

ASSET MANAGEMENT PLAN



October 2020

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The preparation of this project was carried out with assistance from the Government of Canada and the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them.

EXECUTIVE SUMMARY

The following summarizes the findings of the Municipality of West Perth's Asset Management Plan (2019 Plan). The 2019 Plan follows the format set out in the *Building Together: Guide for Municipal Asset Management Plans* and it has also been developed to be consistent with the requirements of *Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure* (O. Reg. 588/17) with consideration to the Municipality's Strategic Asset Management Policy. This 2019 Plan defines the current levels of service for all core and non-core assets in compliance with the asset management regulation.

The 2019 Plan incorporates all assets that the Municipality is responsible for to provide a comprehensive overview. All figures are in constant 2019 dollars and should be adjusted annually to account for the effects of inflation.

A. STATE OF THE LOCAL INFRASTRUCTURE

- The Municipality's infrastructure has a total replacement value of \$452.0 million.
- Roads and related infrastructure represent \$234.2 million (52%), bridges and culverts represents \$72.9 million (16%) of the total value;
- The remaining tax supported assets represent \$64.6 million (14%); and
- Engineering infrastructure related to water and sewer assets accounts for approximately \$80.2 million (18%).
- Overall, the Municipality's assets are considered to be in "Good" condition.
- Of the total asset value (net of gravel roads), about \$218.0 million (60%) of the Municipality's assets are considered to be in "Good" or "Very Good" condition.
- Conversely, about \$80.4 million (22%) of infrastructure is considered to be in "Poor" to "Very Poor" condition.

B. LEVEL OF SERVICE

- The Municipality's current levels of service have been defined based on the condition of assets and the measures required as per O. Reg. 588/17:

- Overall, the Municipality’s asset base is considered to be in good condition.
- The Municipality’s roads and related infrastructure, storm and water systems are maintained in “Good” condition.
- The Municipality’s computer network, furniture and fixtures are considered to be in “Poor” to “Very Poor” condition largely based on the age of these assets. Despite this condition classification, many of the assets continue to be in good operating condition.
- Remaining asset categories: machinery and equipment, mobile equipment, land improvements, buildings, bridges and culverts and the sewer system are maintained in “Fair” condition.

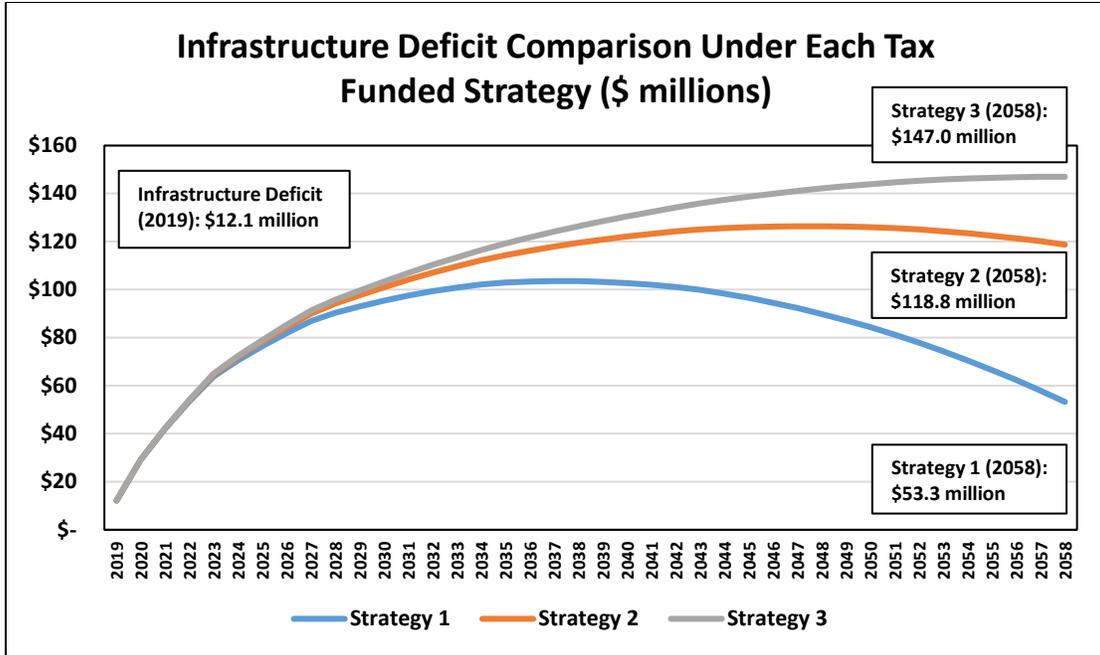
C. FINANCING STRATEGY

- The current 2019 infrastructure deficit for all tax supported assets is calculated to be about \$12.1 million while the infrastructure deficit for rate supported assets is estimated at \$4.3 million. This represents the difference between the required in-year contributions to capital and the current contributions to capital.
- It is unrealistic in the current fiscal context to expect the Municipality to fully address the infrastructure deficit in the short-medium 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);

Summary of Financing Strategies		
Financing Strategy	Tax Supported Strategy Parameters	Rate Supported Strategy Parameters
Strategy 1 Close in-year Funding Gap by 2038	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$205,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$2.0 million tax supported capital funding. • The yearly revenue requirement is equivalent to 3.1% of the Municipality’s 2019 tax levy (excluding police). 	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$49,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$1.4 million rate supported capital funding. • The yearly revenue requirement is equivalent to 4.6% of the Municipality’s 2019 utility rate revenues.

Summary of Financing Strategies		
Financing Strategy	Tax Supported Strategy Parameters	Rate Supported Strategy Parameters
Strategy 2 Close in-year Funding Gap by 2048	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$122,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$2.0 million tax supported capital funding. • The yearly revenue requirement is equivalent to 1.9% of the Municipality's 2019 tax levy (excluding police). 	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$9,500 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$1.4 million rate supported capital funding. • The yearly revenue requirement is equivalent to 0.9% of the Municipality's 2019 utility rate revenues.
Strategy 3 Close in-year Funding Gap by 2058	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$85,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$2.0 million tax supported capital funding. • The yearly revenue requirement is equivalent to 1.3% of the Municipality's 2019 tax levy (excluding police). 	<ul style="list-style-type: none"> • The Municipality would undertake annual increases to rate funded capital in line with inflation only. • Largely reflective of the state of the water and sewer systems, as they are relatively new and in good operating condition.

- Of the three financing strategies identified for both tax and rate supported assets, strategy 3 poses the greatest risk to the Municipality as the infrastructure deficit continues to grow to 2058, and beyond. Strategies 1 and 2 demonstrate the infrastructure deficit being controlled over the planning period. Detailed tables of each strategy are provided in Appendix E; however, the tax supported cumulative infrastructure gaps are summarized in the graph below.



I INTRODUCTION

The Municipality of West Perth's 2019 Asset Management Plan (2019 Plan) provides the Municipality with a tool to assist in capital financing decisions. The Plan covers all Municipality assets: computer network, furniture and fixtures, machinery and equipment, mobile equipment, land improvements, buildings, roads and related, bridges and culverts, and storm, water, and sewer infrastructure.

The 2019 Plan follows the format set out by the Ministry of Infrastructure through the *Building Together: Guide for Municipal Asset Management Plans* and it has also been developed to be consistent with the requirements of *Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure* (O. Reg 588/17) and the Municipality's Strategic Asset Management Policy. All figures reported in this 2019 Plan are in constant 2019 dollars and therefore should be adjusted annually to account for the effects of inflation.

An Excel based asset management financial model has been developed as part of the 2019 Plan. The model contains the Municipality's asset inventory and it is intended to be updated on a regular basis to inform future capital investment decisions. The model contains annual State of the Local Infrastructure Report Cards, which can be reproduced annually to help Council, and the public understand the state of assets and overall funding levels.

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:

- Municipality can make informed and traceable decisions;
- Municipality has the opportunity to coordinate and plan accordingly by taking a risk-based approach to asset management;
- Higher customer satisfaction is possible;
- Documents a funding plan and strategy to manage infrastructure; and

- Demonstrates compliance with regulations and legislation.

Asset management is an ongoing practice in the Municipality of West Perth. 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 2019 Plan is to build on existing practices by identifying how best to manage municipal infrastructure over the planning period to 2058. A strategy for maintaining infrastructure so that existing service levels are maintained is an important element. In this respect, the 2019 Plan has been prepared to be consistent with the Municipality's Asset Management Policy. Ultimately, the 2019 Plan will provide Council with information that can guide sustainable infrastructure investment decisions.

B. ONTARIO'S ASSET MANAGEMENT REGULATION (O. REG. 588.17)

In 2015, the Province of Ontario established the *Infrastructure for Jobs and Prosperity Act*. The purpose of this Act is to establish mechanisms to encourage principled, evidence-based and strategic long-term infrastructure planning that supports job creation and training opportunities, economic growth, protection of the environment, and incorporate design excellence into infrastructure planning.

In December 2017, *Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure* (O. Reg. 588/17) was passed under the *Infrastructure for Jobs and Prosperity Act*. The regulation requires municipalities to develop a Strategic Asset Management Policy, which will help municipalities document the relationship between their Asset Management Plan and existing policies and practices as well as provide guidance for future capital investment decisions. Municipal Council approved the Asset Management Policy in 2019.

The regulations also contain more specific requirements on the type of analyses municipal asset management plans should include. The aim is to provide guidance to municipalities so that asset management plans are more consistent across the Province. Table 1 provides a summary of the key regulatory timelines as outlined by *Regulation 588/17* and where the Municipality currently stands in the timeline.

Table 1 O. Reg. 588/17 Timeline		
Regulation Timeline	Requirement	Progress
July 1, 2019	<ul style="list-style-type: none"> • Municipalities shall prepare their first strategic asset management policy. • Municipalities shall review, and if necessary, update the policy every 5 years. 	<ul style="list-style-type: none"> • Municipal Council approved the Asset Management Policy in 2019. • The next legislative review is expected in 2024, although, earlier reviews are encouraged whenever a change in policy directives occurs.
July 1, 2021	<ul style="list-style-type: none"> • Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets. • The current levels of service must be defined for all core assets. 	<ul style="list-style-type: none"> • This 2019 Plan has incorporated the information from the Municipality's asset inventory. The inventory has incorporated all data from the 2018 OSIM Inspections Report and 2018 Road Management Study. • Current level of service measures have been identified through this plan, with the Municipality expecting to develop other metrics on an ongoing basis. • It is expected that service level data continue to be monitored and refined over the long-term.
July 1, 2023	<ul style="list-style-type: none"> • Every municipality shall prepare an asset management plan in respect of all other municipal infrastructure assets. • The current levels of service must be defined for all other municipal assets 	<ul style="list-style-type: none"> • This 2019 Plan has incorporated all non-core assets contained in the Municipality's inventory. • Current level of service measures have been identified through this plan, with the Municipality expecting to develop other metrics on an ongoing basis.
July 1, 2024	<ul style="list-style-type: none"> • Municipalities must establish proposed levels of service for a minimum of 10 years. • A lifecycle management and financial strategy that covers a minimum of 10 years. 	<ul style="list-style-type: none"> • The Municipality is expecting to develop the analysis needed to establish proposed levels of service and a financial plan to achieve the proposed levels of service. • The proposed levels of service will be established through consultation with Council and the public in a subsequent update of this 2019 Plan.

C. ASSET MANAGEMENT PLAN STRUCTURE

The 2019 Plan is developed to be consistent with the structure recommended through the 2013 *Building Together: Guide for Municipal Asset Management Plans*. At the same time, it has been developed to meet the requirements of O. Reg. 588/17. Table 2 below provides a guide to the sections of the 2019 Plan.

Table 2 Guide to the 2019 Asset Management Plan	
Section	Requirement
Section II - State of the Local Infrastructure	Summarizes the state of the Municipality's infrastructure with reference to infrastructure quantity and quality. Additional details are provided in Appendix B.
Section III - Level of Service	A summary of the current levels of service is presented as well as recommendations on additional metrics the Municipality can look to track in the future. Additional details are provided in Appendix C.
Section IV - Asset Management Strategy	Sets out several strategies that will assist the Municipality in maintaining assets so that current service levels are maintained. This section also includes a risk analysis of Municipality assets. Additional details are provided in Appendix D.
Section V - Financing Strategy	Establishes how asset management can be delivered in a financially sustainable way for both tax and utility rate supported services. Additional details are provided in Appendix E.
Section VI – Continuous Improvements and Updates	Provides key recommendations on how to administer the 2019 Plan and keep it up to date.
Section VII - Conclusions and Recommendations	Provides recommendations based on the analysis undertaken.

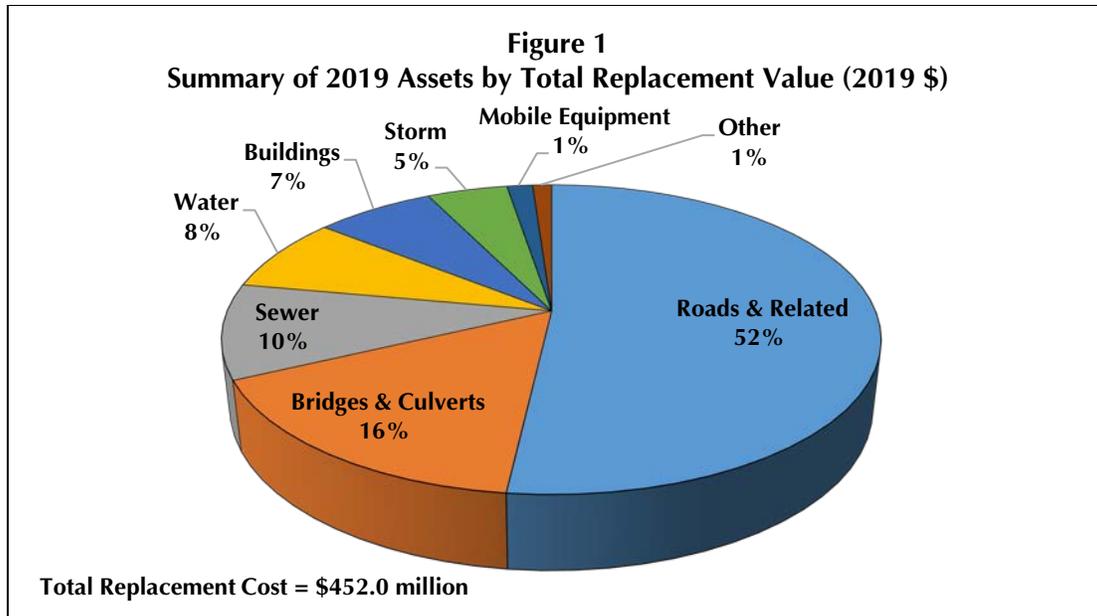
II STATE OF LOCAL INFRASTRUCTURE

This section provides a summary of the Municipality's assets with reference to asset quantity and quality. Some assets have condition assessments based on engineering inspections (roads, bridges and culverts), while the balance of assets considered are based on the useful life of the asset relative to its age as well as independent staff assessments. Useful life assumptions for the assets considered under this 2019 Plan were acquired from the Municipality's tangible capital asset information. Detailed technical information on the asset inventory, remaining useful life and conditions for each asset category is provided in Appendix B.

A. REPLACEMENT COST OF INFRASTRUCTURE

The replacement cost for all municipal assets considered in the 2019 Plan is estimated at \$452.0 million (represented in constant 2019 dollars). The largest share is related to roads and accounts for about \$234.2 million (52%) of the total replacement cost. The next highest share is attributed to bridges and culverts at \$72.9 million (16%) and this is followed by the sewer system at \$44.8 million (10%). The remaining asset categories include \$35.4 million (8%) for the water system, \$31.5 million (7%) for buildings, \$21.2 million (5%) for the storm system, \$6.8 million (1%) in mobile equipment, and \$5.0 million (1%) in other assets (computer network, furniture and fixtures, machinery and equipment, and land improvements).

The replacement costs in the asset inventory have been developed based on information maintained by staff in the asset inventory and benchmark unit costs from municipalities comparable to West Perth. Where information was not available, historical acquisition costs were inflated to current 2019 dollars at a rate of 2%. Detailed replacement cost for each asset category is provided in Appendix B.



Note: Gravel roads are included in the total replacement value, but excluded from the total value in relation to asset condition. Other category includes computer network, furniture and fixtures, machinery and equipment and land improvements.

B. SUMMARY OF STATE OF LOCAL INFRASTRUCTURE

Table 3 provides a summary of the state of local infrastructure for all asset categories considered in this study, which is valued at \$363.9 million (excluding gravel roads). The weighted remaining useful life (WRUL) and weighted average condition (WAC) for each asset category has been derived relative to the replacement value of each asset. Detailed information is provided in Appendix B. The table illustrates several key findings:

- Weighted Remaining Useful Life:** the WRUL of the Municipality's assets is approximately 21 years. The weighted average is largely driven by the relative age of buildings, storm, water and sewer infrastructure, which have well over 20 years of remaining useful life on average. Bridges and culverts are considered overdue. Paved roads have been excluded from this calculation as the acquisition year of roads does not reflect an accurate date on which major rehabilitation was last completed. Gravel roads are maintained on an ongoing basis and not replaced; therefore, they are also excluded from this calculation.
- Weighted Condition:** Overall, the Municipality's assets are determined to be in good condition. Despite the overall Good rating, some asset categories such as computer network, furniture and fixtures are considered to be in poor or very poor condition; however, this condition is based on the relative age of the assets, and despite this rating, continue to be in good operating condition. Conversely, roads

and related, storm and water infrastructure are considered to be in good condition. The remaining asset categories are considered to be in fair condition.

It is also important to note that gravel roads are excluded from WAC number; gravel road conditions are highly dependent on weather and traffic conditions. Furthermore, the conditions are very reliant on the specific timing of when the condition assessment took place and can fluctuate quite drastically from month-to-month.

Asset Type	Replacement Cost 2019	Useful Life (Years)	Weighted Remaining Useful Life	Weighted Average Condition	
Computer Network	\$ 66,859	5-15	Overdue	Very Poor	1.0
Furniture & Fixtures	\$ 383,850	10-20	Overdue	Poor	1.6
Machinery & Equipment	\$ 2,274,348	5-50	5	Fair	2.9
Mobile Equipment	\$ 6,798,882	5-25	6	Fair	2.7
Land Improvements	\$ 2,302,964	15-80	30	Fair	3.5
Buildings	\$ 31,545,337	20-50	19	Fair	2.9
Roads - Paved*	\$140,034,565	6-30	Not Applicable	Good	4.4
Roads - Related	\$ 6,102,138	20-75	44	Good	3.8
Bridges & Culverts	\$ 72,946,050	40	Overdue	Fair	2.6
Storm	\$ 21,225,806	50-75	45	Good	3.6
Water	\$ 35,386,623	10-75	45	Good	3.7
Sewer	\$ 44,837,143	5-100	42	Fair	3.3
Total	\$363,904,565		21	Good	3.6

Note: Excludes gravel roads. Remaining useful life not calculated since conditions have been recorded for all paved roads in the Municipality based on the 2018 Road Management Study.*

C. CONDITION ASSESSMENTS

Consistent with the Canadian National Infrastructure Report Card, as well as other major organization and institution reporting formats, a five-point rating scale was used to assign a condition to all assets. Table 4 summarizes the assumed parameters.

Table 4 Condition Assessment Parameters	
Condition Rating	Definition
Very Good	<ul style="list-style-type: none"> Well maintained, good condition, new or recently rehabilitated asset.
Good	<ul style="list-style-type: none"> Good condition, few elements exhibit existing deficiencies.
Fair	<ul style="list-style-type: none"> Some elements exhibit significant deficiencies. Asset requires attention.
Poor	<ul style="list-style-type: none"> A large portion of the system exhibits significant deficiencies. Asset mostly below standard and approaching end of service life.
Very Poor	<ul style="list-style-type: none"> Widespread signs of deterioration, some assets may be unusable. Service is affected.

Assets were categorized in the 5-tier rating system on an asset by asset basis. In particular, paved roads condition assessments are based on the 2018 Road Management Study. For bridges and culverts, conditions are based on the 2018 OSIM Inspection Report. Some adjustments were also made for fire equipment and vehicles. Although these assets are older and may be considered in poor or very poor condition based on their age, strict regulatory requirements necessitate regular inspections and maintenance, therefore these assets have been categorized to be in fair condition. In the absence of engineering reports or staff level inspections, the remaining useful life of the assets was used as a proxy for its condition. Importantly, condition assessment information used for roads, bridges and culverts represents over 50% of the municipal asset base.

Table 5 below provides a summary of the asset categories and the methodology used to assign a condition. Additional details on the methodology used for condition assessments is provided in Appendix B.

Table 5 Condition Rating Methodology			
Condition Assessment	Paved Roads (PCI Roads)	Bridges & Culverts (BCI Range)	All Other Asset Categories (% of Remaining Useful Life)
Very Good	80-100	80-100	80%-100%
Good	70-80	70-80	60%-80%
Fair	60-70	60-70	40%-60%
Poor	50-60	50-60	20%-40%
Very Poor	Less than 50	Less than 50	Less than 20%

Note: Condition assessments for paved roads based on 2018 Road Management Study. Condition assessments for bridges & culverts based on 2018 OSIM Inspections Report.

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

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. The Municipality already performs detailed condition assessments of roads through the Road Management Study and bridges and culverts through the OSIM Inspections Report.
2. Estimates based on expert staff opinion. This approach is important where there is low confidence that age and useful life represents a particular set. This method was used in the case of fire vehicles and equipment.
3. Estimates based on age and the remaining useful life of the asset. This has been used for all assets, which the Municipality was not able to provide a condition assessment based on existing knowledge or site inspection. It is the intention that the Municipality move towards a condition assessment methodology using approach 1 and 2.

III LEVEL OF SERVICE

Asset management decisions must be made with reference to the level of service planned for by the Municipality. Current service levels in West Perth 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 Municipality in any one year has been determined by funding availability. That said, the Municipality has in the past been responsive to repair needs to address immediate environmental or health risks.

The community expects that services be delivered in a cost effective and efficient way. Generally, community expectations revolve around the Municipality's accessibility of "soft" services (e.g. recreation facilities, libraries, fire stations) within neighbourhoods. However, safety and performance are also important for core services such as roads, bridges and culverts, storm, water and sewer infrastructure.

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 current levels of service as they relate to the requirements outlined in Ontario *Regulation 588/17*.

A. CURRENT LEVELS OF SERVICE

The Municipality has determined the current levels of service through the analysis and model developed in this 2019 Plan. The current level of service measures for each asset category are summarized in Table 6:

- **Weighted Condition:** the condition of the Municipality's assets are determined to be in good condition overall. The Municipality's paved roads and related assets, storm and water infrastructure are maintained in good condition. Only the computer network and furniture and fixtures are considered to be in poor or very poor condition, which can be attributed to the age of those assets. Machinery and equipment, mobile equipment, land improvements, buildings, bridges and culverts, and the sewer system are considered to be in fair condition.

It is important to note that assets in fair condition may transition into the poor or very poor category in the near future and may require attention in the short to medium term if proper asset maintenance and rehabilitation is not achieved. It will

be important for the Municipality to determine which assets in the fair category should be prioritized to ensure that current levels of service do not decline.

- **Roads:** Local road lane kilometres as a share of the Municipality's land area is 85%, mainly attributed to the land area of the municipality of approximately 580 km². The average pavement condition index of paved roads is 82 and of gravel roads is 74 (out of 100). The Municipality has spent an average of \$1.2 million per year for road maintenance in the 2014-2018 period (both gravel and paved roads). All roads are maintained at or above minimum maintenance standards.
- **Bridges and Culverts:** The Municipality continues to ensure that bridges and culverts continue to operate in a safe and efficient manner. The Municipality will continue to monitor bridges and culverts carefully to ensure that current levels of service are maintained. Currently, none of bridges and culverts have loading or dimensional restrictions year round and the average condition index for all Municipality bridges is 57 (out of 100) and the average condition index for all Municipality culverts is 51 (out of 100).
- **Storm System:** The Municipality currently maintains the storm system in good condition with 62% of assets at good or very good condition. It is assumed that the current system is resilient to 5-year and 100-year storm, largely related to the urban areas of the Municipality. There have been no recorded road closures due to flooding in the past few years.
- **Water System:** The Municipality currently maintains the water system in Good condition with 58% of assets at good or very good condition. The Municipality ensures the water system operates in a safe and efficient manner and provides for clean drinking water to residents that exceed standards. The Municipality meets all mandatory inspection timelines and inspects fire hydrants at least twice per year in addition the system has 24/7 SCADA monitoring. No water boil advisories have been issued in recent years.
- **Sewer System:** The Municipality currently maintains the sewer system in fair condition with 55% of assets at good or very good condition. All sewer facilities are inspected every year and include back-up power. Furthermore, no effluent violations have been documented over the past few years. The Municipality has had no incidents of wastewater bypassing treatment over the last few years.

