each type of equipment asset depending on its purpose. Table 12 summarizes general actions that can be taken to ensure that Town equipment assets are maintained in a state of good repair.

Table 12
Planned Actions: Equipment

Areas	Planned Actions
Non-Infrastructure Solutions	• Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Orderly scheduling of repair work orders.
Maintenance Activities	• Preventative maintenance program. • Regular inspection, service and certification performed in accordance with regulatory requirements. • Schedule and perform ongoing repairs in accordance with frequency and user department requirements. • Replacement schedule reviewed annually.
Renewal/Rehabilitation	• Regular component repairs based on inspections.
Replacement	• Equipment replacement based on inspections.
Disposal	• Dispose or sell of assets that are no longer in use or are in poor condition.
Expansion	• Identify needs through regular capital planning. • Service improvements made where possible (new technologies, etc.).

B. COST REDUCTION STRATEGIES

The *Guide for Municipal Asset Management Plans (Guide)* states that 'to ensure the most efficient allocation of resources, best practice is for a number of delivery mechanisms to be considered — such as working with other municipalities to pool projects and resources, or considering an AFP (Alternate Financing and Procurement) model.' The design-build-finance-maintain AFP model takes a lifecycle perspective and builds effective asset management directly into a contract. The *Guide* also states

that municipalities should have procurement by-laws in place to serve as the basis for considering various delivery mechanisms.

The Town of The Blue Mountains currently has a corporate policy for procurement. The *Purchasing of Goods and Services Policy* outlines its purpose:

- Ensure openness, accountability and transparency of Town purchasing while protecting the financial best interest of the Town of The Blue Mountains.
- Set out guidelines for the Town to ensure that purchases of goods and services are made on a competitive basis at a best value consistent with the quality and service required and availability. Open Market, Standardization, Negotiation and Emergency purchases will be undertaken with the objective of best overall value.
- Comply with Section 270 of the *Municipal Act, 2001*, as amended.

The Policy encompasses market fairness and equitability to ensure that the Town can repair, maintain and acquire assets at a minimized cost.

Alternative service delivery options should also be assessed for feasibility. Shared services for example, allow the Town to share the costs of acquiring and maintaining assets through joint agreements. Such agreements are typically done with neighbouring municipalities or as private public partnerships in an effort to share risk and minimize costs.

C. RISK MANAGEMENT

It is important to assess the risk associated with each asset and the likelihood of failure. Asset failure can occur as the asset reaches its limits and can jeopardize public/environmental safety. In addition, certain assets have a greater consequence of failure than others.

A risk matrix can help prioritize which assets should be repaired/replaced, even those which the Town has already identified to be in "Very Poor" or "Poor" condition. The evaluation rating is then linked to the condition assessment parameter discussed in Section II State of Local Infrastructure. Assigning probability of failure parameters to each asset would require an appropriate condition assessment and rating of the asset. The Town should look to implement a risk matrix approach for all assets in the next iteration of the Asset Management Plan. Table 13 illustrates a typical risk matrix.

Table 13
The Risk Assessment Matrix

Evaluation Rating		Probability of Failure				
		1	**2**	**3**	**4**	**5**
Consequence of Failure	**1**	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Risk Matrix Example: Probability of Failure level 5 (Very Poor Asset) multiplied by Consequence of Failure level 5 (Severe Consequence of Failure) = Risk Score of 25. This would illustrate that the particular asset assessed should be prioritized for replacement immediately as it would have the highest risk.

V FINANCING STRATEGY

This section of the Plan is intended to provide a framework for the Town to integrate asset management with annual budgeting and long-term financial planning.

The Town has traditionally followed a "pay-as-you-go" approach to financing infrastructure, whereby capital expenditures are prioritized and approved with reference to the availability of funds. Although, in recent years, Council and staff have adopted several strategies to address the infrastructure gap and have been successful in undertaking a series of capital projects to improve the Town's position. Additionally, the implementation of a "Capital Replacement Levy" intended to fund the capital repair or replacement of existing assets further enhances Council's commitment to its strategic objective to ensure infrastructure sustainability.

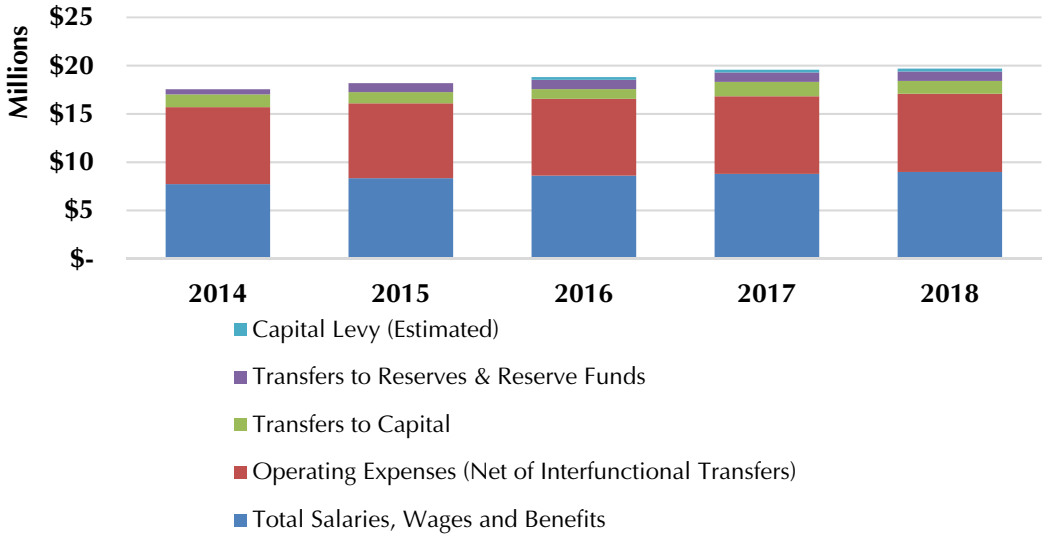
A. OPERATING BUDGET EXPENDITURES

The Town has historically set aside funds to maintain most of its capital assets in a state of good repair. This has meant that sufficient funds have typically been available to deal with immediate and critical asset repair and rehabilitation needs. Overall, the Town's budget has increased year-over-year in response to increased capital and operating needs.

Figure 14 illustrates total expenditures by major category based on the 2014-2016 budget reports on the Town website. Total expenditures were $17.6 million in 2014 and increased to $18.8 million by 2016 – this figure is expected to grow to $19.7 million by 2018. General operating expenses, which include regular maintenance of capital assets, has historically accounted for about 43% of the total budget – this relationship is expected to continue through to 2018.

It is anticipated that the Town's operating expenditures will be adjusted annually at minimum to account for the effects of inflation. If additional asset management strategies are imposed by the Town, annual costs could exceed annual inflation type adjustments.

Figure 14
Total Budget Expenditures 2014-2018



Source: 2014-2016 budget reports. Operating budget expenditures 2014-2018.