Table 6 Level of Service Performance Tracker		
Asset Category	Performance Measures	Current LOS (5-Year Average)
Computer Network	Average weighted condition assessment	Very Poor
	Percentage of assets at or above "Good" or "Very Good" condition	0%
	Budget yearly expenditures for computer hardware/software maintenance	\$ 29,812
Furniture & Fixtures	Average weighted condition assessment	Poor
	Percentage of assets at or above "Good" or "Very Good" condition	4%
Machinery & Equipment <i>(Admin, Fire, PW Only)</i>	Average weighted condition assessment	Fair
	Percentage of assets at or above "Good" or "Very Good" condition	24%
	Budget yearly expenditures for equipment maintenance	\$ 40,617
	Frequency of inspections (tools)	Prior to each use
Mobile Equipment	Average weighted condition assessment	Fair
	Percentage of assets at or above "Good" or "Very Good" condition	28%
	Budget yearly expenditures for motor vehicle maintenance	\$ 228,400
	Number of inspections per year	Annual
	Frequency of inspections (Public Works)	Prior to each use
	Licensed inspections (Public Works)	Annual
	Frequency of inspections (Fire)	Annual - also weekly inspection by firefighters, and post-emergency inspection.
Land Improvements	Average weighted condition assessment	Fair
	Percentage of assets at or above "Good" or "Very Good" condition	58%
Buildings	Average weighted condition assessment	Fair
	Percentage of assets at or above "Good" or "Very Good" condition	39%
	Proportion of the population living within 20 km of a community/recreation centre	100%
	Proportion of the population living within 20 km of a fire station	100%
	Proportion of the population living within 20 km of a library (includes only Municipally owned library)	100%
	Number of days per year recreation program space is closed due to maintenance/repair	Off-Season Only
	Budget yearly expenditures for building/facility maintenance (tax funded services)	\$ 43,865
	Number of inspections per year	Monthly
Roads	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality (O. Reg. 588/17).	
	Arterial	0%
	Collector	0%

Table 6 Level of Service Performance Tracker		
Asset Category	Performance Measures	Current LOS (5-Year Average)
	Local	85%
	1. For paved roads in the municipality, the average pavement condition index value (O. Reg. 588/17).	82.20
	2. For unpaved roads in the municipality, the average surface condition (O. Reg. 588/17).	73.60
	Average weighted condition assessment (All Roads)	Good
	Percentage of assets at or above "Good" or "Very Good" condition (All Roads)	83%
	Budget for annual road maintenance	\$ 1,217,285
	Number of signs that do not meet minimum maintenance standard.	22
	Road segments that do not meet minimum maintenance standards	0
Bridges and Culverts	Percentage of bridges in the municipality with loading or dimensional restrictions (O. Reg. 588/17).	0%
	1. For bridges in the municipality, the average bridge condition index value (O. Reg. 588/17).	56.87
	2. For structural culverts in the municipality, the average bridge condition index value (O. Reg. 588/17).	51.38
	Average weighted condition assessment (All bridges & culverts)	Fair
	Percentage of assets at or above "Good" or "Very Good" condition (all bridges & culverts)	30%
	Bridges that do not meet minimum maintenance standards	0
	Budget yearly expenditures for bridge/culvert maintenance	\$ 102,783

Table 6 Level of Service Performance Tracker		
Asset Category	Performance Measures	Current LOS (5-Year Average)
Storm System	1. Percentage of properties in municipality resilient to a 100-year storm (O. Reg. 588/17).	98%
	2. Percentage of the municipal stormwater management system resilient to a 5-year storm (O. Reg. 588/17).	100%
	Average weighted condition assessment	Good
	Percentage of assets at or above "Good" or "Very Good" condition	62%
	Number of times roads closed due to flooding per year	0
Water System	1. Percentage of properties connected to the municipal water system (O. Reg. 588/17).	56%
	2. Percentage of properties where fire flow is available (O. Reg. 588/17).	100% Urban Area
	1. The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system (O. Reg. 588/17).	0
	2. The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system (O. Reg. 588/17).	5.4
	Average weighted condition assessment	Good
	Percentage of assets at or above "Good" or "Very Good" condition	58%
	% unaccounted for water (water billed vs. water produced)	4.1%
	Total Storage capacity (m3)	5,603
	Residential billable consumption (L)	248,462
	Percentage of water facilities with backup power	100%
	Budget yearly expenditures for water distribution and supply system maintenance	\$ 586,051
	Number of inspections per year (facilities).	24 x 7 Scada system
	Number of inspections per year (Fire hydrants).	2

Table 6 Level of Service Performance Tracker		
Asset Category	Performance Measures	Current LOS (5-Year Average)
Sewer System	Percentage of properties connected to the municipal wastewater system (O. Reg. 588/17).	56%
	1. The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system (O. Reg. 588/17).	0
	2. The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system (O. Reg. 588/17).	0
	3. The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system (O. Reg. 588/17).	0
	Average weighted condition assessment	Fair
	Percentage of assets at or above "Good" or "Very Good" condition	55%
	Percentage of wastewater bypassing treatment	0%
	Percentage of facility sites with backup power	100%
	Budget yearly expenditures for wastewater collection and treatment system maintenance	\$ 712,357
	% of wastewater facilities inspected annually	100%

IV ASSET MANAGEMENT STRATEGY

This section sets out an action plan that will assist the Municipality in maintaining assets so that current service levels are maintained. 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 analysis, which can be used to assist municipal staff and Council measure and manage risks to maintain current levels of service.

A. A SET OF PLANNED ACTIONS

The Municipality employs various practices to maintain current 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. Table 7 outlines the set of planned actions the Municipality undertakes to maintain assets. The set of existing actions and planned activities are summarized for each of the asset categories in Appendix D.

Category	Description
Non-infrastructure Solutions	<ul style="list-style-type: none"> Actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).
Maintenance Activities	<ul style="list-style-type: none"> Servicing assets on a regular basis in order to fully realize the original service potential. Maintenance will not extend the life of an asset or add to its value. Not performing regular maintenance may reduce an asset's useful life.
Renewal/Rehabilitation Activities	<ul style="list-style-type: none"> Mostly associated to significant repairs designed to extend the useful life of an asset. These types of activities are typically done at key points in the lifecycle of an asset to ensure the asset reaches its designed useful life.
Replacement Activities	<ul style="list-style-type: none"> Activities that are expected to occur once an asset has reached the end of its useful life and renewal/ rehabilitation is no longer an option.

Table 7 Planned Actions	
Category	Description
Disposal Activities	<ul style="list-style-type: none"> The activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed. Typically, disposal costs are accounted under replacement activities. Some assets, such as landfills, may have perpetual maintenance costs.
Expansion Activities	<ul style="list-style-type: none"> Planned activities required to extend or expand municipal services to accommodate the demands of growth. Expansion activities are captured in the Municipality's Development Charges Background Study.

It should be noted that the Municipality undertakes all the activities described above and in Appendix D; however, the Municipality's budget generally accounts for these expenditures in different categories. The Municipality can aim to categorize budget expenditures based on the categories above.

B. RISK ANALYSIS

It is important to assess the risk associated with each asset and the likelihood of asset 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 Municipality 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. The formula to determine asset risk is as follows:

$$(\text{Probability of Failure}) \times (\text{Consequence of Failure}) = (\text{Risk Rating})$$

Each of the components of the Risk Rating methodology is defined as follows:

- Probability of Failure:** is directly linked to the condition of an asset. For example, an asset in very poor condition, the probability of asset failure in the short term is increased. This type of asset may be near the end of its useful life or has deteriorated significantly. Conversely, it would be considered rare for an asset to fail in the short term if it is considered to be in good or very good condition. Table 8 below outlines the definition of probability of failure used for the Municipality's assets.

Table 8 Probability of Failure		
Condition	Probability of Failure	Description
Very Good	1	Rare
Good	2	Unlikely
Fair	3	Possible
Poor	4	Likely
Very Poor	5	Almost Certain

Note: Definitions are based on the MFOA Asset Management Framework.

- Consequence of Failure:** refers to the impact on the Municipality if an asset were to fail. The consequence of failure has been determined separately for each asset category, as the impact to the Municipality differs greatly by asset type. In addition, the consequence of failure has been evaluated on a range of criteria to help further evaluate the relative consequences that could be realized for each asset. For example, if a fire emergency vehicle was not available for service, the potential impact could be severe compared to a vehicle used for administrative purposes. For the purposes of this analysis, assets were assigned a consequence of failure based on an assessment of the relative importance of the asset. Table 9 below outlines the definition of consequence of failure used for the Municipality's assets.

Table 9 Consequence of Failure					
Consequence of Failure	Description	Injury	Service Interruption	Environment Damage	Reputation Damage
1- Insignificant	No impact to operations.	None	< 4 hours	None	None
2 - Minor	Minor impact to operations, all major operations can continue to function.	First Aid	Up to 1 day	Minor	Minor Media
3 - Moderate	Moderate impact to operations some critical operations may need to stop functioning temporarily.	Medical Treatment	1 day - 1 week	Short Term	Moderate Media
4 - Major	Major operations seize and some damage control necessary.	Disability/ Fatality	1 week - 1 month	Long Term	High Media
5 - Significant	All operations seize to function and major damage control is necessary.	Fatality	> 1 month	Irreversible	Censure/ Inquiry

Note: The replacement cost of assets was also used to calculate the consequence of failure, where a higher value asset was assumed to have a higher consequence of failure.

Risk Rating: categorizes assets based on the level of risk to the Municipality. The risk rating provides a guide to prioritize assets by determining which assets require attention first and which capital works can be deferred. Higher risk assets should be prioritized for attention in the short term by determining which of the lifecycle actions is required to be performed on the asset (see Appendix D). Table 10 below provides a summary of the risk matrix.

Evaluation Rating		Consequence of failure					Color Code
		1	2	3	4	5	
Probability of Failure	1	1	2	3	4	5	Very Low Risk
	2	2	4	6	8	10	Low Risk
	3	3	6	9	12	15	Moderate Risk
	4	4	8	12	16	20	High Risk
	5	5	10	15	20	25	Very High Risk

Table 11 presents the findings of the risk analysis and illustrates the Municipality's assets rated from low to high risk with the overall risk being moderate. Assets in the high risk category include computer network, machinery and equipment and mobile equipment. These categories represent assets, which based on the condition and consequence should be prioritized for replacement sooner than other low risk asset categories. The risk of each asset and asset category has been determined with reference to the parameters outlined in Table 10 above. It is important to note, that the Municipality will need to continue regular maintenance activities and capital works moving forward to maintain current levels of service – this ensures assets do not further deteriorate posing greater risk to the corporation.

It is important to note, the analysis in Table 11 excludes a risk analysis for paved roads, bridges and culverts. The 2018 Road Management Study details conditions and prioritized works for each road segment in the Municipality over a period of 10 years. Similarly, the 2018 OSIM Inspections Report captures conditions and prioritized works over a 5 and 10-year timeframe. These stand alone documents are considered to be the risk assessment for these assets. Although the risk assessment does not include these asset categories, the assumed prioritized works and associated costs have been included in the financing strategy in Section V.

Asset Type	Replacement Cost 2019	Risk (Weighted Average)	
Computer Network	\$66,859	High	13
Furniture & Fixtures	\$383,850	Moderate	8
Machinery & Equipment	\$2,274,348	High	10
Mobile Equipment	\$6,798,882	High	12
Land Improvements	\$2,302,964	Low	7
Buildings	\$31,545,337	Moderate	8
Roads - Paved	\$140,034,565	Risk assessment captured through Road Management Study 2018	
Roads - Related	\$ 6,102,138	Low	6
Bridges & Culverts	\$72,946,050	Risk assessment captured through OSIM Inspections Report 2018	
Storm	\$21,225,806	Low	6
Water	\$35,386,623	Low	7
Sewer	\$44,837,143	Moderate	8
Total	\$363,904,565	Moderate	8

It is important to recognize the risk associated with the Municipality's ability to deliver the plan while recognizing that any deviation may affect the overall ability to deliver service. Table 12 below provides a summary of the identified risks, potential impacts and mitigating actions associated with the asset management program.

Identified Risk	Potential Impact	Mitigating Action
Failed Infrastructure	<ul style="list-style-type: none"> • Delivery of service • Asset and equipment damage 	<ul style="list-style-type: none"> • Repair and rehabilitate as necessary • Increase investment • Non-infrastructure solutions.
Inadequate funding	<ul style="list-style-type: none"> • Delivery of service • Increased risk of failure • Shorten asset life • Defer funding to future generations 	<ul style="list-style-type: none"> • Reductions of service • Find additional revenue sources
Regulatory Requirements	<ul style="list-style-type: none"> • Non-compliance • Mandatory investments • Increased costs 	<ul style="list-style-type: none"> • Find additional revenue sources • Lobby actions
Plan is not followed	<ul style="list-style-type: none"> • Shorten asset life • Inefficient investments • Prioritization process failure • Failure to deliver service 	<ul style="list-style-type: none"> • Monitor and review • Create asset management network • Implement processes

V FINANCING STRATEGY

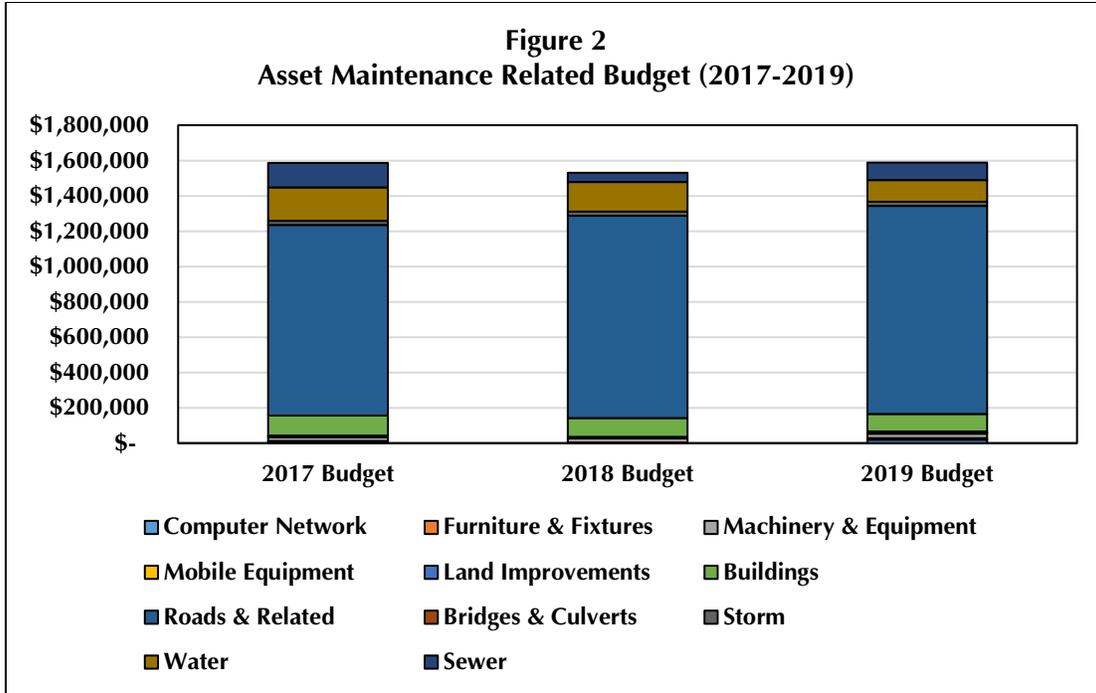
This section of the 2019 Plan is intended to provide a framework for the Municipality to integrate asset management with annual budgeting and long-term financial planning. The Municipality has traditionally followed a “pay-as-you-go” approach to financing infrastructure, whereby capital expenditures are prioritized and approved with reference to the availability of funds; in particular, funds are budgeted annually based on an allocation to reserves and capital based on annual amortization. The Municipality maintains some funding in reserves, which further enhances Council’s commitment to its strategic objective to ensure infrastructure sustainability.

A. OPERATING BUDGET EXPENDITURES

The Municipality has historically set aside funds to maintain 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 Municipality has been increasing its operational and capital budget expenditures to maintain assets and fund capital asset repair and replacement over the past few years.

Figure 2 illustrates total asset maintenance related expenditures by asset category based on the Municipality’s annual budgets. Total expenditures totalled \$1.6 million in 2019 and the largest share of expenditures has consistently been related to roads, accounting for almost 75% of the maintenance budget for 2019, at approximately \$1.2 million.

It is anticipated that the Municipality’s operating expenditures will be adjusted annually, at minimum, to account for the effects of inflation. Although, if additional asset management strategies are adopted by the Municipality, annual costs could exceed regular inflationary adjustments.



Source: Municipality of West Perth annual budgets.

B. CAPITAL REPLACEMENT SCHEDULE

The 2019 Plan includes an estimate of the timing for replacement of all assets with additional detailed timing developed for paved roads, bridges and culverts. Using the risk assessment discussed in Section IV, a schedule for the replacement of assets has been developed on an asset by asset basis. Assets with a higher risk rating are prioritized earlier in the schedule to reflect a higher priority while assets with lower risk ratings are moved further out into the future forecast to reflect a more “smoothed” expenditure outlook. Table 13 below provides a summary of the risk thresholds used to calculate timing of replacement needs.

Percentage of Useful Life Remaining					Color Code
100%	80%	60%	40%	20%	Very Low Risk
80%	65%	50%	30%	16%	Low Risk
60%	50%	35%	25%	10%	Moderate Risk
40%	30%	25%	15%	2%	High Risk
20%	16%	10%	2%	0%	Very High Risk

It is important to note, that detailed replacement schedules were developed for paved roads, bridges and culverts. The specific methodologies are outlined:

- **Roads:** The Municipality developed a Road Management Study in 2018. The study includes recommended repair and rehabilitation works for paved roads over a 10-year period. The timing and cost of these works have been included in the replacement schedule and reflect the short-term needs of the Municipality's road system. Furthermore, the study outlines useful life assumptions for each type of road surface, ranging from 6 years for LCB - 1 lift to 30 years for HCB - 3 lift roads. With this information, the study assumes roads are resurfaced every 6 to 30 years dependent on the type of road. This resurfacing schedule, and assumed resurfacing unit costs per kilometre of paved roads, has also been incorporated into the replacement schedule. Details on unit costs and useful life assumptions for roads is provided in Appendix B.
- **Bridges and Culverts:** For this asset category, the recommended works from the 2018 OSIM Inspections Report were used to develop the timing and cost of works needed over the next 10 years. Timing assumptions were developed based on the 1-5 and 5-10 year planning periods developed as part of that report. For structures without recommended works in the OSIM report, the age and replacement cost of the structure was used as a proxy, where the remaining useful life was restated based on the condition of each structure. Additional details on unit costs and remaining useful life assumptions are provided in Appendix B.

1. Tax Supported Assets

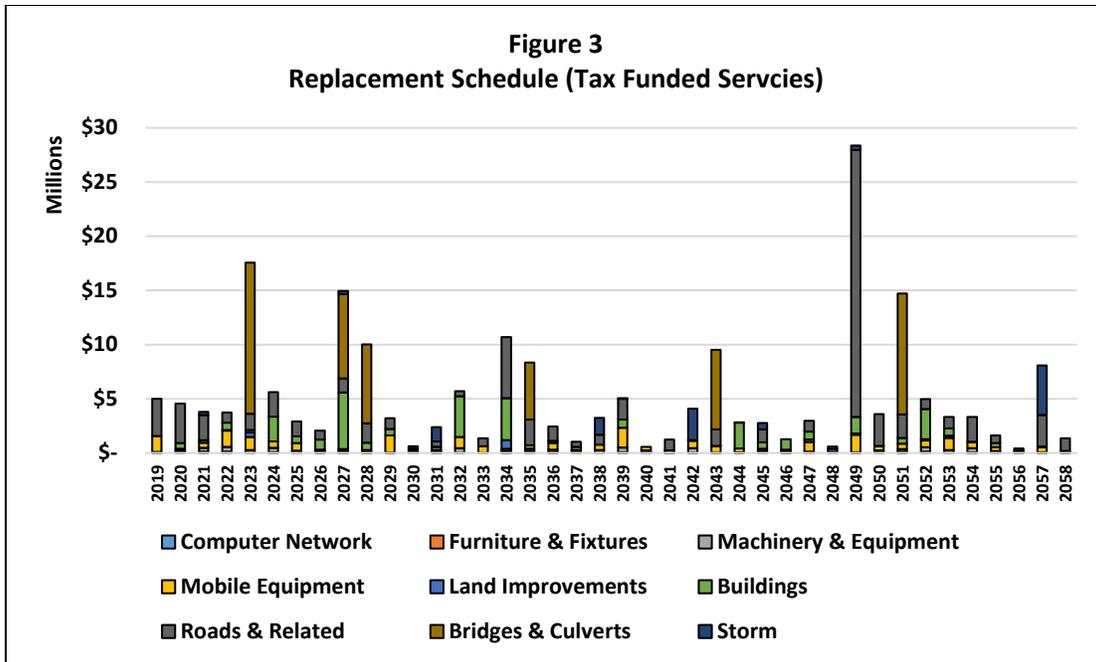
Figure 3 sets out the schedule of repair and replacement of assets, to maintain current levels of service for the tax supported assets considered in the 2019 Plan. Over the 40-year period, to 2058, the tax supported repair and replacement program totals about \$209.9 million. The average yearly replacement costs of these assets amount to approximately \$5.2 million per year.

Some larger valued assets have been identified over the next few years to require repair or replacement:

- **Computer Network:** Over the next five years (2019-2023), computer network assets are expected to be replaced totalling approximately \$67,000. Many of the assets are older than 5 years; however, some assets may continue to operate and may not be replaced.
- **Furniture and Fixtures:** Over the next five years, various furniture and fixtures assets are expected to be replaced at a cost of \$246,000. This includes replacement of fixtures, office furniture, and park benches. These assets have been identified to be beyond their useful life, however some assets may continue to operate and not be replaced, particularly those that may be identified to be in better condition than what their age would otherwise indicate.
- **Machinery & Equipment:** Various machinery and equipment assets are expected to be replaced within the next five years (2019-2023) as they have been identified

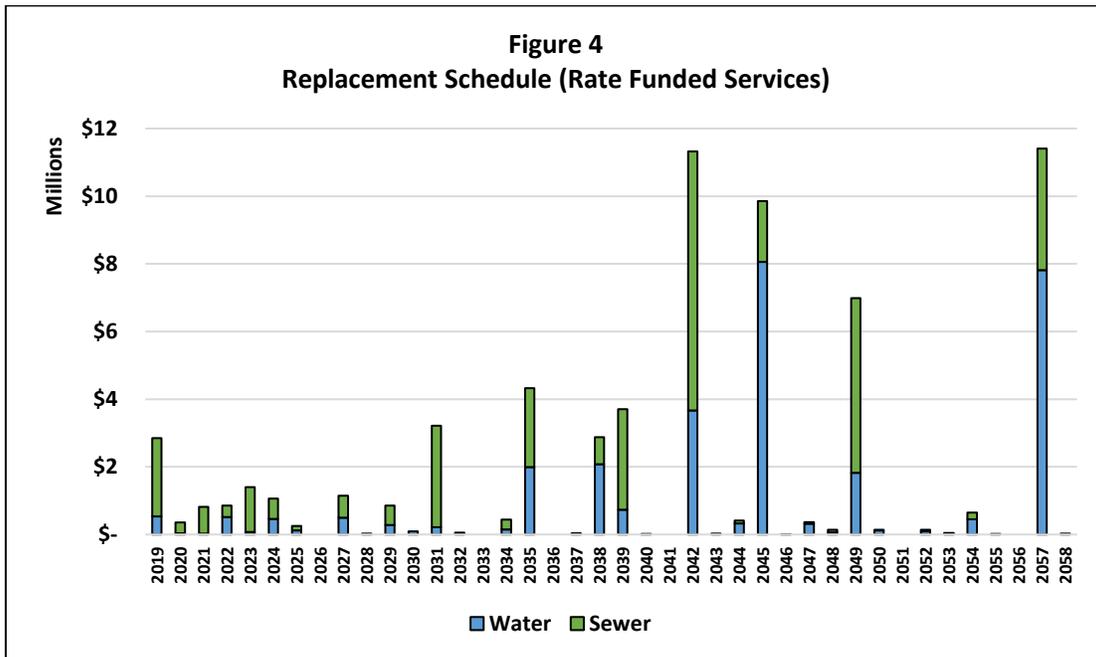
to be of higher risk based on their condition and consequence of failure. The total cost of these replacements amounts to approximately \$1.3 million. The three largest assets are compressors/condensers at the arena (\$80,000), a digital sign at Centennial Park (\$65,000), and a plow attachment for 2018 tandem Dump Truck (\$115,000).

- **Mobile Equipment:** Over the next 5-years, approximately \$4.8 million in replacements have been identified for mobile equipment assets. The three largest assets include a Freightliner triple combination pumper (\$349,000), a ladder truck (\$535,000) and a Caterpillar 140M Grader (\$332,000).
- **Land Improvements:** Over the next 5-years, approximately \$502,000 in replacements have been identified in this category. In particular, lights at Dublin Lions Park, Cromarty Park and Brodhagen Park amount to the 3 largest assets during this timeframe amounting to about \$198,000 total.
- **Buildings:** Various buildings have been identified for repair or rehabilitation over the next few years. In 2024, \$2.3 million in repair or rehabilitation work has been identified. Of this amount, the largest shares include the fire hall building addition (\$802,000), Dublin Lions Park Pavilion (\$361,000) and the St. George St Police detachment (\$495,000). In 2027, \$5.2 million in works have been identified, mostly related to the Arena building (\$3.6 million) and components of the Municipal Office (\$1.4 million).
- **Roads and Related:** The 2018 Road Management Study identified repair and rehabilitation requirements for several municipal roads. In particular, over the 10-year planning period of that report, \$17.8 million in road works was identified. Of this amount, Line 16 from Rd 151 to Rd 161 (\$544,000 in 2020), Line 16 from Rd 161 to Highway 23 (\$466,000 in 2020), and Line 24 from Rd 163 to Rd 164 (\$512,000 in 2021) were the three largest road works identified.
- **Bridges & Culverts:** Based on the 2018 OSIM Inspections Report and assumptions made on the approximate timing for work, approximately \$29.0 million in repair and rehabilitation work has been identified over the 10-year planning period to 2028. Of this amount, the Wellington St Bridge (0.07 km south of Quebec St at \$805,000), the Frank St Bridge (0.2 km east of Highway 23 at \$855,000), and the Clarke Bridge (0.3 km north of Rd 145 at \$2.1 million) were the three largest bridge works identified up to the period ending in 2028.
- **Storm:** Only some storm assets are expected to be replaced within the next five years (2019-2023) as they have been identified to be of higher risk based on their condition and consequence of failure. The total cost of these replacements amounts to approximately \$291,000.



2. Rate Supported Assets

Figure 4 sets out the schedule of repair and replacement of assets, to maintain current levels of service for the rate supported (water and sewer) assets considered in the 2019 Plan. Over the 40-year period, to 2058, the rate supported repair and replacement program totals about \$66.0 million. The average yearly replacement costs of these assets amount to approximately \$1.6 million per year over the 40-year period.



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 municipal infrastructure and assets. Costs to maintain and eventually repair or replace municipal assets need to be understood and 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 constant 2019 dollars. The aggregate of all individual provisions form an annual contribution to reserves for the purpose of asset repair and replacement.