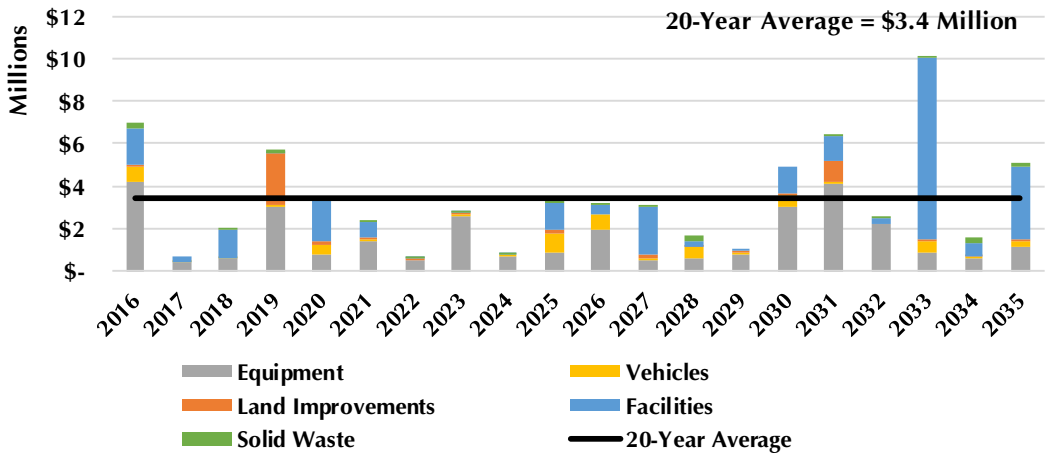
B. REPAIR AND REPLACEMENT SCHEDULE

Figure 15 sets out the schedule of repair and replacement of the non-engineered assets required to meet service level targets. Over the 20-year period, to 2035, the tax supported repair and replacement program totals about $68.4 million. The average yearly replacement costs of the non-engineered assets amount to approximately $3.4 million.

In 2016, significant expenditures have been identified that are required to repair or replace overdue assets amounting to a total of $6.0 million. Of this amount, equipment assets represent 60%, or $3.6 million, of this total value. Should this work or other works be delayed, asset conditions and service levels may decline.

In 2033, there is a notable spike in required replacement expenditures due to the Beaver Valley Arena. The arena block walls and steel structure are expected to have fully depreciated by 2033 and identified for replacement at a total cost of $8.4 million.

Figure 15:
20-Year Asset Replacement Schedule - Non-Engineering Assets



C. CAPITAL PROVISION SCHEDULE

A key component of the financing strategy is to identify the level of expenditure required on an annual basis to pay for asset management. Costs to maintain and eventually repair or replace Town assets need to be understood. Contributions to reserves and reserve funds need to be quantified. In this section, provisions for repair and replacement are calculated for each asset based on its remaining useful life and the anticipated cost of replacement, in the scheduled year of replacement. The aggregate of all individual provisions form an annual contribution to reserves for the purpose of asset repair and replacement.

Figure 16 below shows the funds that would have to be contributed annually to reserves to meet service level targets for the non-engineered assets to 2035.

Figure 16 demonstrates that:

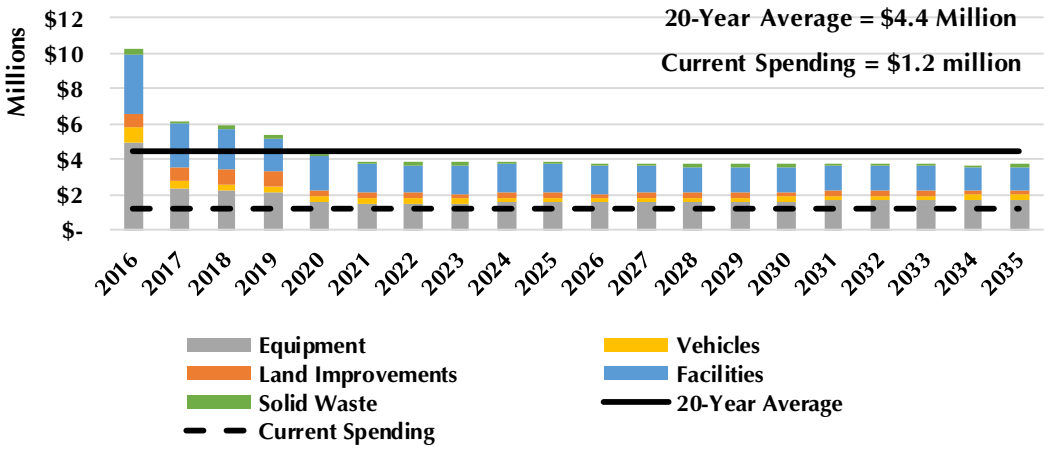
- The Town has non-engineered reserves on hand, however, a higher level of reserve contributions is required over the long term in order to meet service level requirements.

- Higher contributions would be required in the short-term to pay for significant facility and equipment expenditures identified in 2016. However, there will likely be measures the Town could take to mitigate this financial pressure in 2016 (and future years). These measures are more fully discussed in Part E and G of this section.

- Average annual contributions over the 20-year period would have to be in the order of $4.4 million per year (net of existing reserve funds), mostly relating to facility and equipment assets.

- The Town spent approximately $1.2 million in 2016 for repair/replacement of non-engineered assets. Investment in non-engineered assets would need to increase by $3.2 million (2.8 times) to achieve the $4.4 million requirement.

Figure 16:
Calculated Annual Capital Contributions - Non-Engineering Assets



D. CURRENT INFRASTRUCTURE DEFICIT

To implement sustainable asset management practices the Town needs to have an understanding of the current "infrastructure deficit" as well as the funding gaps that would arise should the required annual contributions to capital, identified in Part C: Capital Provision Schedule, be delayed.

The current infrastructure deficit shown in Table 14 represents the difference between the required in-year contributions to capital and the current contributions to capital for both the non-engineered assets in this AMP and the tax supported engineered assets included in the 2014 AMP. The total 2016 capital provision required is $44.2 million (including infrastructure backlog) while current capital spending is $3.9 million (includes grants and reserve funding). The current in-year infrastructure deficit is therefore $40.3 million. The infrastructure deficit would continue to grow should

the required annual contributions to capital, identified in Part C: Capital Provision Schedule, be delayed.

Table 14 Infrastructure Deficit for Base Year 2016		
Legend	**Calculation of Current Infrastructure Deficit**	
A	Projected 2016 Capital Provision (Non-Engineered)	$ 10,289,299
B	Projected 2016 Capital Provision (Engineered)	$ 33,947,258
C	Total 2016 Capital Provision = (A+B)	$ 44,236,556
D	Total 2016 Capital Spending (Budget) on Tax assets	$ 3,911,740
E	Funding Gap = (C-D)	$ 40,324,816
F	Cumulative Infrastructure Deficit = (sum of E)	$ 40,324,816
Note: Total tax supported capital funding is derived from 2016 capital budget of $5.72 million less Water and Wastewater projects of $1.39 million and DC Eligible projects ($412k).		

E. FINANCING STRATEGY - TAX SUPPORTED ASSETS

It is unrealistic to expect the Town to address the $40.3 million infrastructure deficit in the short-term. Therefore, a long-term funding strategy that identifies options for addressing current and future asset expenditure requirements is required. This analysis recognizes that the Town has not kept pace with the required contributions to perform the work set out in the calculated asset repair and replacement schedule in Part B: Repair and Replacement Schedule.

If the Town were to implement a funding strategy to eliminate the infrastructure deficit by 2035, the Town would be required to increase capital contributions on an annual basis by about 14% for all tax supported assets. Eliminating the infrastructure deficit by 2035 is an aggressive objective and is an initiative the Town is unlikely to explore at this time; a few reasons include:

- The required capital contributions (to eliminate the deficit) may necessitate an increase to property taxes beyond a reasonable measure;
- The Town may need to decrease or limit funding of other key Town services or initiatives in lieu for capital repair and replacement activity;

- Assets can remain in use past their engineered design life and are capable of performing to meet the Town's desired level of service under these circumstances. Therefore, in such instances, the asset does not necessarily need to be replaced by virtue of exceeding their design life; and

- Prudent asset management strategies which are currently employed by the Town (Section IV: Asset Management Strategies) can often extend the requirement of major repair or replacement of capital assets and may prolong the life of the asset.

Further to the above noted comments, three additional financing strategies were developed to illustrate a more rational capital contribution level to meet asset replacement needs for tax supported assets (shown in Table 15). The financing strategies illustrate the "smoothed options" to the capital repair and replacement requirements identified in Part B: Repair and Replacement Schedule. Under all scenarios, it is assumed the Town would not receive grant funding to undertake any capital works, however, gas tax funding is included in the financial analysis.

Table 15
Financing Strategies

Financing Strategies	Tax Supported
Strategy 1	Increase annual capital contributions by 8.4% per annum so the annual provision requirement is met in 15 years. The annual funding gap is closed by 2030.
Strategy 2	Increase annual capital contributions by 6.1% so the annual provision requirement is met in 20 years. The annual funding gap is closed by 2035.
Strategy 3	Capital contributions are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum.

The three financing strategies to determine what capital contributions would be required to meet asset replacement needs for user rate supported assets is included in Appendix A of this Plan. This section was derived from the 2014 Asset Management Plan and included in this plan for reference purposes only.

1. Strategy 1 – Tax Supported Assets

Table 16 illustrates the analysis of Strategy 1: close the annual tax supported capital provision gap in 15 years.

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach $102.7 million before the Town begins to reduce this amount by increasing capital contributions by more than the annual provision requirement. The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. By 2035, the infrastructure deficit will be at $92.8 million. This strategy represents an increase in capital contributions (including transfers to reserves) from the 2016 budgeted amount of $2.3 million by 8.4% annually.

It is important to note that even though the in-year funding gap has been addressed by 2030, the infrastructure deficit poses risks to the Town. The cumulative deficit in 2035 of $92.8 million, is indicative of overdue assets that have fully depreciated and may be in very poor condition. These assets would need to be addressed in a longer time frame and are at risk for asset failure.

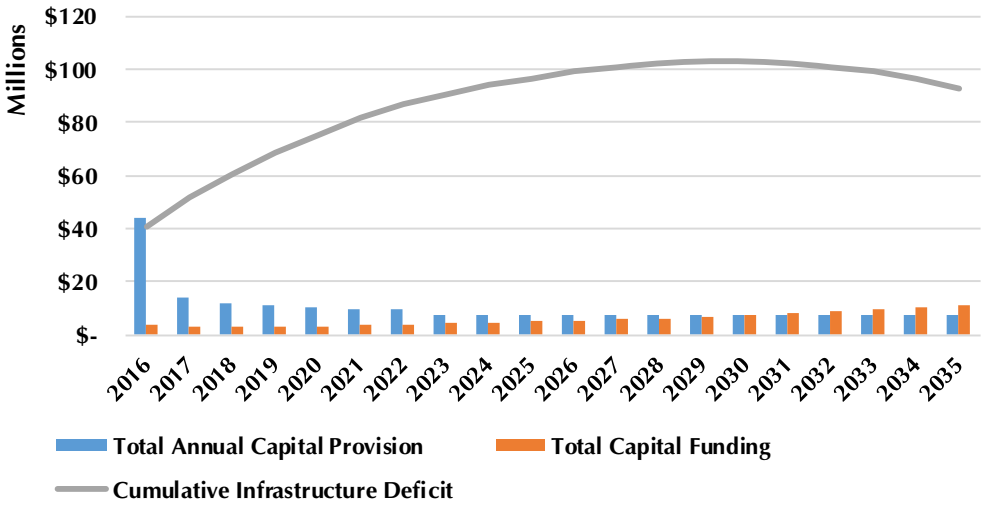
Table 16 – Projected Annual Funding Gap under Strategy 1
All Tax Supported Assets

Legend	A	B	C	D	E	F	G	H	I	J
Year	Projected Annual Capital Provision (Non-Engineered)	Projected Annual Capital Provision (Engineered)	Total Annual Capital Provision (A + B) [1]	Annual Capital Contributions (Tax Supported) [2]	% Annual Increase in Capital Contributions	Other Funding	Gas Tax	Total Capital Funding (D + F +G)	Annual Funding Gap = (C-H)	Cumulative Infrastructure Deficit
2014				$ 1,852,683						
2015				$ 2,092,072	13%					
2016	$ 10,289,299	$ 33,947,258	$ 44,236,556	$ 2,254,874	7.8%	$ 1,579,666	$ 77,200	$ 3,911,740	$ 40,324,816	$ 40,324,816
2017	$ 6,186,050	$ 7,517,345	$ 13,703,395	$ 2,445,254	8.4%	$ -	$ 186,000	$ 2,631,254	$ 11,072,141	$ 51,396,957
2018	$ 5,915,463	$ 5,823,067	$ 11,738,530	$ 2,651,708	8.4%	$ -	$ 189,720	$ 2,841,428	$ 8,897,102	$ 60,294,059
2019	$ 5,391,687	$ 5,715,629	$ 11,107,316	$ 2,875,593	8.4%	$ -	$ 193,514	$ 3,069,107	$ 8,038,208	$ 68,332,268
2020	$ 4,298,589	$ 5,999,325	$ 10,297,915	$ 3,118,381	8.4%	$ -	$ 197,385	$ 3,315,765	$ 6,982,149	$ 75,314,417
2021	$ 3,901,852	$ 5,752,528	$ 9,654,380	$ 3,381,667	8.4%	$ -	$ 201,332	$ 3,582,999	$ 6,071,380	$ 81,385,797
2022	$ 3,838,813	$ 5,652,203	$ 9,491,015	$ 3,667,183	8.4%	$ -	$ 205,359	$ 3,872,542	$ 5,618,474	$ 87,004,271
2023	$ 3,827,114	$ 3,890,433	$ 7,717,546	$ 3,976,805	8.4%	$ -	$ 209,466	$ 4,186,271	$ 3,531,276	$ 90,535,546
2024	$ 3,857,067	$ 3,863,415	$ 7,720,482	$ 4,312,568	8.4%	$ -	$ 213,656	$ 4,526,224	$ 3,194,258	$ 93,729,805
2025	$ 3,861,871	$ 3,855,802	$ 7,717,672	$ 4,676,680	8.4%	$ -	$ 217,929	$ 4,894,609	$ 2,823,063	$ 96,552,868
2026	$ 3,766,064	$ 3,847,018	$ 7,613,082	$ 5,071,535	8.4%	$ -	$ 222,287	$ 5,293,822	$ 2,319,260	$ 98,872,128
2027	$ 3,798,421	$ 3,827,034	$ 7,625,455	$ 5,499,727	8.4%	$ -	$ 226,733	$ 5,726,460	$ 1,898,995	$ 100,771,124
2028	$ 3,710,287	$ 3,840,189	$ 7,550,476	$ 5,964,071	8.4%	$ -	$ 231,268	$ 6,195,339	$ 1,355,137	$ 102,126,260
2029	$ 3,709,766	$ 3,538,406	$ 7,248,172	$ 6,467,621	8.4%	$ -	$ 235,893	$ 6,703,514	$ 544,658	$ 102,670,919
2030	$ 3,724,935	$ 3,529,360	$ 7,254,296	$ 7,013,685	8.4%	$ -	$ 240,611	$ 7,254,296	$ (0)	$ 102,670,919
2031	$ 3,763,178	$ 3,524,584	$ 7,287,762	$ 7,605,854	8.4%	$ -	$ 245,423	$ 7,851,277	$ (563,515)	$ 102,107,404
2032	$ 3,792,746	$ 3,526,063	$ 7,318,810	$ 8,248,019	8.4%	$ -	$ 250,332	$ 8,498,351	$ (1,179,541)	$ 100,927,863
2033	$ 3,792,661	$ 3,526,063	$ 7,318,725	$ 8,944,404	8.4%	$ -	$ 255,338	$ 9,199,742	$ (1,881,017)	$ 99,046,846
2034	$ 3,689,560	$ 3,526,063	$ 7,215,623	$ 9,699,584	8.4%	$ -	$ 260,445	$ 9,960,029	$ (2,744,406)	$ 96,302,440
2035	$ 3,707,138	$ 3,526,063	$ 7,233,202	$ 10,518,524	8.4%	$ -	$ 265,654	$ 10,784,178	$ (3,550,976)	$ 92,751,464
20-Year Infrastructure Deficit									**$ 92,751,464**	