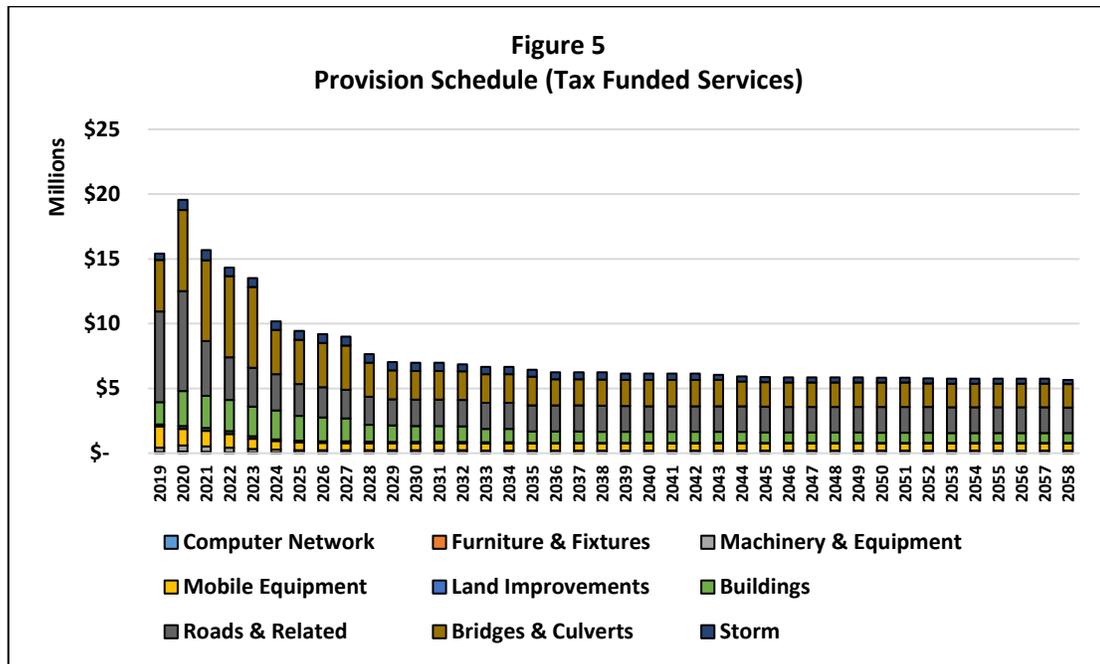
1. Tax Supported Assets

It is important to note that this provision includes cost associated to renewal/rehabilitation and replacement based on the replacement schedule in Figure 3 above. Furthermore, available tax supported capital reserves have been accounted and applied towards the 2019 infrastructure deficit.

Figure 5 shows the funds that would have to be contributed annually to reserves to maintain current levels of service for tax supported assets included in this 2019 Plan to 2058. Figure 5 demonstrates that:

- Average annual contributions over the 40-year period would have to be in the order of \$7.7 million per year (net of existing reserve funds), with road and bridge works as the most significant portions.
- Higher capital contributions would be required in the short-term for significant infrastructure expenditures identified in 2019, which amount to \$15.4 million (including transfers to reserves and net of existing reserves). However, there will likely be measures the Municipality could take to mitigate this financial pressure in 2019 (and future years). These measures are more fully discussed in Part E and G of this section.
- The Municipality will spend about \$3.3 million (including grants, gas tax and reserves) in 2019 for repair/replacement of tax supported assets. The \$3.3 million in capital spending is comprised of:
 - \$2.0 million in tax levy capital funding (including reserve contributions);
 - \$269,000 in gas tax funding;
 - \$960,000 in other grants including OCIF and on-time grants.
- Investment in municipal assets would need to increase by over \$4.4 million in 2019 to achieve the \$7.7 million 40-year average requirement in 2019. It should

be noted that of the 2019 capital funding sources, tax supported revenues are the most secure form of recurring revenue for the Municipality as other funding sources could be subject to review by the Province.

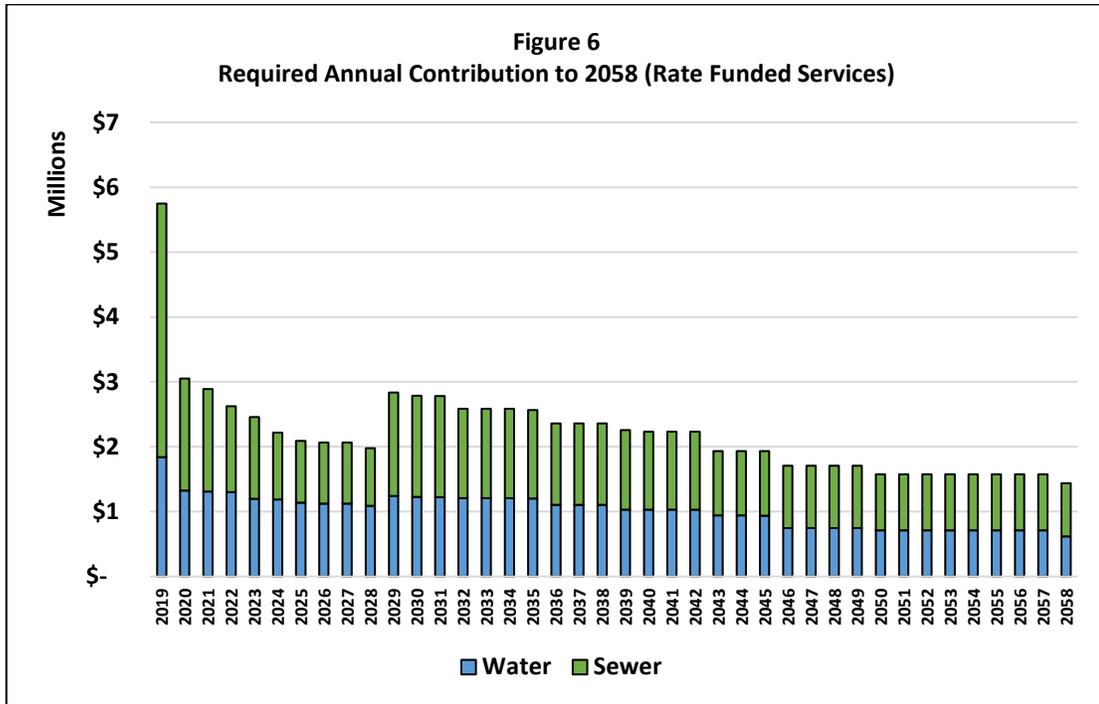


2. Rate Supported Assets

Figure 6 shows the funds that would have to be contributed annually to reserves to maintain current levels of service for rate supported assets included in this 2019 Plan to 2058. Existing water and sewer capital reserves have been applied against the first 10 years of the forecast. Figure 6 demonstrates that:

- Average annual contributions over the 40-year period would have to be in the order of \$2.2 million per year (net of existing reserve funds), with sewer works as the most significant portions.
- Higher capital contributions would be required in the short-term for significant infrastructure expenditures identified in 2019, which amount to \$5.7 million (including transfers to reserves and net of existing reserves). However, there will likely be measures the Municipality could take to mitigate this financial pressure in 2019 (and future years). These measures are more fully discussed in Part E and G of this section.
- The Municipality will spend nearly \$1.4 million in 2019 for repair/replacement of rate supported assets.
- Investment in municipal assets would need to increase by approximately

\$785,000 to achieve the \$2.2 million 40-year average requirement in 2019. The Municipality’s utility rate studies will continue to inform the level of investment required annually while considering future rate increases.



D. CURRENT INFRASTRUCTURE DEFICIT

To implement sustainable asset management practices the Municipality 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 tax and rate supported assets in this 2019 Plan. Using the tax supported services as a reference, the total 2019 capital provision required is \$15.4 million (including infrastructure backlog) and current capital spending is \$3.3 million (includes capital from tax, transfer to reserves, gas tax and other grants). The current in-year infrastructure deficit is therefore \$12.1 million, which represents about 2.7% of the total tax supported replacement value. The infrastructure deficit would continue to grow should the required annual contributions to capital, identified in Part C, be delayed.

Table 14 Infrastructure Deficit for Base Year 2019		
	Tax Supported	Rate Supported
Projected 2019 Capital Provision	\$15,407,439	\$5,748,287
Total 2019 Capital Spending (Budget)	\$3,277,237	\$1,429,302
Funding Gap	\$12,130,202	\$4,318,985
Cumulative Infrastructure Deficit	\$12,130,202	\$4,318,985
Cumulative Infrastructure Deficit as a Percentage of Total Replacement Value	2.7%	1.0%
<i>Note: Total 2019 capital spending is derived from 2019 budget and includes in year-funding for capital from: tax levy (or utility rates), transfer to reserves, gas tax and other grants.</i>		

E. FINANCING STRATEGY

It is unrealistic to expect the Municipality to address the total infrastructure deficit in the short-term. Therefore, a long-term funding strategy that identifies options for addressing current and future asset expenditures is required. This analysis recognizes that the Municipality 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: Capital Replacement Schedule and therefore some infrastructure funding and works would fall in the backlog.

Tax Supported Assets

If the Municipality were to implement a funding strategy to eliminate the tax supported infrastructure deficit by 2058 (40 years), the Municipality would be required to increase capital contributions on an annual basis by an average of about \$274,000 for 40 years. For 2019, the increase would be in addition to the \$2.0 million tax supported capital funding, \$269,000 in Gas Tax funds and \$960,000 in other grants. The yearly revenue requirement is equivalent to 4.2% of the Municipality's 2019 tax levy revenues of about \$6.5 million (excluding police). A detailed table of this strategy can be found in Appendix E – Table 1.

Eliminating the infrastructure deficit by 2058 is an aggressive objective and is an initiative the Municipality is unlikely to explore at this time; a few reasons include:

- The required capital contributions (to eliminate the deficit) will necessitate an increase to property taxes beyond a reasonable measure;

- The Municipality may need to decrease or limit funding of other key municipal 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 Municipality’s current 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 Municipality (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 financing strategies were developed to illustrate a rational capital contribution level to meet asset replacement needs for tax supported assets as outlined in Figure 5. The financing strategies illustrate the “smoothed options” to the capital repair and replacement requirements identified in Part B. Assumptions for each of the three tax supported funding strategies is shown in Table 15 and each financing strategy is shown in Table 16.

Table 15	
Financing Strategy Key Assumptions	
Category	Assumptions
Tax Levy Support (including reserve contributions)	<ul style="list-style-type: none"> • Existing 2019 tax supported capital funding of \$2.0 million is assumed to be the starting point and base case for increasing annual capital contributions.
Gas Tax Reserve Fund	<ul style="list-style-type: none"> • Gas tax funding for 2019 is \$269,000. Post 2019 gas tax funding is assumed based on AMO allocations to 2023 and remain constant afterwards.
Other Grants	<ul style="list-style-type: none"> • Other grant funding in 2019 amounts to \$960,000. This includes OCIF and other one-time grants. Post 2019 no other grant funding is assumed, recognizing that any other grant funding is not a guaranteed funding source.
Inflation	<ul style="list-style-type: none"> • Financing strategy is expressed in constant 2019 dollars.
Existing Reserves	<ul style="list-style-type: none"> • Existing reserve balances have been accounted and are used against the expenditures in 2019 for the purposes of forecast calculation.
Growth Assets	<ul style="list-style-type: none"> • The financial requirements identified in the strategies below only consider the Municipality’s existing asset base.

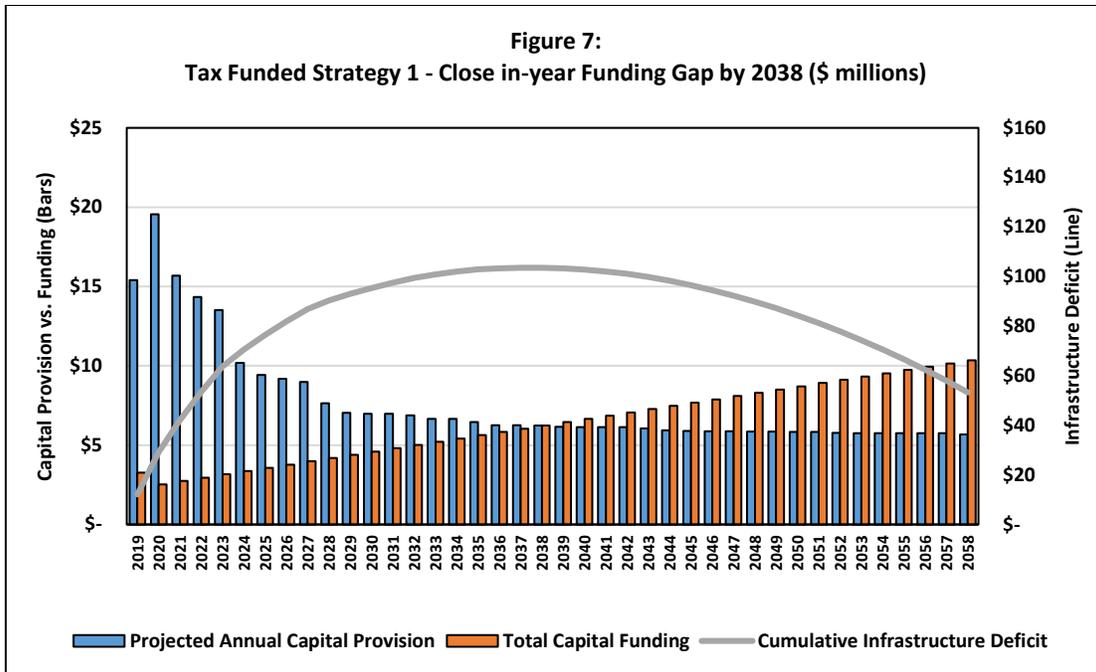
Table 16 Summary of Financing Strategies – Tax Supported Assets	
Financing Strategy	Strategy Parameters
Strategy 1 Close in-year Funding Gap by 2038	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$205,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$2.0 million tax supported capital funding. • The yearly revenue requirement is equivalent to 3.1% of the Municipality's 2019 tax levy (excluding police).
Strategy 2 Close in-year Funding Gap by 2048	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$122,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$2.0 million tax supported capital funding. • The yearly revenue requirement is equivalent to 1.9% of the Municipality's 2019 tax levy (excluding police).
Strategy 3 Close in-year Funding Gap by 2058	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$85,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$2.0 million tax supported capital funding. • The yearly revenue requirement is equivalent to 1.3% of the Municipality's 2019 tax levy (excluding police).

Note: Key assumptions noted in Table 15 are maintained for all three financing strategies.

1. Financing Strategy 1 – Close in-year Funding Gap by 2038

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach \$103.6 million before the Municipality begins to reduce this amount by increasing capital contributions by more than the annual provision requirement in 2038 (Figure 7). The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. This strategy represents an annual increase in capital contributions (including transfers to reserves) of about \$205,000 per year. This represents 3.1% of the Municipality's 2019 net tax levy budget of about \$6.5 million (excluding police). A detailed table of Strategy 1 can be found in Appendix E – Table 2.

It is important to note that even though the in-year funding gap has been addressed by 2038, the infrastructure deficit poses risk to the Municipality. The cumulative deficit in 2038 of \$103.6 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.

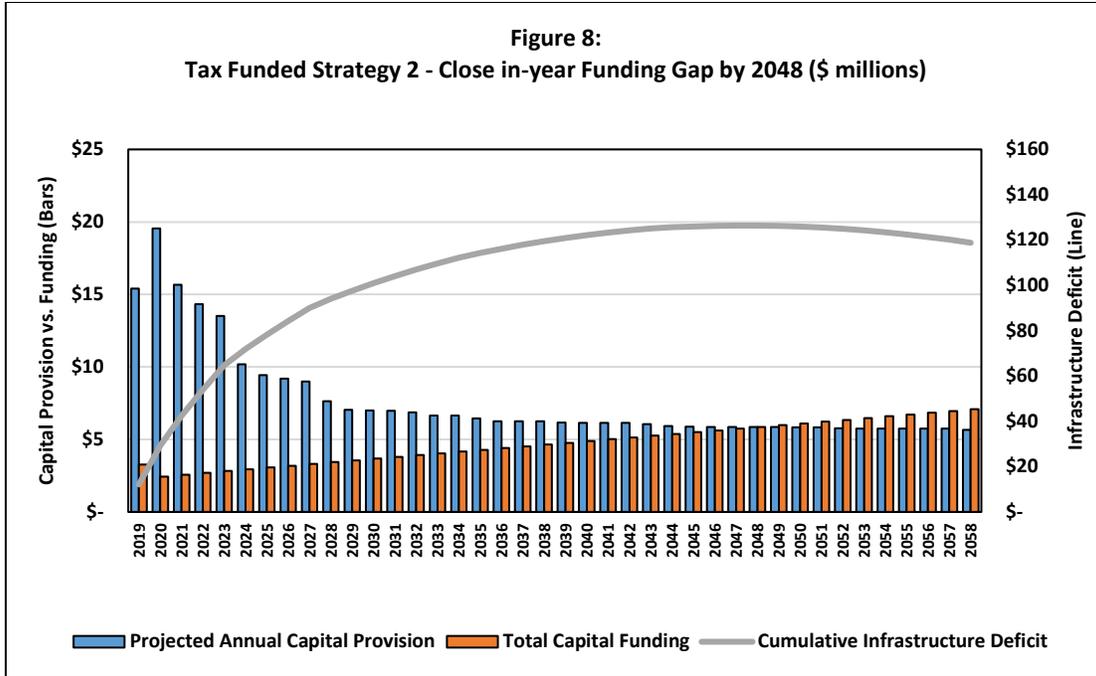


Note: The projected capital provision represents the annual requirement to repair and replace existing municipal assets as scheduled, based on the condition of each asset and the remaining useful. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated).

2. Financing Strategy 2 – Close in-year Funding Gap by 2048

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach \$126.4 million before the Municipality begins to reduce this amount by increasing capital contributions by more than the annual provision requirement in 2048 (Figure 8). The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. This strategy represents an annual increase in capital contributions (including transfers to reserves) of about \$122,000 per year, representing 1.9% of the Municipality’s 2019 net budget of \$6.5 million (excluding police). A detailed table of Strategy 2 can be found in Appendix E – Table 3.

It is important to note that even though the in-year funding gap has been addressed by 2048, the infrastructure deficit poses risk to the Municipality. The cumulative deficit in 2048 of \$126.4 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.

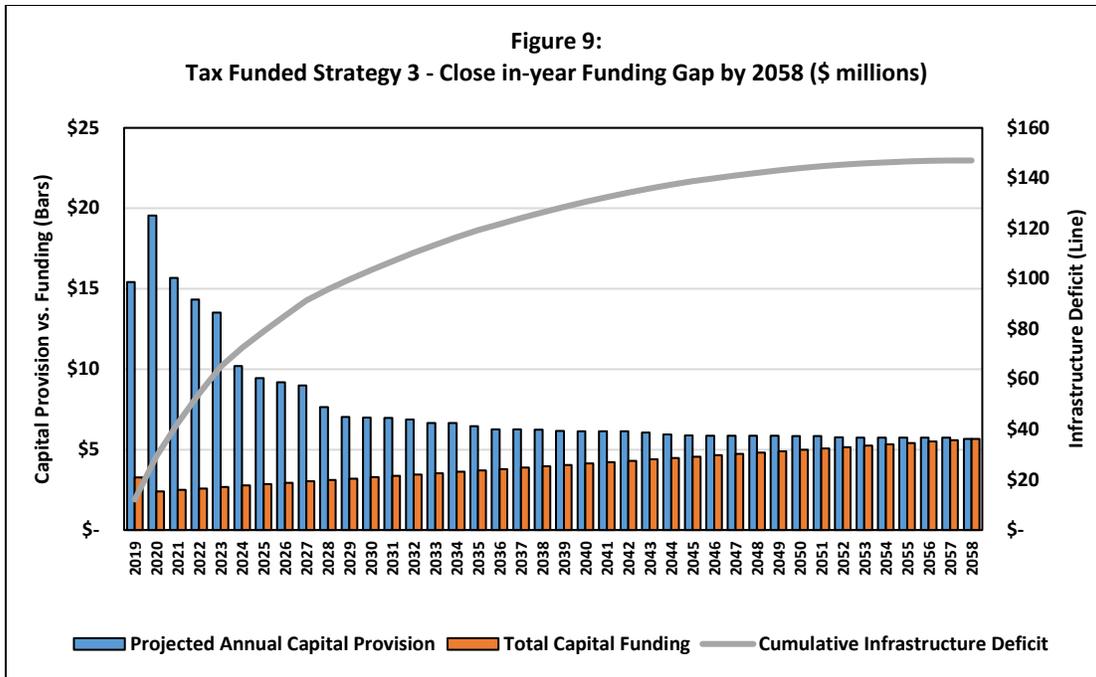


Note: The projected capital provision represents the annual requirement to repair and replace existing municipal assets as scheduled, based on the condition of each asset and the remaining useful. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated).

3. Financing Strategy 3 – Close in-year Funding Gap by 2058

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach \$147.0 million before the Municipality begins to reduce this amount by increasing capital contributions by more than the annual provision requirement in 2058 (Figure 9). The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. This strategy represents an annual increase in capital contributions (including transfers to reserves) of about \$85,000 per year, representing 1.3% of the Municipality’s 2019 net budget of \$6.5 million (excluding police). A detailed table of Strategy 3 can be found in Appendix E – Table 3.

It is important to note that even though the in-year funding gap has been addressed by 2058, the infrastructure deficit poses risk to the Municipality. The cumulative deficit in 2058 of \$147.0 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.



Note: The projected capital provision represents the annual requirement to repair and replace existing municipal assets as scheduled, based on the condition of each asset and the remaining useful. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated).

Rate Supported Assets

If the Municipality were to implement a funding strategy to eliminate the user rate supported infrastructure deficit by 2058, the Municipality would be required to increase capital contributions on an annual basis by an average of about \$40,000 for 40 years. For 2019, the increase would be in addition to the \$1.4 million user rate supported capital funding.

To provide consistency with the analysis on the tax supported assets, similar timeframes for additional funding strategies were developed. Strategy 1 in the case of the rate supported assets provides a more aggressive target of closing the in-year funding gap by 2038 where strategies 2 and 3 provide for more modest rate impacts. Assumptions used to develop each strategy is summarized in Table 17.

The financing strategies identified in Table 17 portray the “smoothed options” to the rate supported capital repair and replacement requirements identified in Part B. Assumptions for each of the three funding strategies is shown below; however, it is expected that the Municipality incorporate this information in future utility rate setting studies to balance the annual asset management requirements with affordable user rates.

Table 17	
Summary of Financing Strategies – Utility Rate Supported Assets	
Financing Strategy	Strategy Parameters
Strategy 1 Close in-year Funding Gap by 2038	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$49,000 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$1.4 million rate supported capital funding. • The yearly revenue requirement is equivalent to 4.6% of the Municipality's 2019 utility rate revenues.
Strategy 2 Close in-year Funding Gap by 2048	<ul style="list-style-type: none"> • Increase annual capital contributions by approximately \$9,500 per year. • For 2020, the increase would be in addition to the 2019 budgeted \$1.4 million rate supported capital funding. • The yearly revenue requirement is equivalent to 0.9% of the Municipality's 2019 utility rate revenues.
Strategy 3 Close in-year Funding Gap by 2058	<ul style="list-style-type: none"> • The Municipality would undertake annual increases to rate funded capital in line with inflation only. • Largely reflective of the state of the water and sewer systems, as they are relatively newer and in good operating condition.

F. CAPITAL EXPENDITURE FORECAST

A capital expenditure forecast is outlined in Table 18. The forecast is based on the Municipality's 2019 operating budget and the replacement schedule from Section B. A provision for a level of service adjustment to account for requirements of O. Reg. 588/17 to define desired levels of service has been included in 2024 and onwards. This provision amounts to \$100,000 which is approximately 1.5% of the 2019 tax levy of \$6.5 million (excluding police). The Municipality's yearly infrastructure related capital and operating expenditures are subject to the yearly budget and are adjusted on an ongoing basis. The Municipality can however look to develop a 5 to 10 year capital program in the future.

Table 18 10-Year Expenditure Forecast (Tax Funded Services)					
Expenditures	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast
Non-Infrastructure Solutions	\$ 26,900	\$ 26,900	\$ 26,900	\$ 26,900	\$ 26,900
Maintenance Activities	\$ 1,366,200	\$ 1,366,200	\$ 1,366,200	\$ 1,366,200	\$ 1,366,200
Renewal/Rehabilitation Activities	\$ 711,900	\$ 711,900	\$ 711,900	\$ 711,900	\$ 711,900
Replacement Activities	\$ 4,541,930	\$ 3,785,976	\$ 3,734,121	\$ 17,574,832	\$ 5,616,425
Disposal Activities	\$ -	\$ -	\$ -	\$ -	\$ -
Expansion Activities	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 6,646,930	\$ 5,890,976	\$ 5,839,121	\$ 19,679,832	\$ 7,721,425
<i>Level of Service Adjustment</i>	\$ -	\$ -	\$ -	\$ -	\$ 100,000
Grand Total Lifecycle Costs	\$ 6,646,930	\$ 5,890,976	\$ 5,839,121	\$ 19,679,832	\$ 7,821,425
Expenditures	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast
Non-Infrastructure Solutions	\$ 26,900	\$ 26,900	\$ 26,900	\$ 26,900	\$ 26,900
Maintenance Activities	\$ 1,366,200	\$ 1,366,200	\$ 1,366,200	\$ 1,366,200	\$ 1,366,200
Renewal/Rehabilitation Activities	\$ 711,900	\$ 711,900	\$ 711,900	\$ 711,900	\$ 711,900
Replacement Activities	\$ 2,923,722	\$ 2,050,318	\$ 14,949,980	\$ 10,019,500	\$ 3,211,021
Disposal Activities	\$ -	\$ -	\$ -	\$ -	\$ -
Expansion Activities	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ 5,028,722	\$ 4,155,318	\$ 17,054,980	\$ 12,124,500	\$ 5,316,021
<i>Level of Service Adjustment</i>	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Grand Total Lifecycle Costs	\$ 5,128,722	\$ 4,255,318	\$ 17,154,980	\$ 12,224,500	\$ 5,416,021

G. AVAILABLE FUNDING TOOLS

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

Federal and Provincial Grants

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

The Municipality of West Perth has indicated that it expects to continue receiving Gas Tax funds – these funds have been incorporated into the financing strategies at current levels. The Municipality has indicated that other external grants, such as OCIF, may potentially be at risk in future years; therefore, no other future grant funding is assumed for the purposes of the financing strategy. If the Municipality continues to receive other funding sources over the long-term, it is expected that these

funds would be directed to high-priority projects in an effort to reduce the overall infrastructure deficit.