Note 1: The projected capital provision represents the annual requirement to repair and replace existing Town assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated) and includes the engineered asset requirements identified in the 2014 Plan and the non-engineered asset requirements identified in this 2016 Plan.
Note 2: Total Annual Capital contributions in 2016 comprised of total tax supported funding of $1.0 million, contributions to reserve ($967k) and the tax supported infrastructure levy $271k

The Figure below graphically illustrates the cumulative infrastructure gap over the period.

Figure 17:
Cumulative Infrastructure Deficit: Strategy 1



2. Strategy 2 – Tax Supported Assets

Table 17 illustrates the analysis of Strategy 2: close the annual tax supported capital provision gap in 20 years.

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach $117.1 million before the Town begins to reduce this amount by increasing capital contributions by more than the annual provision requirement. The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. By 2035, the infrastructure deficit will be at $117.1 million. This strategy represents an increase in capital contributions (including transfers to reserves) from the 2016 budgeted amount of $2.3 million by 6.1% annually.

Similar to Strategy 1, it is important to note that even though the in-year funding gap has been addressed by 2035, the infrastructure deficit poses a risk to the Town. The cumulative deficit in 2035 of $117.1 million, is indicative of overdue assets that have fully depreciated and may be in very poor condition. These assets would need to be addressed in a longer time frame and are at greater risk for asset failure.

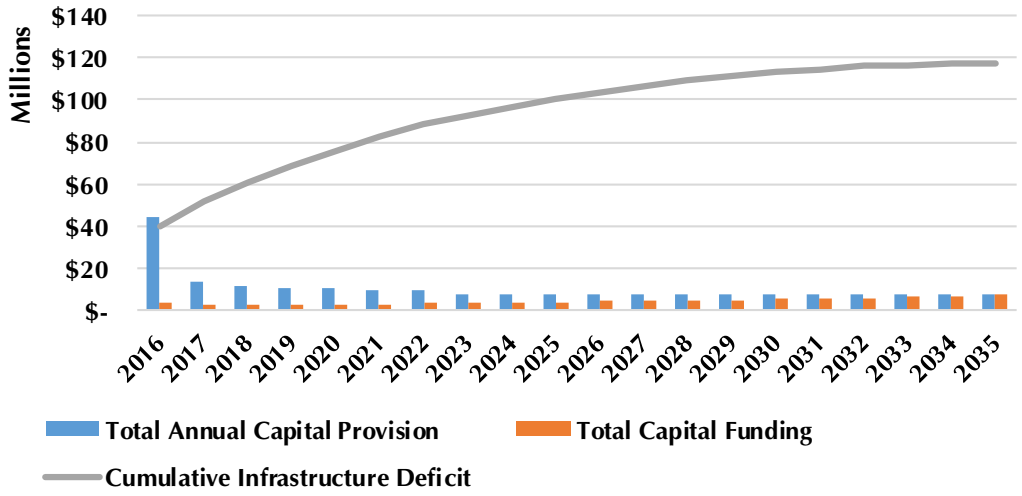
Table 17 – Projected Annual Funding Gap under Strategy 2
All Tax Supported Assets

Legend	A	B	C	D	E	F	G	H	I	J
Year	Projected Annual Capital Provision (Non-Engineered)	Projected Annual Capital Provision (Engineered)	Total Annual Capital Provision (A + B) [1]	Annual Capital Contributions (Tax Supported) [2]	% Annual Increase in Capital Contributions	Other Funding	Gas Tax	Total Capital Funding	Annual Funding Gap = (C-H)	Cumulative Infrastructure Deficit
2014				$ 1,852,683						
2015				$ 2,092,072	13%					
2016	$ 10,289,299	$ 33,947,258	$ 44,236,556	$ 2,254,874	8%	$ 1,579,666	$ 77,200	$ 3,911,740	$ 40,324,816	$ 40,324,816
2017	$ 6,186,050	$ 7,517,345	$ 13,703,395	$ 2,392,817	6.1%	$ -	$ 186,000	$ 2,578,817	$ 11,124,578	$ 51,449,394
2018	$ 5,915,463	$ 5,823,067	$ 11,738,530	$ 2,539,199	6.1%	$ -	$ 189,720	$ 2,728,919	$ 9,009,611	$ 60,459,005
2019	$ 5,391,687	$ 5,715,629	$ 11,107,316	$ 2,694,536	6.1%	$ -	$ 193,514	$ 2,888,051	$ 8,219,265	$ 68,678,270
2020	$ 4,298,589	$ 5,999,325	$ 10,297,915	$ 2,859,376	6.1%	$ -	$ 197,385	$ 3,056,761	$ 7,241,154	$ 75,919,424
2021	$ 3,901,852	$ 5,752,528	$ 9,654,380	$ 3,034,300	6.1%	$ -	$ 201,332	$ 3,235,632	$ 6,418,747	$ 82,338,171
2022	$ 3,838,813	$ 5,652,203	$ 9,491,015	$ 3,219,925	6.1%	$ -	$ 205,359	$ 3,425,284	$ 6,065,731	$ 88,403,903
2023	$ 3,827,114	$ 3,890,433	$ 7,717,546	$ 3,416,906	6.1%	$ -	$ 209,466	$ 3,626,372	$ 4,091,174	$ 92,495,077
2024	$ 3,857,067	$ 3,863,415	$ 7,720,482	$ 3,625,937	6.1%	$ -	$ 213,656	$ 3,839,593	$ 3,880,890	$ 96,375,967
2025	$ 3,861,871	$ 3,855,802	$ 7,717,672	$ 3,847,756	6.1%	$ -	$ 217,929	$ 4,065,684	$ 3,651,988	$ 100,027,955
2026	$ 3,766,064	$ 3,847,018	$ 7,613,082	$ 4,083,144	6.1%	$ -	$ 222,287	$ 4,305,432	$ 3,307,650	$ 103,335,605
2027	$ 3,798,421	$ 3,827,034	$ 7,625,455	$ 4,332,933	6.1%	$ -	$ 226,733	$ 4,559,666	$ 3,065,789	$ 106,401,394
2028	$ 3,710,287	$ 3,840,189	$ 7,550,476	$ 4,598,003	6.1%	$ -	$ 231,268	$ 4,829,271	$ 2,721,205	$ 109,122,599
2029	$ 3,709,766	$ 3,538,406	$ 7,248,172	$ 4,879,288	6.1%	$ -	$ 235,893	$ 5,115,181	$ 2,132,991	$ 111,255,590
2030	$ 3,724,935	$ 3,529,360	$ 7,254,296	$ 5,177,782	6.1%	$ -	$ 240,611	$ 5,418,392	$ 1,835,903	$ 113,091,493
2031	$ 3,763,178	$ 3,524,584	$ 7,287,762	$ 5,494,535	6.1%	$ -	$ 245,423	$ 5,739,958	$ 1,547,804	$ 114,639,297
2032	$ 3,792,746	$ 3,526,063	$ 7,318,810	$ 5,830,667	6.1%	$ -	$ 250,332	$ 6,080,998	$ 1,237,812	$ 115,877,108
2033	$ 3,792,661	$ 3,526,063	$ 7,318,725	$ 6,187,361	6.1%	$ -	$ 255,338	$ 6,442,699	$ 876,025	$ 116,753,134
2034	$ 3,689,560	$ 3,526,063	$ 7,215,623	$ 6,565,877	6.1%	$ -	$ 260,445	$ 6,826,322	$ 389,301	$ 117,142,435
2035	$ 3,707,138	$ 3,526,063	$ 7,233,202	$ 6,967,548	6.1%	$ -	$ 265,654	$ 7,233,202	$ 0	$ 117,142,435
20-Year Infrastructure Deficit									$ 117,142,435	

Note 1: The projected capital provision represents the annual requirement to repair and replace existing Town assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated) and includes the engineered asset requirements identified in the 2014 Plan and the non-engineered asset requirements identified in this 2016 Plan.
Note 2: Total Annual Capital contributions in 2016 comprised of total tax supported funding of $1.0 million, contributions to reserve ($967k) and the tax supported infrastructure levy $271k

The Figure below graphically illustrates the cumulative infrastructure gap over the period.

Figure 18:
Cumulative Infrastructure Deficit Strategy 2



3. Strategy 3 – Tax Supported Assets

The third strategy assumes capital contributions are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum. Table 18 illustrates the analysis of Strategy 3.

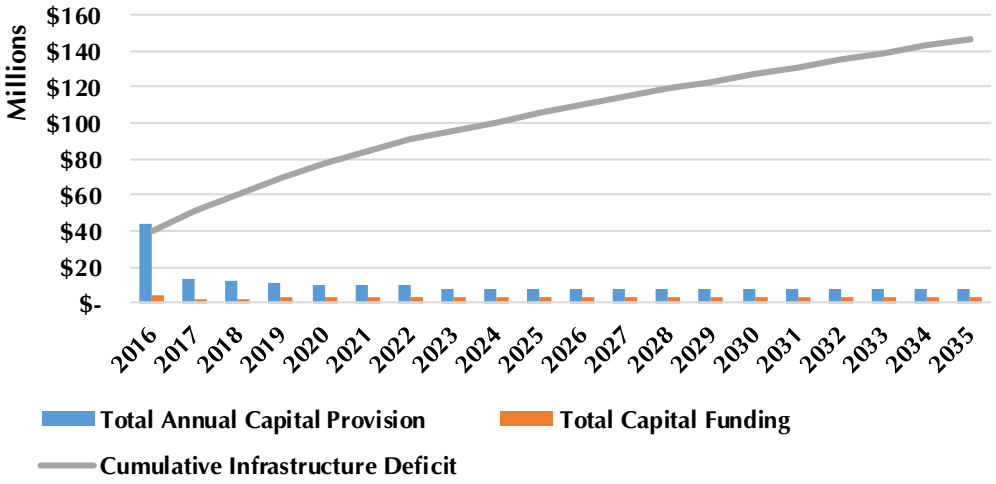
This analysis indicates that the Town would not close the in-year funding gap by 2035 and the cumulative infrastructure deficit will reach $146.4 million. Strategy 3 represents the scenario with the greatest risk. The growing infrastructure deficit represents an increasing number of assets that have fully depreciated and may be in very poor condition.

Table 18 – Projected Annual Funding Gap under Strategy 3
All Tax Supported Assets