Development Charges

Development charges may be imposed to pay for increased capital costs required because of increased needs for services arising from development. The Municipality of West Perth currently levies development charges for water, wastewater, stormwater, transportation, fire protection, administration, parks and recreation services in the Mitchell Settlement Area. The Municipality also levies development charges in the rural settlement area for fire protection, administration, parks and recreation services.

It is important that the Municipality consider the annual asset management requirements associated with any new assets acquired in addition to the net annual requirement for the Municipality's existing assets as identified in the previous sections. The Municipality's last development charges background study was completed in 2019, it identified that an additional \$97,500 per year is required to fund additional lifecycle costs associated to growth-related projects.

Property Taxes and Utility Rates

According to the 2019 budget, property taxes represent about \$6.5 million in revenues (excluding police) while utility rates account for an additional \$1.1 million. The use of property taxes to fund municipal tax supported services is the most secure source of funding for the Municipality. The most common and secure avenue to generate additional funding to support increased capital asset management functions would be to increase property tax revenues.

The Municipality manages utility rate supported infrastructure separately through water and wastewater fees for serviced properties in the Municipality's urban areas. The Municipality regularly reviews the utility rates and financial plans to ensure the systems are self funding.

Non-Utility Related 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. The Municipality should look to review and ensure user fees are being utilized to the full extent as allowed under Provincial legislation. This will help alleviate funding pressures from the tax base and allow for greater flexibility to fund capital asset repair and replacement activities. Most commonly, municipalities undertake detailed user fee

reviews of their building, planning and engineering fees in order to recover the full cost of providing services – the full cost recovery user fee rates generally incorporate a component for building capital replacement.

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. P3s can offer more effective project and lifecycle cost control and risk management than traditional procurement methods. The Municipality could explore P3s 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 Municipality could use the local improvement process to undertake a capital project and recover all or part of the cost of the project.

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.

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.

H. 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 taxpayers who benefit from the asset share the cost. Therefore, the burden of capital is distributed equally between the current tax/rate payer and future tax/rate payers.

The amount of debt a Municipality can carry is set by Provincial regulations to ensure municipalities continue to operate in a fiscally sound environment. The Ministry of Municipal Affairs mandates that a municipality's annual debt repayment must not exceed 25% of annual own-source revenues. The repayment limit has been calculated based on data contained in the 2019 Annual Repayment Limit, as submitted to the Ministry. The Municipality currently has about \$399,000 in net annual debt payments. This equates to about 3.2% of net own-source revenues relative to the 25% Provincial limit.

Under the requirements of the *Municipal Act* and best practice suggests that any potential debt should not be financed for a period longer than the average useful life of the asset. This will ensure the Municipality is not paying for an asset outside the design life and 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 Municipality 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 Municipality to have at any given time, but they should be sufficient to cover emergency work (if required).

As of January 1st 2019, the Municipality had an estimated capital reserve balance of \$8.8 million for tax supported assets while utility rate supported reserve funds account for additional \$8.6 million.

The reserve balances incorporated into the analysis only consider the money the Municipality has on hand to carry out capital projects related to the services to which this asset management plan applies and excludes operating and rate stabilization reserves. The entire \$8.8 million in available tax supported capital reserves have been accounted and applied towards the 2019 infrastructure deficit. Utility rate supported reserve funds were also applied towards the infrastructure deficit and have been spread out over the first 10 years of the forecast.

I. FUTURE DEMAND

The 2019 Plan reflects the assets that the Municipality currently owns and operates. Over the period 2016-2044, the Municipality is projected to increase by approximately 700 households, which amounts to approximately 980 new persons based on the 2019 DC Study. In addition, the Municipality will also add 2.1 million square feet in new non-residential floor space based on the 2019 DC Study. In order to facilitate this growth, the Municipality will be required to emplace new infrastructure to service development. The 2019 DC Study identified additional infrastructure needs to service this growth. Capital expenditures to carry out the rehabilitation and replacement of aging infrastructure are not growth-related and are therefore not eligible for funding through development charge revenues or other developer contributions. The DC study identified that an additional \$97,500 per year is required to fund additional lifecycle costs associated to growth-related projects.

Despite the additional asset management requirements associated with new infrastructure, growth will have the effect of increasing the overall assessment base and additional user fee and charges revenues to help offset the capital asset provisions required to replace the infrastructure proposed to be funded under the development charges by-law. The collection of these funds is intended to be allocated to the Municipality's reserves for the future replacement of these assets. The Municipality should continue to prioritize the repair and replacement of existing "very poor" and "poor" conditioned infrastructure.

VI CONTINUOUS IMPROVEMENTS AND UPDATES

The major premise of comprehensive corporate asset management is that an organization will seldom have perfect processes and data to manage the asset portfolio. Instead, the underlying culture of continuous improvement and reliability is its key to success. The improvements and next steps will form part of the Municipality's evolving Asset Management program moving forward.

A. NET BOOK VALUE VS. REPLACEMENT VALUE

As specified in the Ministry Guide, the value of the Municipality's assets is presented in two different formats: 'Net Book Value' and 'Replacement Value'. These are described below.

Net Book Value (NBV) is consistent with the financial accounting practices defined by the Public Sector Accounting Board and is reported in the Municipality's financial statements. The Municipality of West Perth reported Net Book Value covers the full scope of the Municipality's Tangible Capital Assets (TCA), including land. It is noted that the same scope of assets are considered under this 2019 Plan.

The Net Book Value is the original acquisition cost less accumulated depreciation, depletion or amortization. It is reported annually in accordance with reporting standards established by the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants. As shown on Table 18 below, the Municipality's 2018 Consolidated Financial Statement reported the NBV of the Municipality's TCA as of December 31, 2018 at \$88.0 million. Under the financial accounting, approach many assets may be fully depreciated yet remain in use; therefore, Net Book Value is not the appropriate methodology to be employed for infrastructure renewal planning.

Table 18 Summary of Tangible Capital Asset Values	
Asset Category	2018 Closing NBV
Land	\$1,859,885
Land Improvements	\$4,614,380
Buildings	\$13,533,088
Machinery and Equipment	\$2,822,113
Vehicles	\$2,599,403
Linear Assets	\$61,553,771
Construction-In-Progress	\$1,105,439
Total	\$88,088,079

Source: Municipality of West Perth 2018 Financial Information Return.

Replacement Values are used to estimate the cost of replacing an asset when it reaches the end of its engineered design life. The total replacement cost of all assets is estimated at \$452.0 million.

Replacement Cost Valuation

The two basic methods to estimate replacement costs needed for infrastructure renewal planning are outlined:

- **Benchmark costs:** Some replacement costs are based on benchmark engineering costs per unit, in particular for roads, bridges, some buildings and linear water and sewer infrastructure. Detailed unit costs are provided in Appendix B.
- **Accounting estimates:** When assets cannot be estimated reliably, the Municipality uses historic cost, estimated useful life and inflationary effects to determine replacement value.

B. ASSET MANAGEMENT INTERNAL NETWORK

In order to operationalize a plan, it starts with involving the necessary municipal staff in the asset management process. In order to address asset management, an internal network (Asset Management Committee) has been created, in which the Treasurer assumes the executive lead and responsibility for reporting on any activity related to the management of municipal assets. This committee is consistent with the Municipality's Strategic Asset Management Policy. In addition, the Treasurer is also intended to be the key liaison with the "County-Wide Asset Management Committee". This committee shall be comprised of the key executive leads of the four member communities in Perth County and intended to act as an overarching team to coordinate asset management practices and policies within the four member municipalities of Perth County.

C. PLAN MONITORING

The Municipality will need to carefully monitor and evaluate the asset management progress and effectiveness of the Plan on or before July 1 in each year starting in 2025. This ensures that the Plan is utilized to its full extent and any gaps are identified prior to the regulatory date. Although the extent to which the regulation applies would not be applicable to the Municipality for several years, the Municipality could look to advance the review process and address the following criteria each year:

- a) The Municipality's progress in implementing its asset management plan;
- b) Any factors impeding the Municipality's ability to implement its asset management plan; and
- c) A strategy to address the factors described above in clause b).

D. DATA QUALITY AND CONFIDENCE

The Municipality should regularly review the confidence of existing data as well as its effectiveness integrating asset management activities into regular business processes. The Confidence Level Rating approach identified in Table 19 below will be used to identify what specific asset categories/areas the Municipality can improve upon. The Confidence Level Rating is based on principles of the Ministry's Guide to Municipal Asset Management Plans, Federal Gas Tax Agreement Requirements, ISO 55000, and International Infrastructure Management Manual (IIMM). Current data used in the preparation of this asset management plan would be generally reliable and based on a **Level 3 – 4** recognizing that many of the high valued asset categories of roads, bridges and culverts are well documented but certain gaps exist for asset categories related to lower valued assets such as buildings, mobile equipment and land improvements where additional condition assessments are possible. The data quality score is included in Appendix B complementing the State of the Local Infrastructure Reports.

Confidence Grade	Description
5 Highly Reliable	<ul style="list-style-type: none"> • Data based on sound records, procedure, investigations and analysis, documented properly and recognized as the best method of assessment. • <i>Dataset is complete and estimated to be accurate +/- 2%.</i>
4 Reliable Data	<ul style="list-style-type: none"> • Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. • <i>Dataset is complete and estimated to be accurate +/- 10%.</i>
3 Uncertain	<ul style="list-style-type: none"> • Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade 4 or 5 data is available. • <i>Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.</i>
2 Very Uncertain	<ul style="list-style-type: none"> • Data based on unconfirmed verbal reports and/or cursory inspection and analysis. • <i>Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy +/- 40%.</i>
1 Unknown	<ul style="list-style-type: none"> • None or very little data held

E. TIMEFRAMES FOR REVIEW AND UPDATES

This Asset Management Plan 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, it is important that 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 20 below outlines the key timelines for updates and reviews.

Asset Management Framework	Timeframe
Asset Management Policy	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
Level of Service Framework	Semi-Annually or Annually
State of Local Infrastructure Reports	Annually

This asset management plan has been endorsed by the executive lead of the Municipality and will need to be approved, by resolution, by Council. The Municipality will need to be mindful of the reporting timelines noted above relative to any potential changes to the timelines referenced by *Ontario Regulation 588/17*.

F. PUBLIC REVIEW AND COMMENT

Although the Asset Management Plan is intended to aid municipal staff and Council make informed decisions regarding future capital investment needs, the plan is intended to be available to the public. Therefore, it is recommended that the Municipality post this plan as well as the Strategic Asset Management Policy on the website and provide a copy to anyone upon request.

The Municipality of West Perth will require further public consultation and input to develop the target levels of service required for July 1, 2024.

VII CONCLUSIONS AND RECOMMENDATIONS

The objective of this 2019 Plan is to provide the Municipality of West Perth with the information it needs to make decisions on how best to manage capital assets in a sustainable way to 2058. In this section, recommendations based on the analysis undertaken are made.

A. SUMMARY OF KEY FINDINGS

- The Municipality’s asset base is valued at \$452.0 million, in relation to the census population of about 8,900 persons (\$51,000 per capita).
- Overall, a high proportion (about 60% or \$218.0 million) of the Municipality’s assets are considered to be in “good” to “very good” condition. At the same time, approximately 22% (\$80.4 million) of infrastructure is considered to be in “poor” to “very poor” condition. The remaining share of \$65.5 million (18%) is in “fair” condition. These amounts exclude gravel roads.
- The Municipality of West Perth has made some effort in recent years to address the infrastructure gap and improve the condition of assets:
 - Upper level government grant money received has typically been allocated to capital asset repair and replacement activities;
 - The Municipality has capital replacement reserves, and has been contributing to reserves on an annual basis based on amortization;
 - Through its annual capital budgeting process, the Municipality addresses critical issues and assets in need of repair or replacement.
- The responsibility to maintain existing infrastructure is challenging; however, in addition to current capital funding, the Municipality should increase annual capital contributions to address current and future infrastructure requirements;
- Property taxes are the most secure form of revenue and the Municipality should consider increasing tax based revenues, above current practices, to fund capital works;
- Ensure user fees are being utilized to the full extent as allowed under Provincial legislation. This will help alleviate funding pressures from the tax base and allow for greater flexibility to fund capital asset repair and replacement activities.

- Explore alternative arrangements to provide services – public private partnerships or shared services.
- Based on the 2019 Annual Repayment Limit, the Municipality is considered to be in good fiscal standing with strong budgetary performance and limited external debt (approximately \$399,000 in net annual debt payments) - the Municipality currently operates well below the annual repayment limit of \$3.1 million in total net debt charges. This debt capacity could allow the Municipality to use debt to carry out emergency asset replacements, improvements, or other strategic projects, which typically provide a return on investment such as a reduction in operating costs.
- The Municipality should continue to seek funding from the Federal and Provincial government (when available) to undertake capital related works.

B. SUMMARY OF RECOMMENDATIONS

Based on the research and analysis undertaken for this 2019 Plan the following conclusions can be reached:

1. Continue to Improve Capital Development Planning Process

- The Municipality should develop a multi-year capital budget and forecasts for all services based on a 10-year forecast horizon. The capital budget can be based on the asset replacement schedule in the Municipality's Asset Management Model.
- 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;
 - risk assessment;
 - timing and phasing;
 - funding sources;
 - potential financing and debt servicing costs;
 - long-term costs, including non-infrastructure solutions, maintenance activities, renewal/rehabilitation activities, replacement activities, disposal activities and expansion activities;
 - 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 explored and established for all services over the next few years. Targets should be measured, reported on, and adjusted annually. This requirement will need to be in place by July 1st 2024 as per O. Reg. 588/17.

- Repair and replacement capital works should be prioritized based on a risk assessment. For example, assets identified as “very poor” and “poor” and having a significant consequence of failure should be prioritized first.
- Infrastructure assets, which have been provided a “fair” condition rating, should be targeted for maintenance to ensure they continue to perform at current levels of service.
- The Municipality should, where possible, coordinate the construction of new 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 Municipality designated data champion 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 Municipality should continue to refine the condition assessments for all assets considered under this 2019 Plan; and
- The Municipality should update this Asset Management Plan at a minimum every 5 years.

3. Optimize the Use of Existing Assets

- The Municipality should implement a range of engineering and non-engineering approaches to extend the useful life of current assets, taking the lifecycle actions presented in Appendix D.
- The Municipality should explore opportunities to dispose under utilized infrastructure/facilities, which may not warrant repair/replacement. For example, underutilized facilities, or surplus land/parks, could be disposed and sold; and
- Coordinate assets into specific hubs to create operating and capital repair/maintenance efficiencies where possible.

APPENDIX A
DEFINITIONS

APPENDIX A DEFINITIONS

This appendix contains definitions for commonly used terms throughout the Municipality's Asset Management Plan.

1. **Annual Provision** - Given the timing and cost to replace an asset in the future, the amount of savings required year-over-year to replace that asset on schedule. This is also referred to as the annual requirement.
2. **Condition Assessment** - A description of the state of an asset based on engineered or staff inspections on a 5-tier scale (very poor, poor, fair, good, and very good).
3. **Cumulative Infrastructure Deficit** - The difference between available funding and the cost of works required based on the replacement schedule added over an extended time period. This difference includes the backlog of infrastructure work, which remains unfunded. In years where funding continues to be less than the need, the deficit grows. Conversely, years where funding exceeds the need, the deficit decreases.
4. **In-Year Funding Gap** - For any given year, this is the difference between capital requirement costs and available funding.
5. **O. Reg 588/17** - Ontario's Asset Management regulation that came into force on January 1st 2018.
6. **Provision Schedule** - The required savings year-over-year needed to replace an asset based on the replacement schedule.
7. **Replacement Cost** - The cost of an asset to replace or reconstruct that asset at current prevailing market prices. The replacement cost will typically include all costs to procure, design, build and acquire the asset.
8. **Replacement Schedule** - The timing for replacement of an asset based on remaining useful life, condition or risk.
9. **Useful Life** - The expected service life of an asset expressed in years.
10. **Weighted Condition** - The average condition of an asset category weighted against the replacement costs of assets.
11. **Weighted Remaining Useful Life** - The average remaining useful life of an asset category weighted against the replacement cost of assets.

APPENDIX B
TECHNICAL APPENDIX:
STATE OF THE LOCAL INFRASTRUCTURE

APPENDIX B

TECHNICAL APPENDIX: STATE OF LOCAL INFRASTRUCTURE

The appendix provides a summary of the Municipality's assets with reference to quality and quantity. Some assets have condition assessments based on engineering inspections, while the balance of assets considered are based on the useful of the asset relative to its age. Useful life assumptions for the assets considered under the 2019 Plan were acquired from the Municipality's tangible capital asset inventory. Hemson has prepared State of the Local Infrastructure report cards for each asset category, which outline: summary of inventory, remaining useful life, and asset condition. It is intended that these report cards be updated annually by municipal staff and provided to Council through the annual budget process.

1. Summary of Inventory

The summary of inventory provides an overview of the Municipality's assets including asset components, the quantity of those components, the replacement cost in 2019 dollars, method used to determine the replacement cost and the engineered useful life of the assets. The inventory summary is developed based on the Municipality's capital asset information.

The assets included in this 2019 Plan are consistent with the asset categories included in Schedule 51 of the Municipality's Financial Information Return. Inclusion of all assets of this Plan therefore meet the asset management plan requirements in the Municipality's Gas Tax Funding Agreement.

2. Remaining Useful Life

The remaining useful life summary provides information on the age of assets based on the year assets were acquired or emplaced and their engineered useful life. Assets are categorized by remaining useful life based on their replacement cost in 2019 dollars. Assets categorized as overdue are considered to be beyond their engineered useful life; however, the asset may still be in good operating condition. Typically, assets such as facilities are used well beyond their engineered useful lives with proper maintenance and repairs. Every asset category has a remaining useful life summary with the exception of gravel roads, as these roads are not typically replaced but are resurfaced on an ongoing basis.

3. Asset Condition

A summary of the condition of assets is presented in a pie graph based on the replacement cost of assets in current 2019 dollars. As discussed in Section II, conditions have been determined based on a 5-tier rating system from Very Poor to Very Good. Condition assessments are based on several sources including, staff assessments, engineered condition assessments and aged based approach. Wherever condition assessments based on staff knowledge or engineering information was not available, the remaining useful life of the asset was used as a proxy for condition. Details on the methodology the Municipality uses to assess the condition of assets is summarized in Table 1 below.

Service Category/Type	Methodology
Computer Network	<ul style="list-style-type: none"> • Age based approach
Furniture & Fixtures	<ul style="list-style-type: none"> • Age based approach
Machinery & Equipment	<ul style="list-style-type: none"> • Age based approach • Fire equipment otherwise shown to be in poor or very poor condition based on age has been assessed to be in fair condition based on staff opinion
Mobile Equipment	<ul style="list-style-type: none"> • Age based approach • Some fire vehicles otherwise shown to be in poor or very poor condition based on age has been assessed to be in fair condition based on staff opinion
Land Improvements	<ul style="list-style-type: none"> • Age based approach
Buildings	<ul style="list-style-type: none"> • Age based approach
Roads & Related	<ul style="list-style-type: none"> • 2018 Road Management Study for paved roads • For road related infrastructure, age based approach
Bridges & Culverts	<ul style="list-style-type: none"> • 2018 OSIM Inspections Report
Storm	<ul style="list-style-type: none"> • Age based approach
Water	<ul style="list-style-type: none"> • Age based approach
Sewer	<ul style="list-style-type: none"> • Age based approach

4. Replacement Cost

Replacement Values are used to estimate the cost of replacing an asset when it reaches the end of its engineered design life. The total replacement cost of all assets is estimated at \$452.0 million, and the replacement values are used as the basis for this plan.

Water and Sewer Linear Assets

The following table outlines the asset replacement costs for the Municipality's linear water and infrastructure for pipes with a diameter up to 900 mm. Recognizing that the Municipality does not presently have any linear infrastructure greater than 600 mm, the remaining costs can be used as a reference if such sizes are required in the future. The costs are based on benchmark unit costing plus a 25% contingency to cover other expenses, which may arise. It is assumed that the each asset would be replaced at the end of its useful life based on the replacement cost identified in Table 2.

Diameter (mm)	Water Replacement Cost (\$/m)	Sewer Replacement Cost (\$/m)
≤150	\$660	\$660
200	\$800	\$800
250	\$800	\$800
300	\$990	\$820
350	\$1,060	\$850
375	\$1,125	\$870
400	\$1,190	\$870
450	\$1,290	\$950
500	\$1,460	\$985
525	\$1,525	\$1,020
600	\$1,720	\$1,310
675	\$1,850	\$1,590
750	\$2,060	\$1,770
825		\$1,890
900		\$2,230

Paved Roads

Table 3 provides a summary of the road costing assumptions used to help determine the cost of future road works, by segment, for all West Perth owned paved roads. The costs are stated on a per kilometre basis and determined in the 2018 Road Management Study. In particular, the replacement cost in Table 4 reflect costs associated to a full reconstruction of a road while resurfacing costs reflect only repaving of a road segment. For the purposes of this 2019 Plan, priority road works identified through the Road Management Study are included in the financing strategy in Section V.

Furthermore, subsequent works beyond the 10-year planning period of the Road Management Study includes provision for resurfacing based on the type of road surface. The assumed useful life by road surface type is considered to be the frequency of resurfacing. These values are summarized in Table 4 and are based on the Road Management Study. Including provisions in future years for road resurfacing ensures the financing strategy reflects costs to maintain levels of service over the longer time period to 2058.

Road Type	Replacement Cost per Km	Resurface Cost per Km
Gravel	\$370,000	N/A
Rural Paved	\$500,000	\$120,000
Semi-Urban Paved	\$475,000	\$130,000
Urban Paved	\$930,000	\$275,000

Source: 2018 Road Management Study.

Paved Road Surface Type	Assumed Useful Life (Years)
LCB - 1 lift	6
LCB - 2 lifts	6
HCB - 1 lift	15
HCB - 2 lifts	30
HCB - 3 lifts	30

Source: 2018 Road Management Study.

Buildings

Tables 5 below provides a summary of the replacement valuation assumptions used for the purposes of the asset management plan. Recognizing that cost to construct municipal facilities has increased at a much greater rate than typical inflation over the last several years, Hemson has adjusted assumed replacement values for many of the Municipality's major facilities to be more in-line with recent tenders and cost estimates to construct similar facilities in surrounding municipalities.

Table 5 Summary of Building Replacement Value Assumptions		
Asset Type	Cost per Sq.ft	Replacement Cost
Municipal Office	375	\$2,796,000
Arena and Community Centre	250	\$12,500,000
Fire Hall Mitchell Station	260	\$1,785,000
Library	375	\$1,632,000
Brodhagen Community Centre	250	\$2,593,000
Mitchell Public Works Department	270	\$10,549,000
West Perth Lions Pool		\$2,500,000
West Perth Lions Splash Pad		\$500,000
Other Facilities	Inflation from Historical Cost	-

Note: The valuations identified are not appraised values and have not been appraised by a separate and independent valuation firm, and solely relied on costs to construct similar facilities in surrounding jurisdictions.

Bridges and Culverts

The replacement value of for bridges and culverts were identified through the 2018 OSIM Inspections Report. Therefore, these costs fully reflect the most recent replacement cost information available.

It is important to note that the financing strategy in Section V and development of the capital requirements are based on the 2018 OSIM Inspections Report, which outlined a list of recommended repairs and structure replacement type improvements over a 10-year period. The 2018 report identified higher priority tasks recommended for completion within the next 5 years and a separate series of tasks recommended for completion in the 6 to 10 year period.

Remaining Asset Categories

For all other remaining asset categories, Hemson has particularly relied upon the initial acquisition costs and adjusted these values to current dollars. That said, some specific adjustments were made to specific high valued vehicles and land improvements where more accurate replacement cost valuation was available.

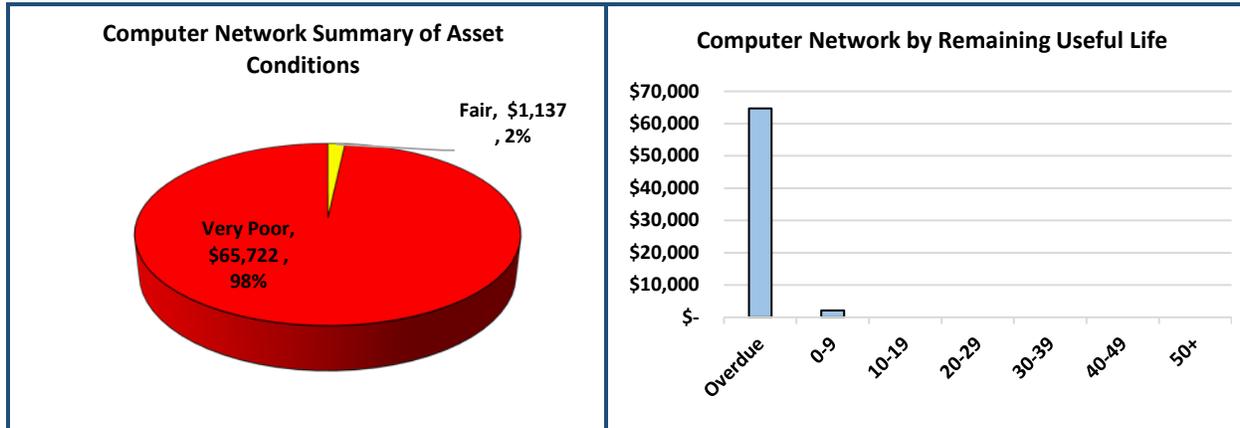


B1 COMPUTER NETWORK

**VERY
POOR**

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Computer Network	Pooled	32	\$66,859	Inflation	5-15
Total		32	\$66,859		

The Municipality maintains a total of 32 units of pooled computer network assets with a total replacement cost of \$67,000. This category includes various computer hardware, software and work stations each with an assumed useful life ranging between 5-15 years. Replacement cost have largely been determined based on the initial capital acquisition cost of each asset and adjusted for inflation.