Legend	A	B	C	D	E	F	G	H	I	J
Year	Projected Annual Capital Provision (Non-Engineered)	Projected Annual Capital Provision (Engineered)	Total Annual Capital Provision (A + B) [1]	Annual Capital Contributions (Tax Supported) [2]	% Annual Increase in Capital Contributions	Other Funding	Gas Tax	Total Capital Funding (D + F +G)	Annual Funding Gap = (C-H)	Cumulative Infrastructure Deficit
2014				$ 1,852,683						
2015				$ 2,092,072	13%					
2016	$ 10,289,299	$ 33,947,258	$ 44,236,556	$ 2,254,874	8%	$ 1,579,666	$ 77,200	$ 3,911,740	$ 40,324,816	$ 40,324,816
2017	$ 6,186,050	$ 7,517,345	$ 13,703,395	$ 2,299,971	2%	$ -	$ 186,000	$ 2,485,971	$ 11,217,423	$ 51,542,240
2018	$ 5,915,463	$ 5,823,067	$ 11,738,530	$ 2,345,971	2%	$ -	$ 189,720	$ 2,535,691	$ 9,202,839	$ 60,745,079
2019	$ 5,391,687	$ 5,715,629	$ 11,107,316	$ 2,392,890	2%	$ -	$ 193,514	$ 2,586,405	$ 8,520,911	$ 69,265,990
2020	$ 4,298,589	$ 5,999,325	$ 10,297,915	$ 2,440,748	2%	$ -	$ 197,385	$ 2,638,133	$ 7,659,782	$ 76,925,772
2021	$ 3,901,852	$ 5,752,528	$ 9,654,380	$ 2,489,563	2%	$ -	$ 201,332	$ 2,690,895	$ 6,963,484	$ 83,889,256
2022	$ 3,838,813	$ 5,652,203	$ 9,491,015	$ 2,539,354	2%	$ -	$ 205,359	$ 2,744,713	$ 6,746,302	$ 90,635,558
2023	$ 3,827,114	$ 3,890,433	$ 7,717,546	$ 2,590,141	2%	$ -	$ 209,466	$ 2,799,608	$ 4,917,939	$ 95,553,497
2024	$ 3,857,067	$ 3,863,415	$ 7,720,482	$ 2,641,944	2%	$ -	$ 213,656	$ 2,855,600	$ 4,864,882	$ 100,418,379
2025	$ 3,861,871	$ 3,855,802	$ 7,717,672	$ 2,694,783	2%	$ -	$ 217,929	$ 2,912,712	$ 4,804,960	$ 105,223,340
2026	$ 3,766,064	$ 3,847,018	$ 7,613,082	$ 2,748,679	2%	$ -	$ 222,287	$ 2,970,966	$ 4,642,116	$ 109,865,456
2027	$ 3,798,421	$ 3,827,034	$ 7,625,455	$ 2,803,652	2%	$ -	$ 226,733	$ 3,030,385	$ 4,595,070	$ 114,460,525
2028	$ 3,710,287	$ 3,840,189	$ 7,550,476	$ 2,859,725	2%	$ -	$ 231,268	$ 3,090,993	$ 4,459,483	$ 118,920,008
2029	$ 3,709,766	$ 3,538,406	$ 7,248,172	$ 2,916,920	2%	$ -	$ 235,893	$ 3,152,813	$ 4,095,359	$ 123,015,367
2030	$ 3,724,935	$ 3,529,360	$ 7,254,296	$ 2,975,258	2%	$ -	$ 240,611	$ 3,215,869	$ 4,038,427	$ 127,053,794
2031	$ 3,763,178	$ 3,524,584	$ 7,287,762	$ 3,034,764	2%	$ -	$ 245,423	$ 3,280,187	$ 4,007,576	$ 131,061,369
2032	$ 3,792,746	$ 3,526,063	$ 7,318,810	$ 3,095,459	2%	$ -	$ 250,332	$ 3,345,790	$ 3,973,020	$ 135,034,389
2033	$ 3,792,661	$ 3,526,063	$ 7,318,725	$ 3,157,368	2%	$ -	$ 255,338	$ 3,412,706	$ 3,906,019	$ 138,940,407
2034	$ 3,689,560	$ 3,526,063	$ 7,215,623	$ 3,220,515	2%	$ -	$ 260,445	$ 3,480,960	$ 3,734,663	$ 142,675,070
2035	$ 3,707,138	$ 3,526,063	$ 7,233,202	$ 3,284,926	2%	$ -	$ 265,654	$ 3,550,579	$ 3,682,622	$ 146,357,692
20-Year Infrastructure Deficit									**$ 146,357,692**	

Note 1: The projected capital provision represents the annual requirement to repair and replace existing Town assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated) and includes the engineered asset requirements identified in the 2014 Plan and the non-engineered asset requirements identified in this 2016 Plan.
Note 2: Total Annual Capital contributions in 2016 comprised of total tax supported funding of $1.0 million, contributions to reserve ($967k) and the tax supported infrastructure levy $271k

Figure 19:
Cumulative Infrastructure Deficit: Strategy 3



F. AVAILABLE FUNDING TOOLS

The following section discusses, at a high level, the range of tools available to the Town for funding capital expenditures.

Federal and Provincial Grants

Historically, the Town has had some success in securing grant funding from higher orders of government to assist in funding capital projects. The Town will continue to seek financial assistance from upper levels of government (where available) to fund non-development related capital works.

The Town of The Blue Mountains has indicated that it expects to continue receiving Gas Tax money– these funds have been incorporated into the financing strategies at current levels and adjusted for inflation at a rate of 2% per annum.

Development Charges

Development charges may be imposed to pay for increased capital costs required because of increased needs for services arising from development. Historically, the Town has used development charges to the extent possible to fund "development-related" capital costs. It is noted that capital costs of new infrastructure that benefit existing Town residents cannot be funded from development charges. Furthermore, 10% of all development-related capital costs for certain services must be funded from non-development charge sources (typically property taxes).

Property Taxes

Property taxes represented 75% of revenues in 2016 as per the 2016 budget report. The use of property taxes to fund municipal services is the most secure source of funding for the Town. As such, the Town may be required to increase property tax revenue to fund additional capital expenditures.

The Town has taken an initiative by implementing a "Capital Replacement Levy." The levy is intended to be used for capital repair or replacement of existing assets to maintain them in good working order. The levy has been set to be 2% of the prior years total Town tax levy. The amount for 2016 is $271,000.

User Fees

To the extent that user fees are being collected to fund repair and replacement of capital infrastructure, user fees should be allocated to capital reserves.

Public Private Partnerships

Public Private Partnerships (P3s) are a common tool for delivering infrastructure services throughout communities across Canada to build roads, hospitals, light rail transit, water and wastewater treatment facilities and other infrastructure. A P3 can offer more effective project and lifecycle cost control and risk management than traditional procurement methods. The Town could explore P3 opportunities as a tool to carry out capital related activities.

Local Improvement Charges

Municipalities, through local improvement charges, have the ability to recover the costs of capital improvements made on public or privately owned land from property owners who will benefit from improvement. The Town could use the local improvement process to undertake a capital project and recover all or part of the cost of the project by imposing local improvement charges on properties that benefit from the work.

Developer Contributions

Municipalities obtain a wide-range of assets through developer contributions; these contributions can be "in kind" direct provision of assets or funded, partially or fully, through agreement. The contributions are typically facilitated through condition of a subdivision or site plan agreement, under the *Planning Act*. An important

consideration in determining the level and extent of developer contributions is the municipality's "local service definitions" which, under the *Development Charges Act* and *Planning Act*, are used to establish which type, and shares, of capital expenses are considered eligible for direct development contribution or funding. It is recommended that the Town review the local service definitions as part of a future Development Charges Background Study.

Assets funded, or provided, under developer contributions are typically "first round" assets but can, in certain circumstances, include replacement of existing assets and funding of non-DC recoverable shares. An example of replacement of an existing asset is when an existing road requires improvements or upgrades as a result of a specific development; the municipality could endeavour to require the developer to undertake, or fund, the road improvements as a condition of the subdivision agreement. The municipality benefits from the funding of the improved road, but is also an effective deferral of a capital renewal expense as the existing, and therefore depreciated asset, is also replaced or renewed.

G. FINANCING AND FINANCIAL MANAGEMENT PRACTICES

This section discusses, at a high level, the means by which capital revenue can be raised or secured.

Debt (as a financing tool)

Debt financing is a viable tool available to fund capital projects. Planned debt is a responsible way to spread the costs of a project over the life of an asset to ensure the tax payers who benefit from the asset share the cost. Therefore, the burden of capital is distributed equally between the current tax payer and future tax payers. The Town has often exercised the ability to fund capital works through the issuance of debt.

The amount of debt a Town can carry is set by provincial regulations to ensure municipalities continue to operate in a fiscally sound environment. The Town currently operates well below the annual repayment limit of $5.9 million in total net debt charges as identified in the Town's 2015 Financial Information Return. The Town's total net debt charges of $441,000 equates to about 7% (out of 100%) of the total allowable annual repayment limit of $5.9 million. As a safe practice, any potential debt should not be financed for a period longer than the average useful life of the asset. This will ensure the Town is not paying for an asset outside the design life beyond the asset's expected use.

Reserves and Reserve Funds

Reserves are to be used to cope with high capital investment periods by saving during low capital investment periods. This practice will smooth annual expenditures and ensure the Town can complete the required annual capital works. In addition to contributions during low investment periods many municipalities use annual surpluses, should one arise, to increase reserves. There is no prescribed amount of reserves for a Town to have at any given time, but they should be sufficient to cover emergency work (if required).

As of January 1st 2016, the Town had a total capital reserve balance of $7.2 million. The reserve balances consider only the money the Town has on hand to carry out capital related projects related to the services to which this asset management plan applies and excludes operating reserves and user rate stabilization and capital reserves. Applicable reserves have been considered in the calculation of the infrastructure deficit in the funding strategy section in Part E: Financing Strategy.

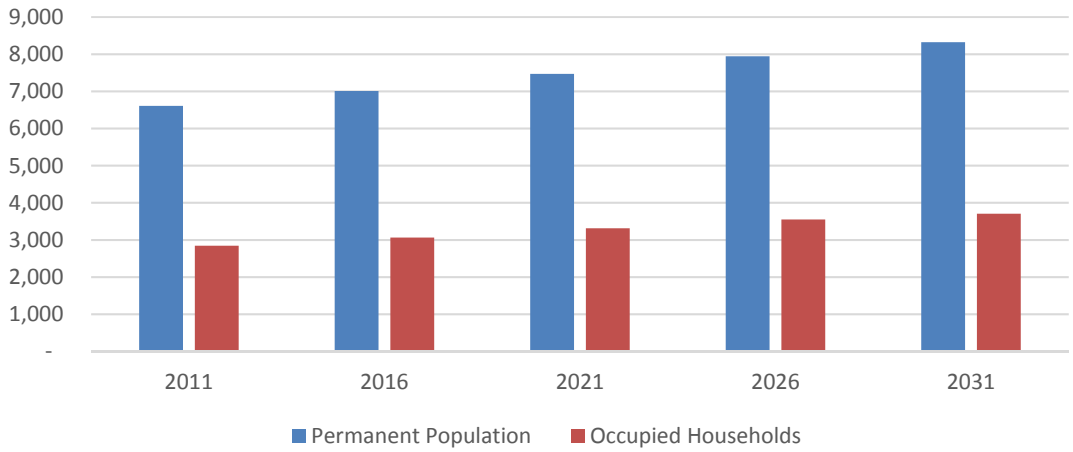
H. FUTURE DEMAND

The Plan reflects the assets that the Town currently owns and operates. As the Town grows, it is expected that new growth related assets will be acquired to facilitate development. As a result, the financial requirements of the Town can be expected to increase relative to the assets acquired. Regular updates of the Plan will include newly acquired assets.

It should be noted that future updates to the Town's Development Charges Background Study must now include a detailed Asset Management Plan that demonstrates the financial sustainability of all assets to be funded by development charges. When the Development Charges Background Study is updated, currently planned for 2019, the new capital assets identified will be incorporated into the Town's next Asset Management Plan.

Figure 20 below illustrates the growth anticipated in the Town from the period 2011 to 2031. Over this period, a total of 860 new occupied units are expected with the census population growing to about 8,300 persons by 2031. As a result, the Town should expect to acquire assets in all categories to meet increased demand which will place increased pressure on the tax base to fund the repair and replacement of these newly acquired assets while managing the existing infrastructure backlog.

Figure 20
Population and Household Projections



Source: Grey County Growth Management Study.

VI CONCLUSIONS AND RECOMMENDATIONS

The objective of this Asset Management Plan is to provide the Town of The Blue Mountains with the information it needs to make decisions on how best to manage capital assets in a sustainable way to 2035. In this section, recommendations based on the analysis undertaken as part of the Plan are made.

A. SUMMARY OF KEY FINDINGS

Overall, the Town will need to continue to increase capital contributions to address current and future infrastructure requirements in an effort to move forward with sustainable asset management planning:

- The Town of The Blue Mountains has made considerable effort in recent years to address the infrastructure gap and improve the condition of assets;
- The Town's asset base is extensive, valued at about $444.0 million (all Town assets, inclusive of engineered infrastructure), in relation to the total permanent population of about 6,500 persons. The responsibility to maintain existing infrastructure is challenging and the Town will need to continue to increase capital contributions to address current and future infrastructure requirements;
    - Increasing operating expenditures (e.g. policing costs, hydro expenditures, salary increases, etc.) may restrict the Town's ability to fund capital related works at an increased level moving forward. This may also limit the Town's ability to regularly contribute funds to reserves for the future repair and replacement of infrastructure.
- Overall, a high proportion (about 61% or $270.6 million) of Town assets are considered to be in "Good" to "Very Good" condition. Less than 10% ($38.8 million) of infrastructure is considered to be in "poor" to "very poor" condition;
- The Town, through its annual capital budgeting process, have been addressing critical issues and assets in need for repair or replacement;
- The Town has some reserves available to fund capital projects; and
- The Town should continue to seek funding from the federal and provincial governments (when available) to undertake capital related works.

B. SUMMARY OF RECOMMENDATIONS

Based on the research and analysis undertaken for this Plan the following conclusions can be reached:

1. Continue to Improve Capital Development Planning Process

- The Town should adopt multi-year capital budgets and forecasts for all services based on a minimum 10 year forecast horizon.

- Capital budgets and forecasts should identify and evaluate each capital project in terms of the following, including but not limited to:

    - gross and net project costs;
    - timing and phasing;
    - funding sources;
    - growth-related components;
    - potential financing and debt servicing costs;
    - long-term costs, including operations, maintenance, and asset rehabilitation costs;
    - capacity to deliver; and
    - alternative service delivery and procurement options.

- A range of quantifiable service level targets that incorporate the quantity and quality of capital assets should continue to be expanded on and established for all services. Targets should be measured, reported on, and adjusted annually.

- Repair and replacement capital works should be prioritized based on asset condition ratings with assets overdue for replacement and/or identified as "Vey Poor" recognized for immediate attention.

- Infrastructure assets which have been provided a "Fair" condition rating should be targeted for maintenance to ensure they continue to perform at the expected level.

- The Town should, where possible coordinate the construction of new (growth-related) infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

2. Ensure Asset Inventories are Updated Regularly

- Sound asset management decisions are only possible if information in the asset registry is accurate. The Town should regularly update the registry to account for asset purchases, upgrades, and replacements, as well as asset condition ratings and information on useful life.