The Municipality's computer network equipment have been categorized by remaining useful life. About \$2,000 (3%) have 0-9 years of remaining useful life and approximately \$65,000 (97%) are considered overdue by virtue of its design life.

As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the Municipality maintains \$1,000 (2%) of the computer network assets in Fair condition and the majority of assets, roughly \$66,000 (98%), are considered to be in very poor condition. With this said many of the assets continue to be in good operating condition.

Data Confidence and Reliability:

Level 3 (Uncertain) - Much of the inventory data is complete; however some condition assessment information will need to be updated over the short to medium term.

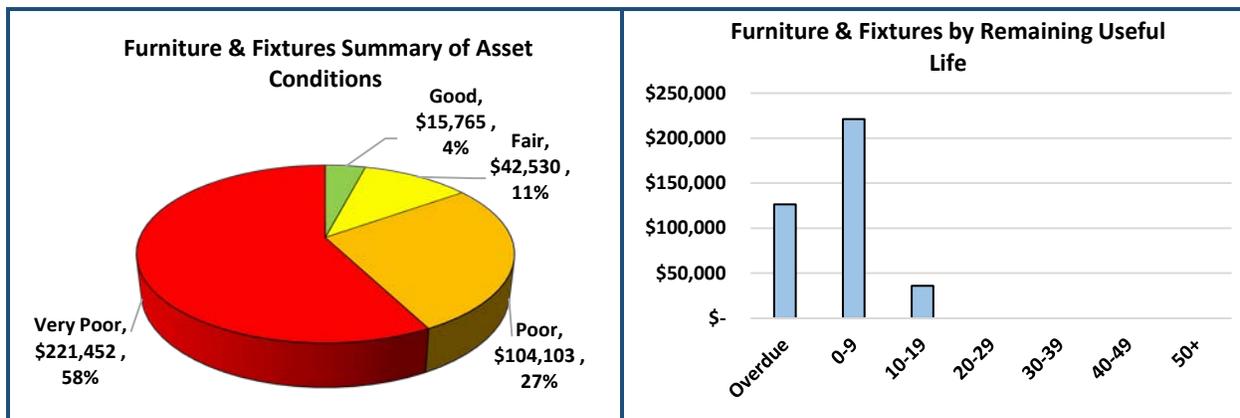


B2 FURNITURE & FIXTURES

POOR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Furniture & Fixtures	Pooled	111	\$383,850	Inflation	10-20
Total		111	\$383,850		

The Municipality maintains a total of 111 pooled units of furniture and fixtures with a total replacement cost of \$384,000. The category includes furniture and fixtures for community centres, libraries, arenas, parks, and fire services. The furniture and fixtures assets all have an assumed useful life ranging between 10-20 years depending on the asset type. The asset replacement values have largely been derived by inflating the original acquisition cost to 2019 dollars.



The Municipality's furniture and fixtures are categorized by remaining useful life. About \$221,000 (58%) have a remaining useful life of 0-9 years and approximately \$36,000 (9%) have 10-19 years remaining. Roughly \$127,000 (33%) are considered overdue by virtue of their design life.

As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the majority of the assets in this category, \$326,000 (85%) are considered to be in poor to very poor condition, while only \$16,000 (4%) are in good condition. The remaining \$43,000 (11%) are considered to be in fair condition. As the Municipality further refines its condition assessments in this category, the overall condition may change, with this said many of the assets continue to be in good operating condition.

Data Confidence and Reliability: Level 3 (Uncertain) - Much of the inventory data is complete, however some condition assessment information will need to be updated over the short to medium term.

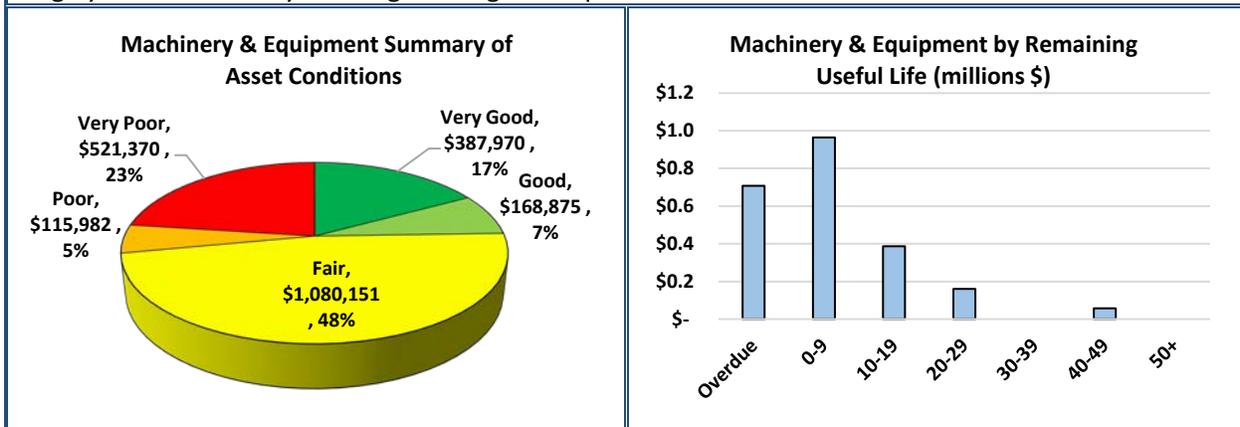


B3 MACHINERY & EQUIPMENT

FAIR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Machinery & Equipment	Pooled	205	\$2,274,348	Inflation	5-50
Total		205	\$2,274,348		

The Municipality maintains a total of 205 pooled units of machinery and equipment with a total replacement cost of \$2.3 million. The category includes attachments for vehicles, library collections, fire equipment, machinery at facilities, tools and pool equipment. These assets all have an assumed useful life ranging between 5-50 years depending on the asset type. The asset replacement values have largely been derived by inflating the original acquisition cost to 2019 dollars.



The Municipality's machinery and equipment are categorized by remaining useful life. The majority of assets have 0-9 years of remaining useful life amounting to approximately \$964,000 (42%). \$707,000 (31%) of the assets are considered overdue by virtue of their design life. The remaining \$603,000 (27%) have more than 10 years of remaining useful life.

As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the majority of the assets in this category, \$1.1 million (48%) are considered to be in fair condition. Many of the assets in the fair condition category are related to fire equipment, as much of the equipment is in good working condition it has been determined that these fire assets are in better condition than what their age would suggest. Finally, \$557,000 of the assets are in good to very good condition while the remaining \$637,000 are in poor to very poor condition.

Data Confidence and Reliability:

Level 3 (Uncertain) - Much of the inventory data is complete; however some condition assessment information will need to be updated over the short to medium term. Fire equipment conditions are up to date based on staff assumptions.

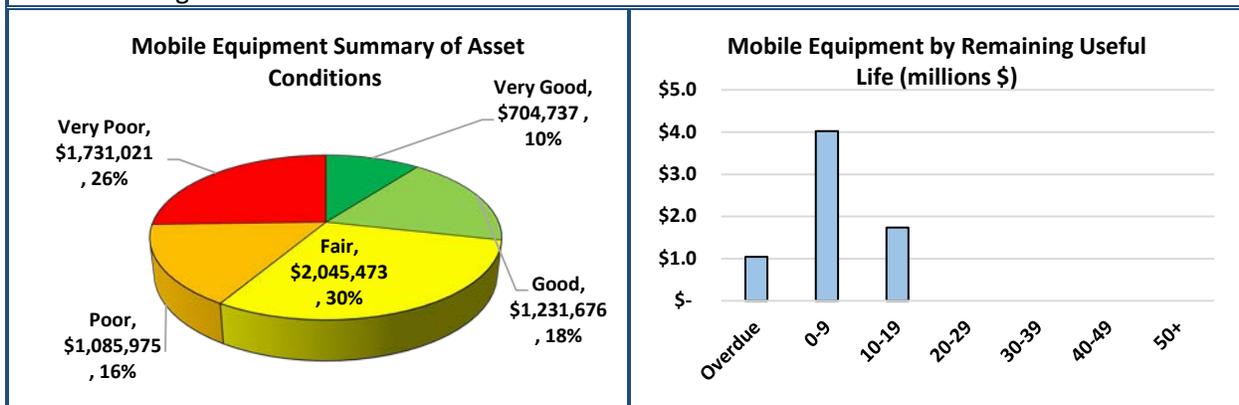


B4 MOBILE EQUIPMENT

FAIR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Mobile Equipment	Pooled	52	\$6,798,882	Recent Costing/Inflation	5-25
Total		52	\$6,798,882		

The Municipality maintains a total of 52 units of mobile equipment with a total replacement cost of \$6.8 million. This includes vehicles and some equipment and additions to vehicles. These assets all have an assumed useful life ranging between 5-25 years depending on the asset type. The asset replacement values have largely been derived by inflating the original acquisition cost to 2019 dollars with some recent costing information for a small number of assets.



The Municipality's mobile equipment assets are categorized by remaining useful life. The majority of assets have 0-9 years of remaining useful life amounting to approximately \$4.0 million (59%). \$1.0 million (15%) of the assets are considered overdue by virtue of their useful life. The remaining \$1.7 million (26%) have more than 10 years of remaining useful life.

As the condition analysis for this category is largely based on the relative age of each asset, the conditions closely link to the remaining useful life graph. \$1.9 million (28%) of the assets are in good to very good condition while \$2.8 million (41%) are in poor to very poor condition. Many of the assets in poor or very poor condition are in this category mainly based on their remaining useful life. The remaining assets are considered in fair condition making up \$2.0 million (30%). Some fire vehicles have been updated to reflect a fair condition since it has been determined that these fire assets are in better condition than what their age would suggest.

Data Confidence and Reliability:	Level 3 (Uncertain) - Much of the inventory data is complete; however some condition assessment information will need to be updated over the short to medium term. Fire equipment conditions are up to date based on staff assumptions.
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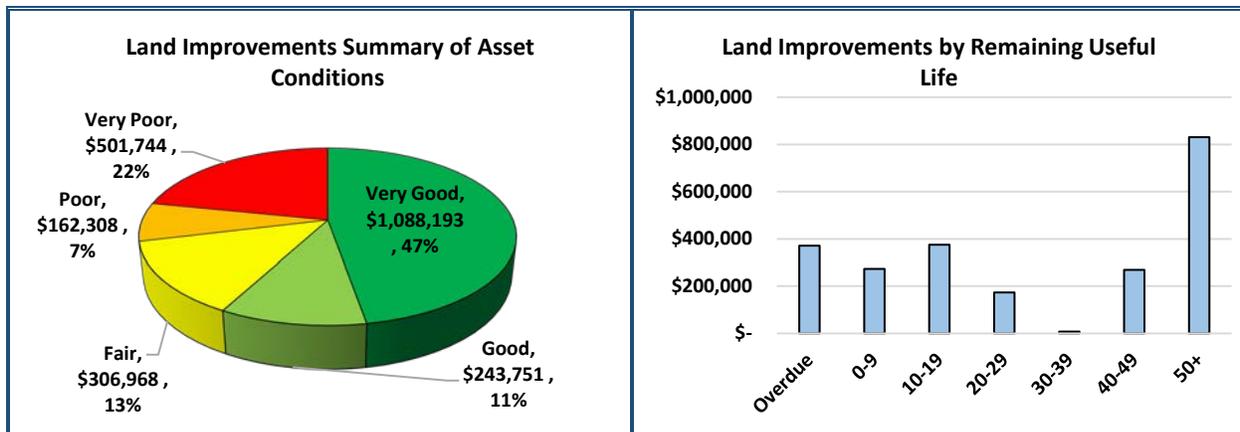


B5 LAND IMPROVEMENTS

FAIR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Land Improvements	Various Components	60	\$2,302,964	Inflation	15-80
Total		60	\$2,302,964		

The Municipality maintains a total of 60 pooled units of land improvements with a total replacement cost of \$2.3 million. This category includes fencing at parks and the landfill, outdoor lighting and playground equipment. These assets all have an assumed useful life ranging between 15-80 years depending on the asset type. The asset replacement values have largely been derived by inflating the original acquisition cost to 2019 dollars.



The Municipality's land improvements are categorized by remaining useful life. The majority of assets have more than 50 years of remaining useful life amounting to approximately \$831,000 (36%). \$372,000 (16%) are considered overdue for replacement.

As the condition analysis for this category is largely based on the relative age of each asset, the conditions closely link to the remaining useful life graph. The majority of the assets are in good to very good condition, which amounts to approximately \$1.3 million (58%). Fair condition assets make up \$307,000 (13%). Poor or very poor assets make up \$664,000 (29%) mostly attributed to fencing, lights and some playground equipment, which have a lower remaining useful life.

Data Confidence and Reliability: Level 3 (Uncertain) - Much of the inventory data is complete; however some condition assessment information will need to be updated over the short to medium term.

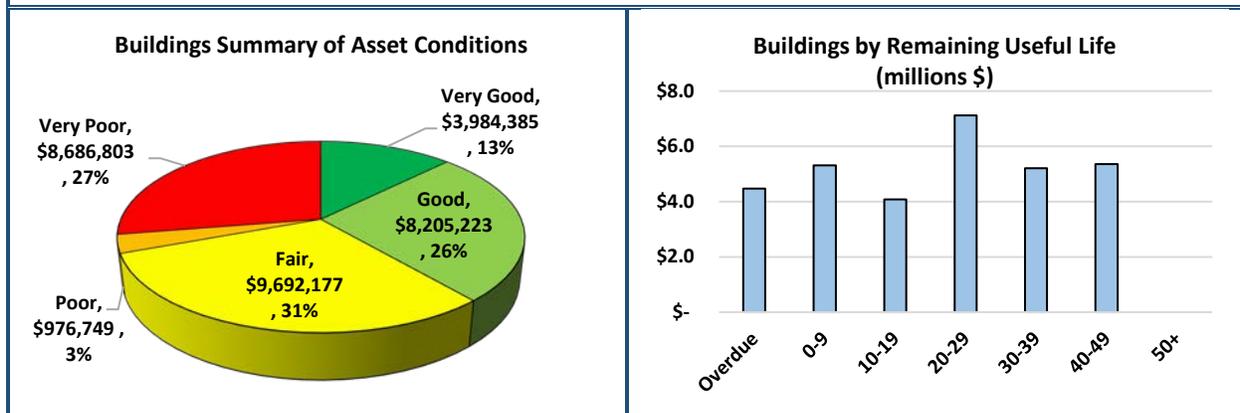


B6 BUILDINGS

FAIR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Buildings	Various Components	131	\$31,545,337	Recent Costing/Inflation	20-50
Total		131	\$31,545,337		

The Municipality maintains the inventory of buildings based on a component approach with additions/betterments also documented. In total 131 units of building components are inventoried with a replacement value of \$31.5 million. These assets all have an assumed useful life ranging between 20-50 years depending on the asset type. The asset replacement values have been derived based on typical costs to construct similar buildings in neighbouring municipalities with the remaining costs based on inflation.



The Municipality's buildings and components are categorized by remaining useful life. The range of remaining useful life for buildings is evenly spread with the majority of \$7.0 million (23%) having 20-29 years of remaining useful life. \$4.5 million (14%) are considered overdue; however these buildings and components continue to be in good operating condition.

As the condition analysis for this category is largely based on the relative age of each asset, the conditions closely link to the remaining useful life graph. The majority of the assets are in good to very good condition, which amounts to approximately \$12.2 million (39%). Fair condition assets make up \$9.7 million (31%). Poor or very poor assets make up \$9.7 million (31%) mostly attributed to the age of components of the administration building, arena, library, pool and some park pavilions. It is important to note that particularly for buildings, many of these assets continue to operate well beyond their assumed useful life.

Data Confidence and Reliability: Level 4 (Reliable Data) - Much of the inventory data is well documented with buildings and betterments broken down into components. Condition assessment information will need to be updated over the short to medium term.



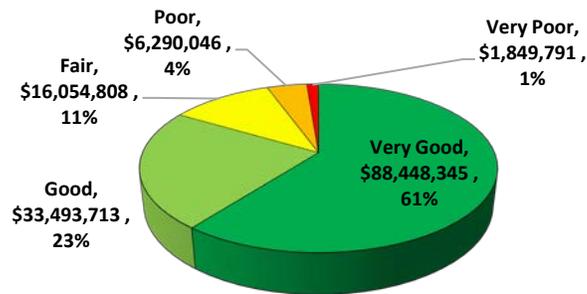
B7 ROADS & RELATED

GOOD

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Roads	Paved Roads (km)	256	\$140,034,565	Recent Costing	6-30
	Gravel Roads (km)	238	\$88,101,440	Recent Costing	N/A
Subtotal		494	\$228,136,005		
Roads Related	Sidewalks (km)	191	\$5,041,434	Inflation	75
	Streetlights (units)	13	\$741,287	Inflation	20-50
	Traffic Lights (units)	3	\$33,261	Inflation	20
	Signage (units)	4	\$286,156	Inflation	30
		211	\$6,102,138		
Total			\$234,238,143		

The paved and gravel roads inventory is based on the 2018 Road Management Study while remaining road related assets are based on the municipal inventory. In total, the Municipality owns 494 km of paved and gravel roads and 211 pooled units of road related infrastructure valued at \$234.2 million. These assets all have an assumed useful life ranging between 6-75 years depending on the asset type.

Roads & Related Summary of Asset Conditions



The majority of the Municipality's roads are well maintained and considered to be in good to very good condition amounting to approximately \$122.0 million (83%). Road assets in fair condition amount to \$16.1 million (11%) while the remainder is considered poor or very poor at \$8.1 million (6%). The highest replacement value roads in poor to very poor includes Line 46 from Rd 164 to Rd 150 (3 segments total \$3.1 million) and Line 17 from Rd 183 to Rd 181 (2 segments total \$2.0 million).

Since roads are not typically replaced, but rather repaved over time, a remaining useful life report is not included as it does not reflect the recent condition assessments completed for roads.

Data Confidence and Reliability: Level 5 (Highly Reliable) - The inventory is based on the 2018 Road Management Study. The inventory is complete with all descriptive features of all the Municipality's road segments and the data is up to date. Condition assessments are available for all roads.

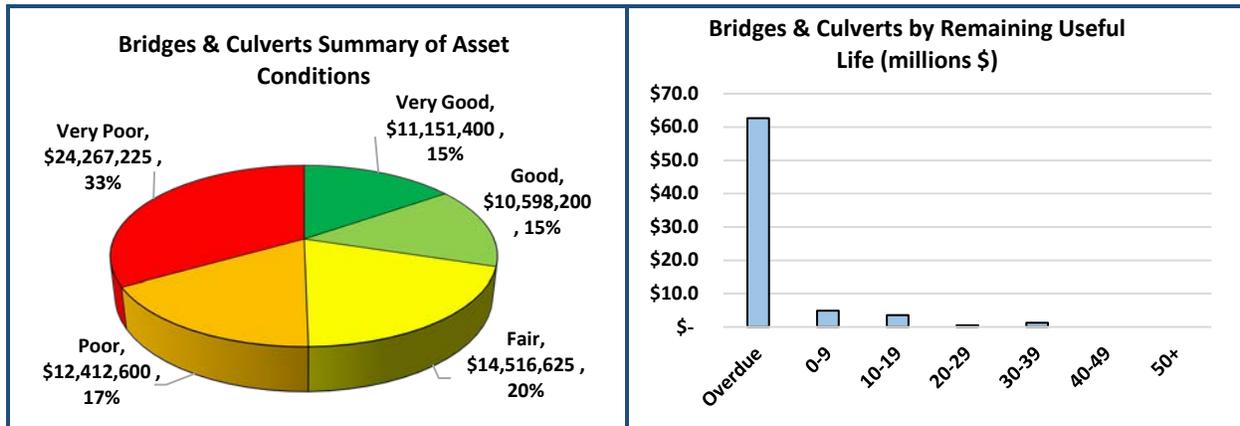


B8 BRIDGES & CULVERTS

FAIR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Bridges & Culverts	Bridges	49	\$49,509,000	Recent Costing	40
	Culverts	67	\$23,437,050	Recent Costing	40
Total		116	\$72,946,050		

The Municipality owns 49 bridges and 67 culverts valued at a total of \$73.0 million. These assets have an assumed useful life of 40 years. The inventory is based on the data developed through the 2018 OSIM Inspections Report, which includes condition assessments for all municipal bridges and culverts.



Based on the information from the 2018 OSIM Inspections Report the majority of the bridges and culverts are considered overdue based solely on the age of these assets. This amounts to \$62.7 million (86%). The remaining bridges and culverts are considered to have some remaining useful life left amounting to \$10.3 million (14%).

Based on the 2018 OSIM Inspections Report \$21.7 million (30%) of the assets are in good to very good condition. \$14.5 million (20%) are in fair condition while the remaining \$36.7 million (50%) are in poor to very poor condition. The highest valued structures in the very poor category includes the Wellington St bridge (\$1.2 million), the Clarke bridge (\$2.0 million) and the 12th Concession bridge (\$1.0 million).

Data Confidence and Reliability: Level 5 (Highly Reliable) - The inventory is based on the 2018 OSIM Inspections Report. The inventory is complete with all descriptive features of all the Municipality's bridges and culverts. The data is up to date with condition assessments available for all structures.

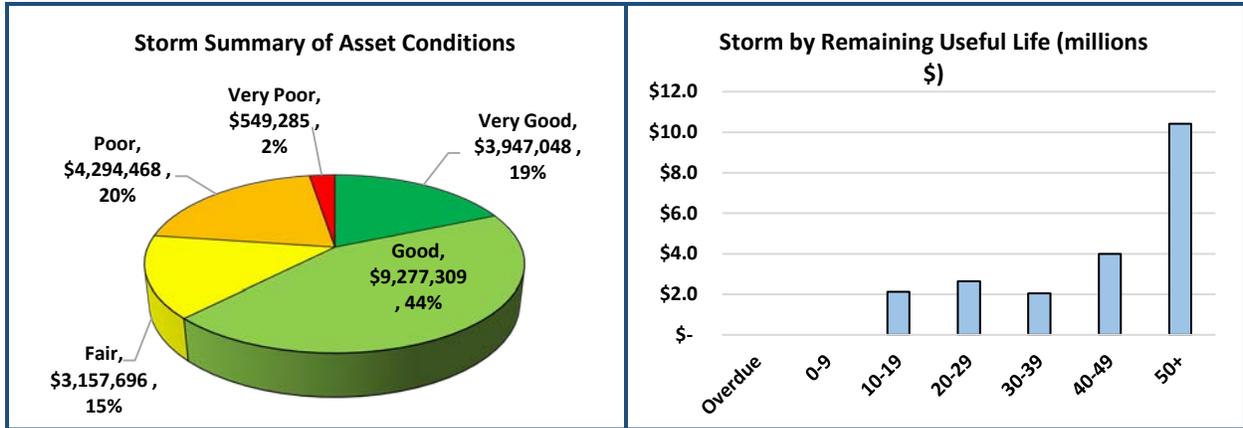


B9 STORM SYSTEM

GOOD

Summary of Inventory					
Asset Type	Components	Quantity (m)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Storm	Mains-Local (150 mm)	180	\$195	Inflation	75
	Mains-Local (200 mm)	1,305	\$763,027	Inflation	75
	Mains-Local (250 mm)	1,100	\$914,615	Inflation	75
	Mains-Local (300 mm)	9,340	\$5,896,540	Inflation	75
	Mains-Local (375 mm)	2,730	\$2,077,642	Inflation	75
	Mains-Local (450 mm)	2,270	\$1,590,826	Inflation	75
	Mains-Local (525 mm)	1,560	\$1,209,760	Inflation	75
	Mains-Local (600 mm)	4,285	\$3,414,043	Inflation	75
	Mains-Local (675 mm)	390	\$428,403	Inflation	75
	Mains-Local (750 mm)	1,020	\$1,140,121	Inflation	75
	Mains-Local (825 mm)	720	\$814,967	Inflation	75
	Mains-Local (875 mm)	320	\$313,375	Inflation	75
	Mains-Local (900 mm)	430	\$509,710	Inflation	75
	Mains-Local (975 mm)	400	\$473,444	Inflation	75
	Mains-Local (1050 mm)	490	\$612,348	Inflation	75
	Mains-Local (1200 mm)	430	\$754,552	Inflation	75
		Mains-Local (Missing Diameter)	90	\$255,021	Inflation
	Landfill		\$57,217	Inflation	50
Total		27,060	\$21,225,806		

The Municipality owns approximately \$21.2 million in stormwater infrastructure, which includes about 27,000 metres of stormwater mains. Assumed useful life ranges from 50-75 years. Replacement costs have largely been determined based on the initial capital acquisition cost of each asset and adjusted for inflation.



As many of the stormwater mains are relatively new, there are no assets considered overdue. The majority of assets have well over 50 years of remaining useful life remaining amounting to about \$10.4 million (49%). \$2.1 million (10%) has 10-19 years of remaining useful representing the oldest stormwater assets.

As the condition analysis for this category is largely based on the relative age of each asset, the conditions closely link to the remaining useful life graph. The majority of the assets are in good to very good condition, which amounts to approximately \$13.2 million (62%). Fair condition assets make up \$3.2 million (15%). Poor or very poor assets make up \$4.8 million (23%) based on their relative age.

Data Confidence and Reliability: Level 4 (Reliable Data) - Much of the inventory data is well documented. Condition assessment information will need to be updated over the short to medium term.

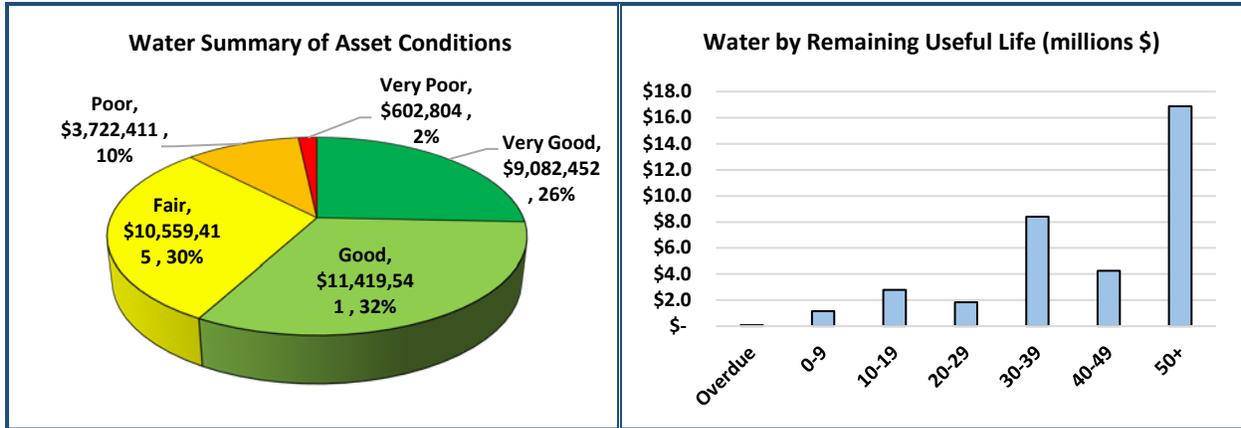


B10 WATER SYSTEM

GOOD

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Water Facilities and Components	Treatment (Facilities/Equipment)	34	\$2,642,398	Inflation	15-75
(Units)	Facilities (Booster Pump station)	2	\$2,255,406	Inflation	20-100
	Facilities (Treatment Plant)	23	\$721,688	Inflation	40-100
	Facilities-Wells	23	\$1,091,685	Inflation	30-100
	Water Meters	2	\$28,839	Inflation	15
	Pickup Trucks	1	\$25,212	Inflation	10
	Mobile Equipment	2	\$26,358	Inflation	10
Subtotal		87	\$6,791,586		
Watermains	Watermain (<25 mm)	960	\$633,600	Recent Costing	75
(Meters)	Watermain (50 mm)	600	\$396,000	Recent Costing	75
	Watermain (100 mm)	4,168	\$2,750,880	Recent Costing	75
	Watermain (150 mm)	19,095	\$12,774,053	Recent Costing	75
	Watermain (200 mm)	7,035	\$5,732,300	Recent Costing	75
	Watermain (250 mm)	2,840	\$2,225,800	Recent Costing	75
	Watermain (300 mm)	2,425	\$2,521,254	Recent Costing	75
	Watermain (350 mm)	200	\$212,000	Recent Costing	75
	Watermain (Missing Diameter)	-	\$1,349,150	Inflation	75
Subtotal		37,323	\$28,595,037		
Total			\$35,386,623		

The Municipality owns approximately \$6.8 million in water treatment and supporting infrastructure as well as 37,300 metres of watermains valued at \$28.6 million. In total, municipal water infrastructure amounts to \$35.4 million. Replacement costs are based on inflation for water treatment and supporting infrastructure and recent unit cost estimates for watermains. Useful life assumptions range from 10-100 years for water treatment and supporting infrastructure and 75 years for watermains.



As much of the water infrastructure is relatively new, there are few assets considered overdue which amount to \$85,000 (less than 1%). The majority of assets have well over 50 years of remaining useful life remaining amounting to about \$16.9 million (48%). \$1.1 million (3%) has 0-9 years of remaining useful life. The remaining \$17.3 million (49%) ranges from 10-49 years of remaining useful life.

As the condition analysis for this category is largely based on the relative age of each asset, the conditions closely link to the remaining useful life graph. The majority of the assets are in good to very good condition, which amounts to approximately \$21.0 million (58%). Fair condition assets make up \$10.6 million (30%). Poor or very poor assets make up \$4.3 million (12%) based on their relative age. The assets in the very poor category are made up of components of wells 1, 2 and 3 and treatment equipment such as reservoir baffles, SCADA, MIOX and electrical components.

Data Confidence and Reliability: Level 4 (Reliable Data) - Much of the inventory data is well documented. Condition assessment information will need to be updated over the short to medium term.

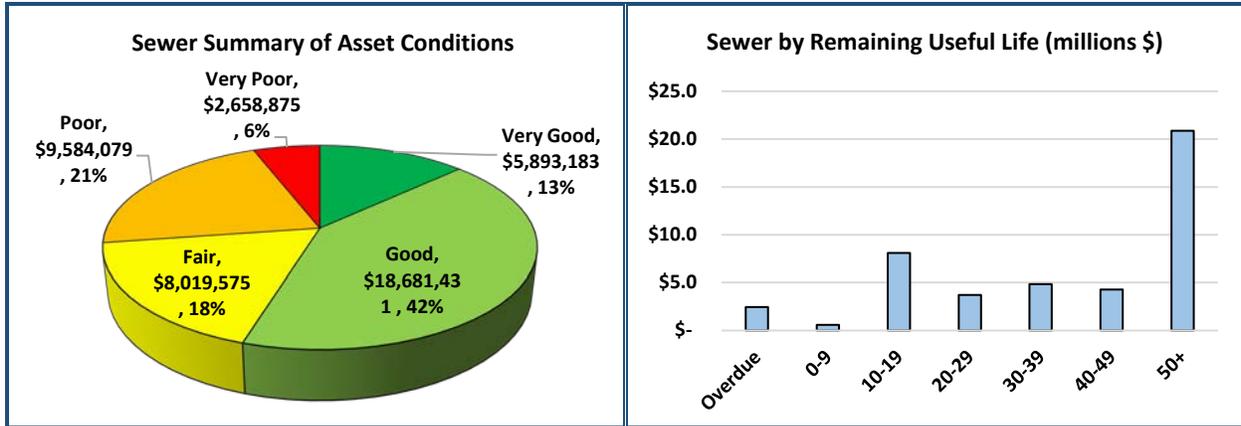


B11 SEWER SYSTEM

FAIR

Summary of Inventory					
Asset Type	Components	Quantity (Units)	Replacement Cost 2019	Replacement Cost Method	Useful Life (Years)
Sewer Facilities & Components	Treatment Machinery/Equipment	62	\$5,119,660	Inflation	5-50
	Fencing	1	\$52,267	Inflation	35
	Sanitary System	2	\$222,625	Inflation	50
	Facilities	39	\$8,320,633	Inflation	20-100
Subtotal		104	\$13,715,185		
Sewer Mains	Mains-Local (150 mm)	240	\$241,862	Recent Costing	75
	Mains-Local (200 mm)	14,566	\$11,701,781	Recent Costing	75
	Mains-Local (250 mm)	12,007	\$10,145,616	Recent Costing	75
	Mains-Local (300 mm)	1,860	\$1,596,065	Recent Costing	75
	Mains-Local (375 mm)	-	\$23,622	Recent Costing	75
	Mains-Local (450 mm)	1,612	\$1,531,400	Recent Costing	75
	Mains-Local (525 mm)	785	\$800,700	Recent Costing	75
	Mains-Local (600 mm)	765	\$1,002,150	Recent Costing	75
	Mains-Local (Missing Diameter)	-	\$925,262	Inflation	75
	Mains-Pools	-	\$21,080	Inflation	75
	Forcemain (300 mm)	1,160	\$951,200	Recent Costing	75
	Forcemain (350 mm)	1,130	\$960,500	Recent Costing	75
	Forcemain (400 mm)	1,366	\$1,188,420	Recent Costing	75
	Forcemain (Missing Diameter)	-	\$32,300	Inflation	75
Subtotal		35,491	\$31,121,958		
Total			\$44,837,143		

The Municipality owns approximately \$13.7 million in sewer treatment and supporting infrastructure as well as 35,500 metres of sewer mains valued at \$31.1 million. In total, municipal sewer infrastructure amounts to \$44.8 million. Replacement costs are based on inflation for sewer treatment and supporting infrastructure and recent unit cost estimates for sewer mains. Useful life assumptions range from 5-100 years for sewer treatment and supporting infrastructure and 75 years for sewer mains.



There are a few assets considered overdue which amount to \$2.4 million (5%). The majority of assets have well over 50 years of remaining useful life remaining amounting to about \$21.0 million (47%). \$605,000 (1%) has 0-9 years of remaining useful life. The remaining \$21.0 million (47%) ranges from 10-49 years of remaining useful life.

As the condition analysis for this category is largely based on the relative age of each asset, the conditions closely link to the remaining useful life graph. The majority of the assets are in good to very good condition, which amounts to approximately \$24.6 million (55%). Fair condition assets make up \$8.0 million (18%). Poor or very poor assets make up \$12.2 million (27%) based on their relative age. The assets in the very poor category are made up of sewer related machinery and equipment such as tanks, pumps, wiring, switches, valves, heating, ventilation, SCADA, furniture and lighting.

Data Confidence and Reliability: Level 4 (Reliable Data) - Much of the inventory data is well documented. Condition assessment information will need to be updated over the short to medium term.

APPENDIX C
LEVEL OF SERVICE MEASURES

APPENDIX C

LEVEL OF SERVICE MEASURES

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 to be reported 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 the benefits of gas tax funds as a predictable funding source. Best practice is for the Municipality to begin tracking these project outcomes for all assets. Table 1 shows project outcomes relevant to the assets included in the 2019 Plan.

Table 1	
Relevant Project Outcomes Required for Gas Tax Funding	
Category	Outcomes
Local Roads and Bridges Subcategory: Roads	<ul style="list-style-type: none"> • Total lane km of paved roads rated as good and above • Total lane km of unpaved roads rated as good and above • Commute time during peak hours • Volume of traffic/level of congestion • Number of residents with access to new/repaired/rehabilitated/replaced roads • Number of businesses with improved access to highways or neighboring municipalities • Number of residents with improved access to highways or neighboring municipalities • Storage capacity of sand/salt
Local Roads and Bridges Subcategory: Bridges	<ul style="list-style-type: none"> • Number of bridges where the condition of the primary component is rated as good and above • Number of culverts rated as good and above • Number of residents with access to new/repaired/improved/replaced bridges and culverts • Volume of traffic/level of congestion
Local Roads and Bridges Subcategory: Active Transportation	<ul style="list-style-type: none"> • Percentage of total streets with sidewalks • Number of residents with access to new/repaired/improved/replaced bike lanes, sidewalks, hiking and walking trails
Sport Infrastructure	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Number of registered users per year • Number of residents who will benefit from the new or upgraded recreational infrastructure

Table 1 Relevant Project Outcomes Required for Gas Tax Funding	
Category	Outcomes
Cultural Infrastructure	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Area of properties projected to be less at-risk due to the investment • Emergency response costs

Source: AMO.

For 2019, it is expected that the Municipality will continue to report on the assets included in this Asset Management Plan to meet the asset management plan gas tax funding requirement.

APPENDIX D
ASSET MANAGEMENT STRATEGY

APPENDIX D

ASSET MANAGEMENT STRATEGY

Table 1 Planned Actions: Computer Network	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Regularly scheduling of repair work orders • Operating budgets should be informed by regular inspections as needed • Adjust service levels if necessary • Regularly review IT security issues as needed • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets. • IT training for staff wherever it is necessary to ensure proper use of equipment
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for all Municipality computer network assets. • Maintain hardware and software up to date
Renewal/ Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on assessments of computer network needs
Replacement	<ul style="list-style-type: none"> • Components replaced based on needs • Software upgraded on an ongoing basis to maintain important security updates
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, etc.).

Table 2 Planned Actions: Furniture & Fixtures	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Regularly scheduling of repair work orders • Operating budgets should be informed by regular inspections as needed • Adjust service levels if necessary • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets. • Provide training to staff to ensure safe and efficient operation of all equipment.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for all Municipality furniture and fixtures • Regular safety inspections of all assets before and after use to ensure safety standards are maintained.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections.
Replacement	<ul style="list-style-type: none"> • Replacement based on inspections. • Replacement forecast reviewed annually.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 3 Planned Actions: Machinery & Equipment	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Regularly scheduling of repair work orders. • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Annually provide the necessary departments with related information when new and additional units are acquired. • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets. • Training staff to ensure safe and efficient operation of equipment.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for all equipment. • Regular inspection of all equipment. • Annual inspection, service and certification performed on all applicable machinery in accordance with MTO requirements. • Regular safety inspections of all vehicles before and after use to ensure safety standards are maintained.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections. • Mid-life component replacements are usually common for larger equipment and can be scheduled accordingly
Replacement	<ul style="list-style-type: none"> • Equipment replacement based on inspections. • Equipment replacement forecast reviewed annually.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 4 Planned Actions: Mobile Equipment	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Regularly scheduling of repair work orders. • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Annually provide the necessary departments with related information when new and additional units are acquired. • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets. • Training staff to ensure safe and efficient operation of vehicles.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for all Municipality vehicles. • Regular inspection of all Municipality vehicles. Emergency vehicles should be inspected in accordance with industry and regulatory guidelines. • Annual inspection, service and certification performed on all applicable vehicles in accordance with MTO requirements. • Regular safety inspections of all vehicles before and after use to ensure safety standards are maintained.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections. • Mid-life component replacements are usually common for larger vehicles and can be scheduled accordingly (engine/transmission rebuilds).
Replacement	<ul style="list-style-type: none"> • Vehicle replacement based on inspections. • Vehicle replacement forecast reviewed annually.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 5 Planned Actions: Land Improvements	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed. • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for all land improvements. • Pool safety and maintenance to industry and legislative standards • Inspection of assets on a regular basis to ensure safety
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections.
Replacement	<ul style="list-style-type: none"> • Component replacement based on inspection.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Continue to track future needs based on the Parks and Recreation Services Master Plan

Table 6 Planned Actions: Buildings	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • 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. • Review of the design and layout of buildings and properties to minimize maintenance costs through design efficiencies over the lifecycle of buildings. • Adjust service levels if necessary. • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets.
Maintenance Activities	<ul style="list-style-type: none"> • Buildings and facilities inspected regularly in accordance with occupational health and safety regulations • HVAC and heating systems inspected regularly. • Plumbing inspected regularly. • Maintain electrical systems to Electrical Safety Authority standards. • Fire alarms, fire extinguishers and emergency lights inspected regularly.
Renewal/ Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections.
Replacement	<ul style="list-style-type: none"> • Component replacement based on inspections.
Disposal	<ul style="list-style-type: none"> • Selling or demolishing facilities that are no longer in use or underutilized. • Re-use or sell land not in use.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Assumptions on required facility space through development agreements if necessary. • Service improvements made where possible (accessibility in line with Perth County Joint Accessibility Plan, etc.).

Table 7 Planned Actions: Roads & Related	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Regularly scheduling of repair work orders. • Annually provide the necessary departments with related information when new and additional equipment is acquired. • Continue to conduct road inspections and maintain an up-to-date database (i.e. Inventory based on Road Management Study) • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets.
Maintenance Activities	<ul style="list-style-type: none"> • Regular maintenance including, road sweeping, snow removal, dust control, roadside vegetation management, and roadside ditch cleanout and clearing. • Continued maintenance of roads in line with <i>O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways</i> • Continue to monitor road restrictions based on municipal policy, in particular for load restrictions in effect during the spring months
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Resurfacing of poor conditioned paved roads. • Regular grading and application of gravel for gravel roads. • Regular component repairs based on inspections. • Repair methods and recommended works as outlined in the 2018 Road Management Study (preventative maintenance, rehabilitation, reclamation)
Replacement	<ul style="list-style-type: none"> • Road reconstruction if identified in Road Management Study. • Construction of roads in line with municipal design standards
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition. • Convert low traffic roads to less costly gravel if necessary.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. Ensure assumed roads are tracked through the asset management plan. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 8 Planned Actions: Bridges & Culverts	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Regularly scheduling of repair work orders. • Annually provide the necessary departments with related information when works are completed. • Update OSIM Inspections Report on a regular basis and input OSIM data into AMP model as needed. • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets. • Prioritize bridge and culvert improvements based on inspection reports.
Maintenance Activities	<ul style="list-style-type: none"> • Regular inspections and repairs of all culverts. • Continue required OSIM inspections (every 2 years) • Continue to monitor road restrictions based on municipal policy, in particular for load restrictions in effect during the spring months • Continued maintenance of roads in line with <i>O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways</i> • Continue to conduct visual reviews of bridges and culverts that require work within the next two years to determine if there are any safety concerns.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections. • Continue to implement recommendations of 2018 OSIM Inspections Report.
Replacement	<ul style="list-style-type: none"> • Component replacement based on needs.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 9 Planned Actions: Storm System	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Regularly scheduling of repair work orders. • Annually provide the necessary departments with related information when works are completed. • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for components of the storm system. • Regular safety inspections.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections.
Replacement	<ul style="list-style-type: none"> • Components replaced based on needs. • Construction of storm infrastructure in line with municipal design standards
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 10 Planned Actions: Water System	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Regularly scheduling of repair work orders. • Annually provide the necessary departments with related information when works are completed. • Update master planning documents as needed • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for components of the water system. • Regular safety inspections. • CCTV camera inspections performed as identified and needed.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections.
Replacement	<ul style="list-style-type: none"> • Components replaced based on needs.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

Table 11 Planned Actions: Sewer System	
Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> • Operating budgets should be informed by regular inspections as needed. • Adjust service levels if necessary. • Regularly scheduling of repair work orders. • Annually provide the necessary departments with related information when works are completed. • Update master planning documents as needed • Update policies and procedures regarding the accounting and reporting of the Municipality's tangible capital assets.
Maintenance Activities	<ul style="list-style-type: none"> • Preventative maintenance program for the sewer system. • CCTV camera inspections performed as identified and needed.
Renewal/Rehabilitation	<ul style="list-style-type: none"> • Regular component repairs based on inspections.
Replacement	<ul style="list-style-type: none"> • Components replaced based on needs.
Disposal	<ul style="list-style-type: none"> • Dispose or sell assets that are no longer in use or are in poor condition.
Expansion	<ul style="list-style-type: none"> • Identify needs through regular capital planning. • Service improvements made where possible (new technologies, environmental impacts, etc.).

APPENDIX E
DETAILED FINANCING STRATEGY TABLES

Table 1a
Municipality of West Perth
2019 Asset Management Plan
Close Cumulative Infrastructure Deficit by 2058 (Tax Funded Services)

Legend	1	2	3	4	5	6	7	8	9
Year	Projected Annual Capital Provision	Capital from Taxation	Yearly Increase in Tax Funding (\$)	Yearly Increase in Tax Funding (%)	Gas Tax	Other Grants	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016									
2017									
2018									
2019	\$ 15,407,439	\$ 2,048,094			\$ 268,930	\$ 960,213	\$ 3,277,237	\$ 12,130,202	\$ 12,130,202
2020	\$ 19,546,845	\$ 2,321,879	\$ 273,785	13.4%	\$ 268,930		\$ 2,590,809	\$ 16,956,036	\$ 29,086,238
2021	\$ 15,677,089	\$ 2,595,664	\$ 273,785	11.8%	\$ 281,154		\$ 2,876,818	\$ 12,800,271	\$ 41,886,509
2022	\$ 14,335,128	\$ 2,869,449	\$ 273,785	10.5%	\$ 281,154		\$ 3,150,603	\$ 11,184,525	\$ 53,071,034
2023	\$ 13,516,743	\$ 3,143,234	\$ 273,785	9.5%	\$ 293,378		\$ 3,436,612	\$ 10,080,130	\$ 63,151,164
2024	\$ 10,186,412	\$ 3,417,019	\$ 273,785	8.7%	\$ 293,378		\$ 3,710,397	\$ 6,476,015	\$ 69,627,179
2025	\$ 9,435,333	\$ 3,690,805	\$ 273,785	8.0%	\$ 293,378		\$ 3,984,183	\$ 5,451,150	\$ 75,078,330
2026	\$ 9,182,975	\$ 3,964,590	\$ 273,785	7.4%	\$ 293,378		\$ 4,257,968	\$ 4,925,008	\$ 80,003,337
2027	\$ 8,994,011	\$ 4,238,375	\$ 273,785	6.9%	\$ 293,378		\$ 4,531,753	\$ 4,462,258	\$ 84,465,596
2028	\$ 7,639,539	\$ 4,512,160	\$ 273,785	6.5%	\$ 293,378		\$ 4,805,538	\$ 2,834,001	\$ 87,299,597
2029	\$ 7,033,262	\$ 4,785,945	\$ 273,785	6.1%	\$ 293,378		\$ 5,079,323	\$ 1,953,939	\$ 89,253,536
2030	\$ 6,988,744	\$ 5,059,730	\$ 273,785	5.7%	\$ 293,378		\$ 5,353,108	\$ 1,635,636	\$ 90,889,172
2031	\$ 6,973,176	\$ 5,333,515	\$ 273,785	5.4%	\$ 293,378		\$ 5,626,893	\$ 1,346,283	\$ 92,235,455
2032	\$ 6,874,149	\$ 5,607,300	\$ 273,785	5.1%	\$ 293,378		\$ 5,900,678	\$ 973,471	\$ 93,208,925
2033	\$ 6,656,641	\$ 5,881,085	\$ 273,785	4.9%	\$ 293,378		\$ 6,174,463	\$ 482,178	\$ 93,691,103
2034	\$ 6,656,641	\$ 6,154,870	\$ 273,785	4.7%	\$ 293,378		\$ 6,448,248	\$ 208,393	\$ 93,899,496
2035	\$ 6,455,349	\$ 6,428,655	\$ 273,785	4.4%	\$ 293,378		\$ 6,722,033	\$ (266,684)	\$ 93,632,812
2036	\$ 6,255,007	\$ 6,702,440	\$ 273,785	4.3%	\$ 293,378		\$ 6,995,818	\$ (740,812)	\$ 92,892,000
2037	\$ 6,255,007	\$ 6,976,226	\$ 273,785	4.1%	\$ 293,378		\$ 7,269,604	\$ (1,014,597)	\$ 91,877,403
2038	\$ 6,245,580	\$ 7,250,011	\$ 273,785	3.9%	\$ 293,378		\$ 7,543,389	\$ (1,297,808)	\$ 90,579,595
2039	\$ 6,155,297	\$ 7,523,796	\$ 273,785	3.8%	\$ 293,378		\$ 7,817,174	\$ (1,661,876)	\$ 88,917,719
2040	\$ 6,140,249	\$ 7,797,581	\$ 273,785	3.6%	\$ 293,378		\$ 8,090,959	\$ (1,950,710)	\$ 86,967,009
2041	\$ 6,140,249	\$ 8,071,366	\$ 273,785	3.5%	\$ 293,378		\$ 8,364,744	\$ (2,224,495)	\$ 84,742,514
2042	\$ 6,140,249	\$ 8,345,151	\$ 273,785	3.4%	\$ 293,378		\$ 8,638,529	\$ (2,498,280)	\$ 82,244,234
2043	\$ 6,057,890	\$ 8,618,936	\$ 273,785	3.3%	\$ 293,378		\$ 8,912,314	\$ (2,854,424)	\$ 79,389,810
2044	\$ 5,934,873	\$ 8,892,721	\$ 273,785	3.2%	\$ 293,378		\$ 9,186,099	\$ (3,251,226)	\$ 76,138,584
2045	\$ 5,890,652	\$ 9,166,506	\$ 273,785	3.1%	\$ 293,378		\$ 9,459,884	\$ (3,569,232)	\$ 72,569,352
2046	\$ 5,866,376	\$ 9,440,291	\$ 273,785	3.0%	\$ 293,378		\$ 9,733,669	\$ (3,867,293)	\$ 68,702,059
2047	\$ 5,866,376	\$ 9,714,076	\$ 273,785	2.9%	\$ 293,378		\$ 10,007,454	\$ (4,141,078)	\$ 64,560,981
2048	\$ 5,865,519	\$ 9,987,861	\$ 273,785	2.8%	\$ 293,378		\$ 10,281,239	\$ (4,415,721)	\$ 60,145,260
2049	\$ 5,865,519	\$ 10,261,647	\$ 273,785	2.7%	\$ 293,378		\$ 10,555,025	\$ (4,689,506)	\$ 55,455,754
2050	\$ 5,841,850	\$ 10,535,432	\$ 273,785	2.7%	\$ 293,378		\$ 10,828,810	\$ (4,986,959)	\$ 50,468,795
2051	\$ 5,841,850	\$ 10,809,217	\$ 273,785	2.6%	\$ 293,378		\$ 11,102,595	\$ (5,260,745)	\$ 45,208,050
2052	\$ 5,772,154	\$ 11,083,002	\$ 273,785	2.5%	\$ 293,378		\$ 11,376,380	\$ (5,604,226)	\$ 39,603,824
2053	\$ 5,747,042	\$ 11,356,787	\$ 273,785	2.5%	\$ 293,378		\$ 11,650,165	\$ (5,903,123)	\$ 33,700,701
2054	\$ 5,747,042	\$ 11,630,572	\$ 273,785	2.4%	\$ 293,378		\$ 11,923,950	\$ (6,176,908)	\$ 27,523,793
2055	\$ 5,747,048	\$ 11,904,357	\$ 273,785	2.4%	\$ 293,378		\$ 12,197,735	\$ (6,450,687)	\$ 21,073,107
2056	\$ 5,747,048	\$ 12,178,142	\$ 273,785	2.3%	\$ 293,378		\$ 12,471,520	\$ (6,724,472)	\$ 14,348,635
2057	\$ 5,747,048	\$ 12,451,927	\$ 273,785	2.2%	\$ 293,378		\$ 12,745,305	\$ (6,998,257)	\$ 7,350,377
2058	\$ 5,668,713	\$ 12,725,712	\$ 273,785	2.2%	\$ 293,378		\$ 13,019,090	\$ (7,350,377)	\$ 0

40-Year Infrastructure Deficit

Total Tax Funding	\$ 295,476,126	
2019 Total Tax Levy	\$ 6,536,744	Excludes Police.
Inc. as % of Tax Levy	4.19%	

Table 2a
Municipality of West Perth
2019 Asset Management Plan
Financing Strategy 1: Close In-Year Funding Gap by 2038 (Tax Funded Services)