- The Town needs to refine the condition assessments for non-engineered assets considered under this plan;

- The Town should update this Asset Management Plan at a minimum every 3-5 years; and

- Continue to ensure the Townships Core Team (asset management internal network) meets regularly.

3. Optimize the Use of Existing Assets

- The Town should implement a range of engineering and non-engineering approaches to extend the useful life of current assets. A number of municipalities in Ontario have had success in this regard by:

    - Regular and ongoing maintenance work;

    - Daily vehicle and equipment inspections; and

    - Substituting retrofitting and rehabilitation work for (more costly) full replacement of an asset.

APPENDIX A

FINANCING STRATEGY - USER RATE SUPPORTED ASSETS FROM 2014 AMP

HEMSON

A. FINANCING STRATEGY – USER RATE SUPPORTED ASSETS FROM 2014 AMP

For reference purposes, this appendix provides the three financing strategies to determine what capital contributions would be required to meet asset replacement needs for user rate supported assets. This section was derived from the 2014 Plan and included in this plan for reference purposes.

a) Analysis of Strategy 1

Given the capital expenditure requirement to meet the asset replacement needs, the accumulated infrastructure deficit will reach $31.4 million before the Town begins to lower this amount by increasing capital contributions by more than the annual provision requirement for user rate supported assets. Table A below highlights the fact that the infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. By 2032, the infrastructure deficit will be reduced to $26.4 million. This scenario represents an increase in capital contributions (including transfers to reserves) from the 2014 budgeted amount of $2.0 million by 6.4% annually.

Table A – Projected Annual Funding Gap under Strategy One
For User Rate Supported Assets

Legend	A	B	C	D	E	F
	Projected Annual Capital Provision [1]	**Annual Capital Contributions**	**% Annual Increase in Capital Contributions**	**Total Capital Funding =(B)**	**Annual Funding Gap =(A-D)**	**Cumulative Infrastructure Deficit =(sum of E)**
2013 [2]	$6,712,578	$1,732,834		$ 1,732,834	$4,979,744	$4,979,744
2014 [2]	$5,567,810	$2,033,164	17.3%	$ 2,033,164	$3,534,646	$8,514,390
2015	$5,567,392	$2,162,746	6.4%	$ 2,162,746	$3,404,646	$11,919,036
2016	$5,512,879	$2,300,587	6.4%	$ 2,300,587	$3,212,291	$15,131,327
2017	$5,478,947	$2,447,214	6.4%	$ 2,447,214	$3,031,733	$18,163,060
2018	$4,543,956	$2,603,185	6.4%	$ 2,603,185	$1,940,771	$20,103,831
2019	$4,477,712	$2,769,097	6.4%	$ 2,769,097	$1,708,615	$21,812,446
2020	$4,467,551	$2,945,584	6.4%	$ 2,945,584	$1,521,967	$23,334,413
2021	$4,332,222	$3,133,318	6.4%	$ 3,133,318	$1,198,903	$24,533,317
2022	$4,173,717	$3,333,018	6.4%	$ 3,333,018	$840,699	$25,374,016
2023	$5,368,695	$3,545,446	6.4%	$ 3,545,446	$1,823,249	$27,197,264
2024	$5,366,909	$3,771,412	6.4%	$ 3,771,412	$1,595,497	$28,792,761
2025	$5,366,992	$4,011,781	6.4%	$ 4,011,781	$1,355,211	$30,147,972
2026	$5,183,437	$4,267,469	6.4%	$ 4,267,469	$915,968	$31,063,940
2027	$4,831,377	$4,539,453	6.4%	$ 4,539,453	$291,925	$31,355,865
2028	$4,828,772	$4,828,772	6.4%	$ 4,828,772	$0	$31,355,865
2029	$4,472,133	$5,136,530	6.4%	$ 5,136,530	-$664,397	$30,691,468
2030	$4,473,001	$5,463,903	6.4%	$ 5,463,903	-$990,902	$29,700,566
2031	$4,371,253	$5,812,141	6.4%	$ 5,812,141	-$1,440,888	$28,259,677
2032	$4,365,923	$6,182,574	6.4%	$ 6,182,574	-$1,816,651	$26,443,027
Total Infrastructure Deficit					**$26,443,027**	

Note 1: The projected capital provision represents the annual requirement to repair and replace existing Town assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated).
Note 2: 2013 and 2014 annual capital contributions represent Town budget figures.

b) Alternative Financing Strategies

Table B illustrates two additional strategies to identify when the Town would reach full cost recovery. The Strategy 2 analyses indicates that if the Town were to increase capital contributions on average by 4.3% each year, full cost recovery would be reached in 2032, and the infrastructure deficit will have increased to $39.6 million.

The third strategy assumes capital contributions are kept at current levels; increased funding only accounts for inflationary adjustments at a rate of 2% per annum. This analysis indicates the Town would not reach full cost recovery by 2032 and the infrastructure deficit will have increased to $51.3 million. Table C compares the infrastructure deficit for each financing strategy.

Table B
User Rate Annual Funding Gap

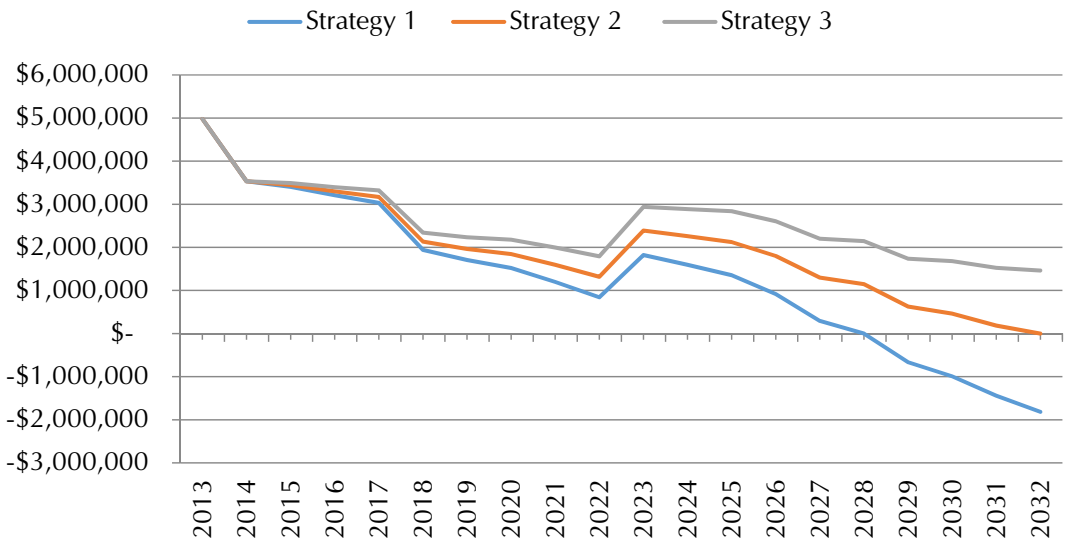


Table C
User Rate Supported Infrastructure Deficit