Legend	1	2	3	4	5	6	7	8	9
Year	Projected Annual Capital Provision	Capital from Taxation	Yearly Increase in Tax Funding (\$)	Yearly Increase in Tax Funding (%)	Gas Tax	Other Grants	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016									
2017									
2018									
2019	\$ 15,407,439	\$ 2,048,094			\$ 268,930	\$ 960,213	\$ 3,277,237	\$ 12,130,202	\$ 12,130,202
2020	\$ 19,546,845	\$ 2,253,573	\$ 205,479	10.0%	\$ 268,930	\$ -	\$ 2,522,503	\$ 17,024,342	\$ 29,154,544
2021	\$ 15,677,089	\$ 2,459,053	\$ 205,479	9.1%	\$ 281,154	\$ -	\$ 2,740,207	\$ 12,936,883	\$ 42,091,427
2022	\$ 14,335,128	\$ 2,664,532	\$ 205,479	8.4%	\$ 281,154	\$ -	\$ 2,945,686	\$ 11,389,442	\$ 53,480,868
2023	\$ 13,516,743	\$ 2,870,012	\$ 205,479	7.7%	\$ 293,378	\$ -	\$ 3,163,390	\$ 10,353,353	\$ 63,834,221
2024	\$ 10,186,412	\$ 3,075,491	\$ 205,479	7.2%	\$ 293,378	\$ -	\$ 3,368,869	\$ 6,817,543	\$ 70,651,765
2025	\$ 9,435,333	\$ 3,280,970	\$ 205,479	6.7%	\$ 293,378	\$ -	\$ 3,574,348	\$ 5,860,984	\$ 76,512,749
2026	\$ 9,182,975	\$ 3,486,450	\$ 205,479	6.3%	\$ 293,378	\$ -	\$ 3,779,828	\$ 5,403,148	\$ 81,915,897
2027	\$ 8,994,011	\$ 3,691,929	\$ 205,479	5.9%	\$ 293,378	\$ -	\$ 3,985,307	\$ 5,008,704	\$ 86,924,601
2028	\$ 7,639,539	\$ 3,897,408	\$ 205,479	5.6%	\$ 293,378	\$ -	\$ 4,190,786	\$ 3,448,752	\$ 90,373,353
2029	\$ 7,033,262	\$ 4,102,888	\$ 205,479	5.3%	\$ 293,378	\$ -	\$ 4,396,266	\$ 2,636,996	\$ 93,010,350
2030	\$ 6,988,744	\$ 4,308,367	\$ 205,479	5.0%	\$ 293,378	\$ -	\$ 4,601,745	\$ 2,386,999	\$ 95,397,348
2031	\$ 6,973,176	\$ 4,513,847	\$ 205,479	4.8%	\$ 293,378	\$ -	\$ 4,807,225	\$ 2,165,951	\$ 97,563,300
2032	\$ 6,874,149	\$ 4,719,326	\$ 205,479	4.6%	\$ 293,378	\$ -	\$ 5,012,704	\$ 1,861,445	\$ 99,424,745
2033	\$ 6,656,641	\$ 4,924,805	\$ 205,479	4.4%	\$ 293,378	\$ -	\$ 5,218,183	\$ 1,438,457	\$ 100,863,202
2034	\$ 6,656,641	\$ 5,130,285	\$ 205,479	4.2%	\$ 293,378	\$ -	\$ 5,423,663	\$ 1,232,978	\$ 102,096,180
2035	\$ 6,455,349	\$ 5,335,764	\$ 205,479	4.0%	\$ 293,378	\$ -	\$ 5,629,142	\$ 826,207	\$ 102,922,387
2036	\$ 6,255,007	\$ 5,541,243	\$ 205,479	3.9%	\$ 293,378	\$ -	\$ 5,834,621	\$ 420,385	\$ 103,342,773
2037	\$ 6,255,007	\$ 5,746,723	\$ 205,479	3.7%	\$ 293,378	\$ -	\$ 6,040,101	\$ 214,906	\$ 103,557,679
2038	\$ 6,245,580	\$ 5,952,202	\$ 205,479	3.6%	\$ 293,378	\$ -	\$ 6,245,580	\$ (0)	\$ 103,557,679
2039	\$ 6,155,297	\$ 6,157,682	\$ 205,479	3.5%	\$ 293,378	\$ -	\$ 6,451,060	\$ (295,762)	\$ 103,261,916
2040	\$ 6,140,249	\$ 6,363,161	\$ 205,479	3.3%	\$ 293,378	\$ -	\$ 6,656,539	\$ (516,290)	\$ 102,745,626
2041	\$ 6,140,249	\$ 6,568,640	\$ 205,479	3.2%	\$ 293,378	\$ -	\$ 6,862,018	\$ (721,770)	\$ 102,023,857
2042	\$ 6,140,249	\$ 6,774,120	\$ 205,479	3.1%	\$ 293,378	\$ -	\$ 7,067,498	\$ (927,249)	\$ 101,096,608
2043	\$ 6,057,890	\$ 6,979,599	\$ 205,479	3.0%	\$ 293,378	\$ -	\$ 7,272,977	\$ (1,215,087)	\$ 99,881,521
2044	\$ 5,934,873	\$ 7,185,079	\$ 205,479	2.9%	\$ 293,378	\$ -	\$ 7,478,457	\$ (1,543,583)	\$ 98,337,938
2045	\$ 5,890,652	\$ 7,390,558	\$ 205,479	2.9%	\$ 293,378	\$ -	\$ 7,683,936	\$ (1,793,284)	\$ 96,544,654
2046	\$ 5,866,376	\$ 7,596,037	\$ 205,479	2.8%	\$ 293,378	\$ -	\$ 7,889,415	\$ (2,023,039)	\$ 94,521,615
2047	\$ 5,866,376	\$ 7,801,517	\$ 205,479	2.7%	\$ 293,378	\$ -	\$ 8,094,895	\$ (2,228,518)	\$ 92,293,096
2048	\$ 5,865,519	\$ 8,006,996	\$ 205,479	2.6%	\$ 293,378	\$ -	\$ 8,300,374	\$ (2,434,855)	\$ 89,858,241
2049	\$ 5,865,519	\$ 8,212,475	\$ 205,479	2.6%	\$ 293,378	\$ -	\$ 8,505,853	\$ (2,640,335)	\$ 87,217,907
2050	\$ 5,841,850	\$ 8,417,955	\$ 205,479	2.5%	\$ 293,378	\$ -	\$ 8,711,333	\$ (2,869,483)	\$ 84,348,424
2051	\$ 5,841,850	\$ 8,623,434	\$ 205,479	2.4%	\$ 293,378	\$ -	\$ 8,916,812	\$ (3,074,962)	\$ 81,273,462
2052	\$ 5,772,154	\$ 8,828,914	\$ 205,479	2.4%	\$ 293,378	\$ -	\$ 9,122,292	\$ (3,350,138)	\$ 77,923,324
2053	\$ 5,747,042	\$ 9,034,393	\$ 205,479	2.3%	\$ 293,378	\$ -	\$ 9,327,771	\$ (3,580,729)	\$ 74,342,595
2054	\$ 5,747,042	\$ 9,239,872	\$ 205,479	2.3%	\$ 293,378	\$ -	\$ 9,533,250	\$ (3,786,208)	\$ 70,556,387
2055	\$ 5,747,048	\$ 9,445,352	\$ 205,479	2.2%	\$ 293,378	\$ -	\$ 9,738,730	\$ (3,991,682)	\$ 66,564,705
2056	\$ 5,747,048	\$ 9,650,831	\$ 205,479	2.2%	\$ 293,378	\$ -	\$ 9,944,209	\$ (4,197,161)	\$ 62,367,544
2057	\$ 5,747,048	\$ 9,856,310	\$ 205,479	2.1%	\$ 293,378	\$ -	\$ 10,149,688	\$ (4,402,640)	\$ 57,964,904
2058	\$ 5,668,713	\$ 10,061,790	\$ 205,479	2.1%	\$ 293,378	\$ -	\$ 10,355,168	\$ (4,686,455)	\$ 53,278,449

40-Year Infrastructure Deficit

Total Tax Funding	\$ 242,197,677	
2019 Total Tax Levy	\$ 6,536,744	<i>Excludes Police.</i>
Inc. as % of Tax Levy	3.14%	

Table 3a
Municipality of West Perth
2019 Asset Management Plan
Financing Strategy 2: Close In-Year Funding Gap by 2048 (Tax Funded Services)

Legend	1	2	3	4	5	6	7	8	9
Year	Projected Annual Capital Provision	Capital from Taxation	Yearly Increase in Tax Funding (\$)	Yearly Increase in Tax Funding (%)	Gas Tax	Other Grants	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016									
2017									
2018									
2019	\$ 15,407,439	\$ 2,048,094			\$ 268,930	\$ 960,213	\$ 3,277,237	\$ 12,130,202	\$ 12,130,202
2020	\$ 19,546,845	\$ 2,169,613	\$ 121,519	5.9%	\$ 268,930	\$ -	\$ 2,438,543	\$ 17,108,302	\$ 29,238,505
2021	\$ 15,677,089	\$ 2,291,132	\$ 121,519	5.6%	\$ 281,154	\$ -	\$ 2,572,286	\$ 13,104,804	\$ 42,343,308
2022	\$ 14,335,128	\$ 2,412,651	\$ 121,519	5.3%	\$ 281,154	\$ -	\$ 2,693,805	\$ 11,641,323	\$ 53,984,631
2023	\$ 13,516,743	\$ 2,534,169	\$ 121,519	5.0%	\$ 293,378	\$ -	\$ 2,827,547	\$ 10,689,195	\$ 64,673,827
2024	\$ 10,186,412	\$ 2,655,688	\$ 121,519	4.8%	\$ 293,378	\$ -	\$ 2,949,066	\$ 7,237,346	\$ 71,911,173
2025	\$ 9,435,333	\$ 2,777,207	\$ 121,519	4.6%	\$ 293,378	\$ -	\$ 3,070,585	\$ 6,364,748	\$ 78,275,920
2026	\$ 9,182,975	\$ 2,898,726	\$ 121,519	4.4%	\$ 293,378	\$ -	\$ 3,192,104	\$ 5,990,871	\$ 84,266,792
2027	\$ 8,994,011	\$ 3,020,245	\$ 121,519	4.2%	\$ 293,378	\$ -	\$ 3,313,623	\$ 5,680,388	\$ 89,947,180
2028	\$ 7,639,539	\$ 3,141,764	\$ 121,519	4.0%	\$ 293,378	\$ -	\$ 3,435,142	\$ 4,204,397	\$ 94,151,577
2029	\$ 7,033,262	\$ 3,263,283	\$ 121,519	3.9%	\$ 293,378	\$ -	\$ 3,556,661	\$ 3,476,601	\$ 97,628,178
2030	\$ 6,988,744	\$ 3,384,801	\$ 121,519	3.7%	\$ 293,378	\$ -	\$ 3,678,179	\$ 3,310,565	\$ 100,938,743
2031	\$ 6,973,176	\$ 3,506,320	\$ 121,519	3.6%	\$ 293,378	\$ -	\$ 3,799,698	\$ 3,173,478	\$ 104,112,221
2032	\$ 6,874,149	\$ 3,627,839	\$ 121,519	3.5%	\$ 293,378	\$ -	\$ 3,921,217	\$ 2,952,932	\$ 107,065,152
2033	\$ 6,656,641	\$ 3,749,358	\$ 121,519	3.3%	\$ 293,378	\$ -	\$ 4,042,736	\$ 2,613,905	\$ 109,679,057
2034	\$ 6,656,641	\$ 3,870,877	\$ 121,519	3.2%	\$ 293,378	\$ -	\$ 4,164,255	\$ 2,492,386	\$ 112,171,443
2035	\$ 6,455,349	\$ 3,992,396	\$ 121,519	3.1%	\$ 293,378	\$ -	\$ 4,285,774	\$ 2,169,576	\$ 114,341,019
2036	\$ 6,255,007	\$ 4,113,915	\$ 121,519	3.0%	\$ 293,378	\$ -	\$ 4,407,293	\$ 1,847,714	\$ 116,188,733
2037	\$ 6,255,007	\$ 4,235,433	\$ 121,519	3.0%	\$ 293,378	\$ -	\$ 4,528,811	\$ 1,726,195	\$ 117,914,928
2038	\$ 6,245,580	\$ 4,356,952	\$ 121,519	2.9%	\$ 293,378	\$ -	\$ 4,650,330	\$ 1,595,250	\$ 119,510,178
2039	\$ 6,155,297	\$ 4,478,471	\$ 121,519	2.8%	\$ 293,378	\$ -	\$ 4,771,849	\$ 1,383,448	\$ 120,893,627
2040	\$ 6,140,249	\$ 4,599,990	\$ 121,519	2.7%	\$ 293,378	\$ -	\$ 4,893,368	\$ 1,246,881	\$ 122,140,508
2041	\$ 6,140,249	\$ 4,721,509	\$ 121,519	2.6%	\$ 293,378	\$ -	\$ 5,014,887	\$ 1,125,362	\$ 123,265,870
2042	\$ 6,140,249	\$ 4,843,028	\$ 121,519	2.6%	\$ 293,378	\$ -	\$ 5,136,406	\$ 1,003,843	\$ 124,269,713
2043	\$ 6,057,890	\$ 4,964,547	\$ 121,519	2.5%	\$ 293,378	\$ -	\$ 5,257,925	\$ 799,966	\$ 125,069,679
2044	\$ 5,934,873	\$ 5,086,065	\$ 121,519	2.4%	\$ 293,378	\$ -	\$ 5,379,443	\$ 555,430	\$ 125,625,109
2045	\$ 5,890,652	\$ 5,207,584	\$ 121,519	2.4%	\$ 293,378	\$ -	\$ 5,500,962	\$ 389,689	\$ 126,014,798
2046	\$ 5,866,376	\$ 5,329,103	\$ 121,519	2.3%	\$ 293,378	\$ -	\$ 5,622,481	\$ 243,895	\$ 126,258,693
2047	\$ 5,866,376	\$ 5,450,622	\$ 121,519	2.3%	\$ 293,378	\$ -	\$ 5,744,000	\$ 122,376	\$ 126,381,070
2048	\$ 5,865,519	\$ 5,572,141	\$ 121,519	2.2%	\$ 293,378	\$ -	\$ 5,865,519	\$ -	\$ 126,381,070
2049	\$ 5,865,519	\$ 5,693,660	\$ 121,519	2.2%	\$ 293,378	\$ -	\$ 5,987,038	\$ (121,519)	\$ 126,259,551
2050	\$ 5,841,850	\$ 5,815,179	\$ 121,519	2.1%	\$ 293,378	\$ -	\$ 6,108,557	\$ (266,706)	\$ 125,992,845
2051	\$ 5,841,850	\$ 5,936,697	\$ 121,519	2.1%	\$ 293,378	\$ -	\$ 6,230,075	\$ (388,225)	\$ 125,604,619
2052	\$ 5,772,154	\$ 6,058,216	\$ 121,519	2.0%	\$ 293,378	\$ -	\$ 6,351,594	\$ (579,440)	\$ 125,025,179
2053	\$ 5,747,042	\$ 6,179,735	\$ 121,519	2.0%	\$ 293,378	\$ -	\$ 6,473,113	\$ (726,071)	\$ 124,299,108
2054	\$ 5,747,042	\$ 6,301,254	\$ 121,519	2.0%	\$ 293,378	\$ -	\$ 6,594,632	\$ (847,590)	\$ 123,451,518
2055	\$ 5,747,048	\$ 6,422,773	\$ 121,519	1.9%	\$ 293,378	\$ -	\$ 6,716,151	\$ (969,103)	\$ 122,482,415
2056	\$ 5,747,048	\$ 6,544,292	\$ 121,519	1.9%	\$ 293,378	\$ -	\$ 6,837,670	\$ (1,090,622)	\$ 121,391,794
2057	\$ 5,747,048	\$ 6,665,811	\$ 121,519	1.9%	\$ 293,378	\$ -	\$ 6,959,189	\$ (1,212,140)	\$ 120,179,653
2058	\$ 5,668,713	\$ 6,787,329	\$ 121,519	1.8%	\$ 293,378	\$ -	\$ 7,080,707	\$ (1,411,995)	\$ 118,767,659

40-Year Infrastructure Deficit

Total Tax Funding	\$ 176,708,467	
2019 Total Tax Levy	\$ 6,536,744	<i>Excludes Police.</i>
Inc. as % of Tax Levy	1.86%	

Table 4a
Municipality of West Perth
2019 Asset Management Plan
Financing Strategy 3: Close In-Year Funding Gap by 2058 (Tax Funded Services)

Legend	1	2	3	4	5	6	7	8	9
Year	Projected Annual Capital Provision	Capital from Taxation	Yearly Increase in Tax Funding (\$)	Yearly Increase in Tax Funding (%)	Gas Tax	Other Grants	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016									
2017									
2018									
2019	\$ 15,407,439	\$ 2,048,094			\$ 268,930	\$ 960,213	\$ 3,277,237	\$ 12,130,202	\$ 12,130,202
2020	\$ 19,546,845	\$ 2,133,408	\$ 85,314	4.2%	\$ 268,930	\$ -	\$ 2,402,338	\$ 17,144,507	\$ 29,274,710
2021	\$ 15,677,089	\$ 2,218,722	\$ 85,314	4.0%	\$ 281,154	\$ -	\$ 2,499,876	\$ 13,177,214	\$ 42,451,923
2022	\$ 14,335,128	\$ 2,304,036	\$ 85,314	3.8%	\$ 281,154	\$ -	\$ 2,585,190	\$ 11,749,938	\$ 54,201,861
2023	\$ 13,516,743	\$ 2,389,349	\$ 85,314	3.7%	\$ 293,378	\$ -	\$ 2,682,727	\$ 10,834,015	\$ 65,035,877
2024	\$ 10,186,412	\$ 2,474,663	\$ 85,314	3.6%	\$ 293,378	\$ -	\$ 2,768,041	\$ 7,418,371	\$ 72,454,248
2025	\$ 9,435,333	\$ 2,559,977	\$ 85,314	3.4%	\$ 293,378	\$ -	\$ 2,853,355	\$ 6,581,978	\$ 79,036,225
2026	\$ 9,182,975	\$ 2,645,291	\$ 85,314	3.3%	\$ 293,378	\$ -	\$ 2,938,669	\$ 6,244,306	\$ 85,280,531
2027	\$ 8,994,011	\$ 2,730,605	\$ 85,314	3.2%	\$ 293,378	\$ -	\$ 3,023,983	\$ 5,970,028	\$ 91,250,560
2028	\$ 7,639,539	\$ 2,815,919	\$ 85,314	3.1%	\$ 293,378	\$ -	\$ 3,109,297	\$ 4,530,242	\$ 95,780,801
2029	\$ 7,033,262	\$ 2,901,233	\$ 85,314	3.0%	\$ 293,378	\$ -	\$ 3,194,611	\$ 3,838,651	\$ 99,619,453
2030	\$ 6,988,744	\$ 2,986,547	\$ 85,314	2.9%	\$ 293,378	\$ -	\$ 3,279,925	\$ 3,708,819	\$ 103,328,272
2031	\$ 6,973,176	\$ 3,071,860	\$ 85,314	2.9%	\$ 293,378	\$ -	\$ 3,365,238	\$ 3,607,937	\$ 106,936,210
2032	\$ 6,874,149	\$ 3,157,174	\$ 85,314	2.8%	\$ 293,378	\$ -	\$ 3,450,552	\$ 3,423,597	\$ 110,359,806
2033	\$ 6,656,641	\$ 3,242,488	\$ 85,314	2.7%	\$ 293,378	\$ -	\$ 3,535,866	\$ 3,120,775	\$ 113,480,581
2034	\$ 6,656,641	\$ 3,327,802	\$ 85,314	2.6%	\$ 293,378	\$ -	\$ 3,621,180	\$ 3,035,461	\$ 116,516,042
2035	\$ 6,455,349	\$ 3,413,116	\$ 85,314	2.6%	\$ 293,378	\$ -	\$ 3,706,494	\$ 2,748,856	\$ 119,264,897
2036	\$ 6,255,007	\$ 3,498,430	\$ 85,314	2.5%	\$ 293,378	\$ -	\$ 3,791,808	\$ 2,463,199	\$ 121,728,096
2037	\$ 6,255,007	\$ 3,583,744	\$ 85,314	2.4%	\$ 293,378	\$ -	\$ 3,877,122	\$ 2,377,885	\$ 124,105,981
2038	\$ 6,245,580	\$ 3,669,057	\$ 85,314	2.4%	\$ 293,378	\$ -	\$ 3,962,435	\$ 2,283,145	\$ 126,389,126
2039	\$ 6,155,297	\$ 3,754,371	\$ 85,314	2.3%	\$ 293,378	\$ -	\$ 4,047,749	\$ 2,107,548	\$ 128,496,674
2040	\$ 6,140,249	\$ 3,839,685	\$ 85,314	2.3%	\$ 293,378	\$ -	\$ 4,133,063	\$ 2,007,186	\$ 130,503,860
2041	\$ 6,140,249	\$ 3,924,999	\$ 85,314	2.2%	\$ 293,378	\$ -	\$ 4,218,377	\$ 1,921,872	\$ 132,425,732
2042	\$ 6,140,249	\$ 4,010,313	\$ 85,314	2.2%	\$ 293,378	\$ -	\$ 4,303,691	\$ 1,836,558	\$ 134,262,290
2043	\$ 6,057,890	\$ 4,095,627	\$ 85,314	2.1%	\$ 293,378	\$ -	\$ 4,389,005	\$ 1,668,886	\$ 135,931,175
2044	\$ 5,934,873	\$ 4,180,941	\$ 85,314	2.1%	\$ 293,378	\$ -	\$ 4,474,319	\$ 1,460,555	\$ 137,391,730
2045	\$ 5,890,652	\$ 4,266,255	\$ 85,314	2.0%	\$ 293,378	\$ -	\$ 4,559,633	\$ 1,331,019	\$ 138,722,749
2046	\$ 5,866,376	\$ 4,351,568	\$ 85,314	2.0%	\$ 293,378	\$ -	\$ 4,644,946	\$ 1,221,430	\$ 139,944,179
2047	\$ 5,866,376	\$ 4,436,882	\$ 85,314	2.0%	\$ 293,378	\$ -	\$ 4,730,260	\$ 1,136,116	\$ 141,080,295
2048	\$ 5,865,519	\$ 4,522,196	\$ 85,314	1.9%	\$ 293,378	\$ -	\$ 4,815,574	\$ 1,049,945	\$ 142,130,240
2049	\$ 5,865,519	\$ 4,607,510	\$ 85,314	1.9%	\$ 293,378	\$ -	\$ 4,900,888	\$ 964,631	\$ 143,094,871
2050	\$ 5,841,850	\$ 4,692,824	\$ 85,314	1.9%	\$ 293,378	\$ -	\$ 4,986,202	\$ 855,648	\$ 143,950,519
2051	\$ 5,841,850	\$ 4,778,138	\$ 85,314	1.8%	\$ 293,378	\$ -	\$ 5,071,516	\$ 770,334	\$ 144,720,853
2052	\$ 5,772,154	\$ 4,863,452	\$ 85,314	1.8%	\$ 293,378	\$ -	\$ 5,156,830	\$ 615,324	\$ 145,336,178
2053	\$ 5,747,042	\$ 4,948,765	\$ 85,314	1.8%	\$ 293,378	\$ -	\$ 5,242,143	\$ 504,898	\$ 145,841,076
2054	\$ 5,747,042	\$ 5,034,079	\$ 85,314	1.7%	\$ 293,378	\$ -	\$ 5,327,457	\$ 419,585	\$ 146,260,661
2055	\$ 5,747,048	\$ 5,119,393	\$ 85,314	1.7%	\$ 293,378	\$ -	\$ 5,412,771	\$ 334,277	\$ 146,594,938
2056	\$ 5,747,048	\$ 5,204,707	\$ 85,314	1.7%	\$ 293,378	\$ -	\$ 5,498,085	\$ 248,963	\$ 146,843,901
2057	\$ 5,747,048	\$ 5,290,021	\$ 85,314	1.6%	\$ 293,378	\$ -	\$ 5,583,399	\$ 163,649	\$ 147,007,550
2058	\$ 5,668,713	\$ 5,375,335	\$ 85,314	1.6%	\$ 293,378	\$ -	\$ 5,668,713	\$ 0	\$ 147,007,550

40-Year Infrastructure Deficit

Total Tax Funding	\$ 148,468,576	
2019 Total Tax Levy	\$ 6,536,744	<i>Excludes Police.</i>
Inc. as % of Tax Levy	1.31%	

Table 1b
Municipality of West Perth
2019 Asset Management Plan
Close Cumulative Infrastructure Deficit by 2058 (Rate Funded Services)

Legend	1	2	3	4	5	6	7	8
Year	Projected Annual Capital Provision	Capital from Rates	Yearly Increase in Rate Funding (\$)	Yearly Increase in Rate Funding (%)	Gas Tax	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016								
2017								
2018								
2019	\$ 5,748,287	\$ 1,429,302				\$ 1,429,302	\$ 4,318,985	\$ 4,318,985
2020	\$ 3,052,470	\$ 1,469,577	\$ 40,275	2.8%	\$ -	\$ 1,469,577	\$ 1,582,892	\$ 5,901,878
2021	\$ 2,888,556	\$ 1,509,853	\$ 40,275	2.7%	\$ -	\$ 1,509,853	\$ 1,378,703	\$ 7,280,581
2022	\$ 2,626,843	\$ 1,550,128	\$ 40,275	2.7%	\$ -	\$ 1,550,128	\$ 1,076,715	\$ 8,357,296
2023	\$ 2,459,611	\$ 1,590,404	\$ 40,275	2.6%	\$ -	\$ 1,590,404	\$ 869,207	\$ 9,226,503
2024	\$ 2,218,514	\$ 1,630,679	\$ 40,275	2.5%	\$ -	\$ 1,630,679	\$ 587,835	\$ 9,814,339
2025	\$ 2,092,048	\$ 1,670,955	\$ 40,275	2.5%	\$ -	\$ 1,670,955	\$ 421,093	\$ 10,235,432
2026	\$ 2,067,463	\$ 1,711,230	\$ 40,275	2.4%	\$ -	\$ 1,711,230	\$ 356,233	\$ 10,591,665
2027	\$ 2,067,463	\$ 1,751,505	\$ 40,275	2.4%	\$ -	\$ 1,751,505	\$ 315,958	\$ 10,907,622
2028	\$ 1,975,890	\$ 1,791,781	\$ 40,275	2.3%	\$ -	\$ 1,791,781	\$ 184,109	\$ 11,091,731
2029	\$ 2,834,612	\$ 1,832,056	\$ 40,275	2.2%	\$ -	\$ 1,832,056	\$ 1,002,555	\$ 12,094,286
2030	\$ 2,788,299	\$ 1,872,332	\$ 40,275	2.2%	\$ -	\$ 1,872,332	\$ 915,967	\$ 13,010,254
2031	\$ 2,781,605	\$ 1,912,607	\$ 40,275	2.2%	\$ -	\$ 1,912,607	\$ 868,998	\$ 13,879,252
2032	\$ 2,583,172	\$ 1,952,883	\$ 40,275	2.1%	\$ -	\$ 1,952,883	\$ 630,289	\$ 14,509,541
2033	\$ 2,583,172	\$ 1,993,158	\$ 40,275	2.1%	\$ -	\$ 1,993,158	\$ 590,014	\$ 15,099,555
2034	\$ 2,583,172	\$ 2,033,433	\$ 40,275	2.0%	\$ -	\$ 2,033,433	\$ 549,738	\$ 15,649,293
2035	\$ 2,567,921	\$ 2,073,709	\$ 40,275	2.0%	\$ -	\$ 2,073,709	\$ 494,212	\$ 16,143,505
2036	\$ 2,359,151	\$ 2,113,984	\$ 40,275	1.9%	\$ -	\$ 2,113,984	\$ 245,167	\$ 16,388,672
2037	\$ 2,359,151	\$ 2,154,260	\$ 40,275	1.9%	\$ -	\$ 2,154,260	\$ 204,892	\$ 16,593,563
2038	\$ 2,358,872	\$ 2,194,535	\$ 40,275	1.9%	\$ -	\$ 2,194,535	\$ 164,336	\$ 16,757,900
2039	\$ 2,255,201	\$ 2,234,811	\$ 40,275	1.8%	\$ -	\$ 2,234,811	\$ 20,390	\$ 16,778,290
2040	\$ 2,230,708	\$ 2,275,086	\$ 40,275	1.8%	\$ -	\$ 2,275,086	\$ (44,378)	\$ 16,733,912
2041	\$ 2,230,708	\$ 2,315,361	\$ 40,275	1.8%	\$ -	\$ 2,315,361	\$ (84,653)	\$ 16,649,259
2042	\$ 2,230,708	\$ 2,355,637	\$ 40,275	1.7%	\$ -	\$ 2,355,637	\$ (124,929)	\$ 16,524,330
2043	\$ 1,933,333	\$ 2,395,912	\$ 40,275	1.7%	\$ -	\$ 2,395,912	\$ (462,579)	\$ 16,061,751
2044	\$ 1,933,333	\$ 2,436,188	\$ 40,275	1.7%	\$ -	\$ 2,436,188	\$ (502,855)	\$ 15,558,896
2045	\$ 1,931,470	\$ 2,476,463	\$ 40,275	1.7%	\$ -	\$ 2,476,463	\$ (544,993)	\$ 15,013,903
2046	\$ 1,706,034	\$ 2,516,739	\$ 40,275	1.6%	\$ -	\$ 2,516,739	\$ (810,705)	\$ 14,203,199
2047	\$ 1,706,034	\$ 2,557,014	\$ 40,275	1.6%	\$ -	\$ 2,557,014	\$ (850,980)	\$ 13,352,219
2048	\$ 1,705,725	\$ 2,597,289	\$ 40,275	1.6%	\$ -	\$ 2,597,289	\$ (891,564)	\$ 12,460,654
2049	\$ 1,705,725	\$ 2,637,565	\$ 40,275	1.6%	\$ -	\$ 2,637,565	\$ (931,840)	\$ 11,528,814
2050	\$ 1,573,529	\$ 2,677,840	\$ 40,275	1.5%	\$ -	\$ 2,677,840	\$ (1,104,312)	\$ 10,424,503
2051	\$ 1,573,529	\$ 2,718,116	\$ 40,275	1.5%	\$ -	\$ 2,718,116	\$ (1,144,587)	\$ 9,279,916
2052	\$ 1,573,529	\$ 2,758,391	\$ 40,275	1.5%	\$ -	\$ 2,758,391	\$ (1,184,862)	\$ 8,095,053
2053	\$ 1,573,169	\$ 2,798,667	\$ 40,275	1.5%	\$ -	\$ 2,798,667	\$ (1,225,497)	\$ 6,869,556
2054	\$ 1,573,169	\$ 2,838,942	\$ 40,275	1.4%	\$ -	\$ 2,838,942	\$ (1,265,773)	\$ 5,603,783
2055	\$ 1,573,169	\$ 2,879,217	\$ 40,275	1.4%	\$ -	\$ 2,879,217	\$ (1,306,048)	\$ 4,297,735
2056	\$ 1,573,169	\$ 2,919,493	\$ 40,275	1.4%	\$ -	\$ 2,919,493	\$ (1,346,324)	\$ 2,951,411
2057	\$ 1,573,169	\$ 2,959,768	\$ 40,275	1.4%	\$ -	\$ 2,959,768	\$ (1,386,599)	\$ 1,564,812
2058	\$ 1,435,231	\$ 3,000,044	\$ 40,275	1.4%	\$ -	\$ 3,000,044	\$ (1,564,812)	\$ 0

40-Year Infrastructure Deficit

Total Rate Funding	\$ 88,586,914
2019 Total Rate Levy	\$ 1,066,808
Inc. as % of Rate Levy	3.78%

Table 2b
Municipality of West Perth
2019 Asset Management Plan
Financing Strategy 1: Close In-Year Funding Gap by 2038 (Rate Funded Services)

Legend	1	2	3	4	5	6	7	8
Year	Projected Annual Capital Provision	Capital from Rates	Yearly Increase in Rate Funding (\$)	Yearly Increase in Rate Funding (%)	Gas Tax	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016								
2017								
2018								
2019	\$ 5,748,287	\$ 1,429,302			\$ -	\$ 1,429,302	\$ 4,318,985	\$ 4,318,985
2020	\$ 3,052,470	\$ 1,478,227	\$ 48,925	3.4%	\$ -	\$ 1,478,227	\$ 1,574,243	\$ 5,893,228
2021	\$ 2,888,556	\$ 1,527,151	\$ 48,925	3.3%	\$ -	\$ 1,527,151	\$ 1,361,405	\$ 7,254,633
2022	\$ 2,626,843	\$ 1,576,076	\$ 48,925	3.2%	\$ -	\$ 1,576,076	\$ 1,050,767	\$ 8,305,400
2023	\$ 2,459,611	\$ 1,625,001	\$ 48,925	3.1%	\$ -	\$ 1,625,001	\$ 834,610	\$ 9,140,010
2024	\$ 2,218,514	\$ 1,673,926	\$ 48,925	3.0%	\$ -	\$ 1,673,926	\$ 544,589	\$ 9,684,599
2025	\$ 2,092,048	\$ 1,722,850	\$ 48,925	2.9%	\$ -	\$ 1,722,850	\$ 369,197	\$ 10,053,797
2026	\$ 2,067,463	\$ 1,771,775	\$ 48,925	2.8%	\$ -	\$ 1,771,775	\$ 295,688	\$ 10,349,485
2027	\$ 2,067,463	\$ 1,820,700	\$ 48,925	2.8%	\$ -	\$ 1,820,700	\$ 246,763	\$ 10,596,248
2028	\$ 1,975,890	\$ 1,869,624	\$ 48,925	2.7%	\$ -	\$ 1,869,624	\$ 106,265	\$ 10,702,513
2029	\$ 2,834,612	\$ 1,918,549	\$ 48,925	2.6%	\$ -	\$ 1,918,549	\$ 916,062	\$ 11,618,576
2030	\$ 2,788,299	\$ 1,967,474	\$ 48,925	2.6%	\$ -	\$ 1,967,474	\$ 820,825	\$ 12,439,401
2031	\$ 2,781,605	\$ 2,016,399	\$ 48,925	2.5%	\$ -	\$ 2,016,399	\$ 765,206	\$ 13,204,607
2032	\$ 2,583,172	\$ 2,065,323	\$ 48,925	2.4%	\$ -	\$ 2,065,323	\$ 517,848	\$ 13,722,456
2033	\$ 2,583,172	\$ 2,114,248	\$ 48,925	2.4%	\$ -	\$ 2,114,248	\$ 468,924	\$ 14,191,380
2034	\$ 2,583,172	\$ 2,163,173	\$ 48,925	2.3%	\$ -	\$ 2,163,173	\$ 419,999	\$ 14,611,379
2035	\$ 2,567,921	\$ 2,212,097	\$ 48,925	2.3%	\$ -	\$ 2,212,097	\$ 355,823	\$ 14,967,202
2036	\$ 2,359,151	\$ 2,261,022	\$ 48,925	2.2%	\$ -	\$ 2,261,022	\$ 98,129	\$ 15,065,331
2037	\$ 2,359,151	\$ 2,309,947	\$ 48,925	2.2%	\$ -	\$ 2,309,947	\$ 49,204	\$ 15,114,535
2038	\$ 2,358,872	\$ 2,358,872	\$ 48,925	2.1%	\$ -	\$ 2,358,872	\$ (0)	\$ 15,114,535
2039	\$ 2,255,201	\$ 2,407,796	\$ 48,925	2.1%	\$ -	\$ 2,407,796	\$ (152,595)	\$ 14,961,940
2040	\$ 2,230,708	\$ 2,456,721	\$ 48,925	2.0%	\$ -	\$ 2,456,721	\$ (226,013)	\$ 14,735,927
2041	\$ 2,230,708	\$ 2,505,646	\$ 48,925	2.0%	\$ -	\$ 2,505,646	\$ (274,938)	\$ 14,460,989
2042	\$ 2,230,708	\$ 2,554,570	\$ 48,925	2.0%	\$ -	\$ 2,554,570	\$ (323,862)	\$ 14,137,127
2043	\$ 1,933,333	\$ 2,603,495	\$ 48,925	1.9%	\$ -	\$ 2,603,495	\$ (670,162)	\$ 13,466,965
2044	\$ 1,933,333	\$ 2,652,420	\$ 48,925	1.9%	\$ -	\$ 2,652,420	\$ (719,087)	\$ 12,747,878
2045	\$ 1,931,470	\$ 2,701,345	\$ 48,925	1.8%	\$ -	\$ 2,701,345	\$ (769,874)	\$ 11,978,004
2046	\$ 1,706,034	\$ 2,750,269	\$ 48,925	1.8%	\$ -	\$ 2,750,269	\$ (1,044,235)	\$ 10,933,768
2047	\$ 1,706,034	\$ 2,799,194	\$ 48,925	1.8%	\$ -	\$ 2,799,194	\$ (1,093,160)	\$ 9,840,608
2048	\$ 1,705,725	\$ 2,848,119	\$ 48,925	1.7%	\$ -	\$ 2,848,119	\$ (1,142,394)	\$ 8,698,214
2049	\$ 1,705,725	\$ 2,897,043	\$ 48,925	1.7%	\$ -	\$ 2,897,043	\$ (1,191,319)	\$ 7,506,896
2050	\$ 1,573,529	\$ 2,945,968	\$ 48,925	1.7%	\$ -	\$ 2,945,968	\$ (1,372,439)	\$ 6,134,456
2051	\$ 1,573,529	\$ 2,994,893	\$ 48,925	1.7%	\$ -	\$ 2,994,893	\$ (1,421,364)	\$ 4,713,092
2052	\$ 1,573,529	\$ 3,043,818	\$ 48,925	1.6%	\$ -	\$ 3,043,818	\$ (1,470,289)	\$ 3,242,803
2053	\$ 1,573,169	\$ 3,092,742	\$ 48,925	1.6%	\$ -	\$ 3,092,742	\$ (1,519,573)	\$ 1,723,230
2054	\$ 1,573,169	\$ 3,141,667	\$ 48,925	1.6%	\$ -	\$ 3,141,667	\$ (1,568,498)	\$ 154,733
2055	\$ 1,573,169	\$ 3,190,592	\$ 48,925	1.6%	\$ -	\$ 3,190,592	\$ (1,617,422)	\$ (1,462,690)
2056	\$ 1,573,169	\$ 3,239,516	\$ 48,925	1.5%	\$ -	\$ 3,239,516	\$ (1,666,347)	\$ (3,129,037)
2057	\$ 1,573,169	\$ 3,288,441	\$ 48,925	1.5%	\$ -	\$ 3,288,441	\$ (1,715,272)	\$ (4,844,309)
2058	\$ 1,435,231	\$ 3,337,366	\$ 48,925	1.5%	\$ -	\$ 3,337,366	\$ (1,902,135)	\$ (6,746,444)

40-Year Infrastructure Deficit

Total Rate Funding	\$ 95,333,358
2019 Total Rate Levy	\$ 1,066,808
Inc. as % of Rate Levy	4.59%

Table 3b
Municipality of West Perth
2019 Asset Management Plan
Financing Strategy 2: Close In-Year Funding Gap by 2048 (Rate Funded Services)

Legend	1	2	3	4	5	6	7	8
Year	Projected Annual Capital Provision	Capital from Rates	Yearly Increase in Rate Funding (\$)	Yearly Increase in Rate Funding (%)	Gas Tax	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016								
2017								
2018								
2019	\$ 5,748,287	\$ 1,429,302			\$ -	\$ 1,429,302	\$ 4,318,985	\$ 4,318,985
2020	\$ 3,052,470	\$ 1,438,834	\$ 9,532	0.7%	\$ -	\$ 1,438,834	\$ 1,613,636	\$ 5,932,621
2021	\$ 2,888,556	\$ 1,448,366	\$ 9,532	0.7%	\$ -	\$ 1,448,366	\$ 1,440,190	\$ 7,372,812
2022	\$ 2,626,843	\$ 1,457,897	\$ 9,532	0.7%	\$ -	\$ 1,457,897	\$ 1,168,946	\$ 8,541,758
2023	\$ 2,459,611	\$ 1,467,429	\$ 9,532	0.7%	\$ -	\$ 1,467,429	\$ 992,182	\$ 9,533,939
2024	\$ 2,218,514	\$ 1,476,961	\$ 9,532	0.6%	\$ -	\$ 1,476,961	\$ 741,553	\$ 10,275,493
2025	\$ 2,092,048	\$ 1,486,493	\$ 9,532	0.6%	\$ -	\$ 1,486,493	\$ 605,555	\$ 10,881,047
2026	\$ 2,067,463	\$ 1,496,025	\$ 9,532	0.6%	\$ -	\$ 1,496,025	\$ 571,438	\$ 11,452,486
2027	\$ 2,067,463	\$ 1,505,557	\$ 9,532	0.6%	\$ -	\$ 1,505,557	\$ 561,906	\$ 12,014,392
2028	\$ 1,975,890	\$ 1,515,088	\$ 9,532	0.6%	\$ -	\$ 1,515,088	\$ 460,801	\$ 12,475,193
2029	\$ 2,834,612	\$ 1,524,620	\$ 9,532	0.6%	\$ -	\$ 1,524,620	\$ 1,309,991	\$ 13,785,185
2030	\$ 2,788,299	\$ 1,534,152	\$ 9,532	0.6%	\$ -	\$ 1,534,152	\$ 1,254,147	\$ 15,039,332
2031	\$ 2,781,605	\$ 1,543,684	\$ 9,532	0.6%	\$ -	\$ 1,543,684	\$ 1,237,921	\$ 16,277,253
2032	\$ 2,583,172	\$ 1,553,216	\$ 9,532	0.6%	\$ -	\$ 1,553,216	\$ 1,029,956	\$ 17,307,209
2033	\$ 2,583,172	\$ 1,562,748	\$ 9,532	0.6%	\$ -	\$ 1,562,748	\$ 1,020,424	\$ 18,327,633
2034	\$ 2,583,172	\$ 1,572,279	\$ 9,532	0.6%	\$ -	\$ 1,572,279	\$ 1,010,892	\$ 19,338,525
2035	\$ 2,567,921	\$ 1,581,811	\$ 9,532	0.6%	\$ -	\$ 1,581,811	\$ 986,109	\$ 20,324,635
2036	\$ 2,359,151	\$ 1,591,343	\$ 9,532	0.6%	\$ -	\$ 1,591,343	\$ 767,808	\$ 21,092,443
2037	\$ 2,359,151	\$ 1,600,875	\$ 9,532	0.6%	\$ -	\$ 1,600,875	\$ 758,276	\$ 21,850,719
2038	\$ 2,358,872	\$ 1,610,407	\$ 9,532	0.6%	\$ -	\$ 1,610,407	\$ 748,465	\$ 22,599,184
2039	\$ 2,255,201	\$ 1,619,939	\$ 9,532	0.6%	\$ -	\$ 1,619,939	\$ 635,262	\$ 23,234,447
2040	\$ 2,230,708	\$ 1,629,470	\$ 9,532	0.6%	\$ -	\$ 1,629,470	\$ 601,238	\$ 23,835,685
2041	\$ 2,230,708	\$ 1,639,002	\$ 9,532	0.6%	\$ -	\$ 1,639,002	\$ 591,706	\$ 24,427,390
2042	\$ 2,230,708	\$ 1,648,534	\$ 9,532	0.6%	\$ -	\$ 1,648,534	\$ 582,174	\$ 25,009,565
2043	\$ 1,933,333	\$ 1,658,066	\$ 9,532	0.6%	\$ -	\$ 1,658,066	\$ 275,267	\$ 25,284,832
2044	\$ 1,933,333	\$ 1,667,598	\$ 9,532	0.6%	\$ -	\$ 1,667,598	\$ 265,735	\$ 25,550,567
2045	\$ 1,931,470	\$ 1,677,129	\$ 9,532	0.6%	\$ -	\$ 1,677,129	\$ 254,341	\$ 25,804,908
2046	\$ 1,706,034	\$ 1,686,661	\$ 9,532	0.6%	\$ -	\$ 1,686,661	\$ 19,373	\$ 25,824,281
2047	\$ 1,706,034	\$ 1,696,193	\$ 9,532	0.6%	\$ -	\$ 1,696,193	\$ 9,841	\$ 25,834,121
2048	\$ 1,705,725	\$ 1,705,725	\$ 9,532	0.6%	\$ -	\$ 1,705,725	\$ (0)	\$ 25,834,121
2049	\$ 1,705,725	\$ 1,715,257	\$ 9,532	0.6%	\$ -	\$ 1,715,257	\$ (9,532)	\$ 25,824,589
2050	\$ 1,573,529	\$ 1,724,789	\$ 9,532	0.6%	\$ -	\$ 1,724,789	\$ (151,260)	\$ 25,673,330
2051	\$ 1,573,529	\$ 1,734,320	\$ 9,532	0.6%	\$ -	\$ 1,734,320	\$ (160,792)	\$ 25,512,538
2052	\$ 1,573,529	\$ 1,743,852	\$ 9,532	0.5%	\$ -	\$ 1,743,852	\$ (170,324)	\$ 25,342,214
2053	\$ 1,573,169	\$ 1,753,384	\$ 9,532	0.5%	\$ -	\$ 1,753,384	\$ (180,215)	\$ 25,162,000
2054	\$ 1,573,169	\$ 1,762,916	\$ 9,532	0.5%	\$ -	\$ 1,762,916	\$ (189,747)	\$ 24,972,253
2055	\$ 1,573,169	\$ 1,772,448	\$ 9,532	0.5%	\$ -	\$ 1,772,448	\$ (199,278)	\$ 24,772,974
2056	\$ 1,573,169	\$ 1,781,980	\$ 9,532	0.5%	\$ -	\$ 1,781,980	\$ (208,810)	\$ 24,564,164
2057	\$ 1,573,169	\$ 1,791,511	\$ 9,532	0.5%	\$ -	\$ 1,791,511	\$ (218,342)	\$ 24,345,822
2058	\$ 1,435,231	\$ 1,801,043	\$ 9,532	0.5%	\$ -	\$ 1,801,043	\$ (365,812)	\$ 23,980,010

40-Year Infrastructure Deficit

Total Rate Funding	\$	64,606,904
2019 Total Rate Levy	\$	1,066,808
Inc. as % of Rate Levy		0.89%

Table 4b
Municipality of West Perth
2019 Asset Management Plan
Financing Strategy 3: Close In-Year Funding Gap by 2058 (Rate Funded Services)

Legend	1	2	3	4	5	6	7	8
Year	Projected Annual Capital Provision	Capital from Rates	Yearly Increase in Rate Funding (\$)	Yearly Increase in Rate Funding (%)	Gas Tax	Total Capital Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2016								
2017								
2018								
2019	\$ 5,748,287	\$ 1,429,302			\$ -	\$ 1,429,302	\$ 4,318,985	\$ 4,318,985
2020	\$ 3,052,470	\$ 1,429,454	\$ 152	0.0%	\$ -	\$ 1,429,454	\$ 1,623,016	\$ 5,942,001
2021	\$ 2,888,556	\$ 1,429,606	\$ 152	0.0%	\$ -	\$ 1,429,606	\$ 1,458,950	\$ 7,400,951
2022	\$ 2,626,843	\$ 1,429,758	\$ 152	0.0%	\$ -	\$ 1,429,758	\$ 1,197,085	\$ 8,598,036
2023	\$ 2,459,611	\$ 1,429,910	\$ 152	0.0%	\$ -	\$ 1,429,910	\$ 1,029,701	\$ 9,627,737
2024	\$ 2,218,514	\$ 1,430,062	\$ 152	0.0%	\$ -	\$ 1,430,062	\$ 788,452	\$ 10,416,189
2025	\$ 2,092,048	\$ 1,430,214	\$ 152	0.0%	\$ -	\$ 1,430,214	\$ 661,833	\$ 11,078,023
2026	\$ 2,067,463	\$ 1,430,366	\$ 152	0.0%	\$ -	\$ 1,430,366	\$ 637,097	\$ 11,715,120
2027	\$ 2,067,463	\$ 1,430,518	\$ 152	0.0%	\$ -	\$ 1,430,518	\$ 636,945	\$ 12,352,064
2028	\$ 1,975,890	\$ 1,430,670	\$ 152	0.0%	\$ -	\$ 1,430,670	\$ 545,220	\$ 12,897,284
2029	\$ 2,834,612	\$ 1,430,822	\$ 152	0.0%	\$ -	\$ 1,430,822	\$ 1,403,789	\$ 14,301,073
2030	\$ 2,788,299	\$ 1,430,974	\$ 152	0.0%	\$ -	\$ 1,430,974	\$ 1,357,325	\$ 15,658,398
2031	\$ 2,781,605	\$ 1,431,126	\$ 152	0.0%	\$ -	\$ 1,431,126	\$ 1,350,479	\$ 17,008,876
2032	\$ 2,583,172	\$ 1,431,278	\$ 152	0.0%	\$ -	\$ 1,431,278	\$ 1,151,893	\$ 18,160,770
2033	\$ 2,583,172	\$ 1,431,430	\$ 152	0.0%	\$ -	\$ 1,431,430	\$ 1,151,741	\$ 19,312,511
2034	\$ 2,583,172	\$ 1,431,583	\$ 152	0.0%	\$ -	\$ 1,431,583	\$ 1,151,589	\$ 20,464,100
2035	\$ 2,567,921	\$ 1,431,735	\$ 152	0.0%	\$ -	\$ 1,431,735	\$ 1,136,186	\$ 21,600,286
2036	\$ 2,359,151	\$ 1,431,887	\$ 152	0.0%	\$ -	\$ 1,431,887	\$ 927,265	\$ 22,527,551
2037	\$ 2,359,151	\$ 1,432,039	\$ 152	0.0%	\$ -	\$ 1,432,039	\$ 927,113	\$ 23,454,664
2038	\$ 2,358,872	\$ 1,432,191	\$ 152	0.0%	\$ -	\$ 1,432,191	\$ 926,681	\$ 24,381,345
2039	\$ 2,255,201	\$ 1,432,343	\$ 152	0.0%	\$ -	\$ 1,432,343	\$ 822,858	\$ 25,204,203
2040	\$ 2,230,708	\$ 1,432,495	\$ 152	0.0%	\$ -	\$ 1,432,495	\$ 798,213	\$ 26,002,416
2041	\$ 2,230,708	\$ 1,432,647	\$ 152	0.0%	\$ -	\$ 1,432,647	\$ 798,061	\$ 26,800,478
2042	\$ 2,230,708	\$ 1,432,799	\$ 152	0.0%	\$ -	\$ 1,432,799	\$ 797,909	\$ 27,598,387
2043	\$ 1,933,333	\$ 1,432,951	\$ 152	0.0%	\$ -	\$ 1,432,951	\$ 500,382	\$ 28,098,769
2044	\$ 1,933,333	\$ 1,433,103	\$ 152	0.0%	\$ -	\$ 1,433,103	\$ 500,230	\$ 28,598,999
2045	\$ 1,931,470	\$ 1,433,255	\$ 152	0.0%	\$ -	\$ 1,433,255	\$ 498,215	\$ 29,097,214
2046	\$ 1,706,034	\$ 1,433,407	\$ 152	0.0%	\$ -	\$ 1,433,407	\$ 272,627	\$ 29,369,841
2047	\$ 1,706,034	\$ 1,433,559	\$ 152	0.0%	\$ -	\$ 1,433,559	\$ 272,475	\$ 29,642,316
2048	\$ 1,705,725	\$ 1,433,711	\$ 152	0.0%	\$ -	\$ 1,433,711	\$ 272,014	\$ 29,914,330
2049	\$ 1,705,725	\$ 1,433,863	\$ 152	0.0%	\$ -	\$ 1,433,863	\$ 271,862	\$ 30,186,192
2050	\$ 1,573,529	\$ 1,434,015	\$ 152	0.0%	\$ -	\$ 1,434,015	\$ 139,514	\$ 30,325,706
2051	\$ 1,573,529	\$ 1,434,167	\$ 152	0.0%	\$ -	\$ 1,434,167	\$ 139,362	\$ 30,465,067
2052	\$ 1,573,529	\$ 1,434,319	\$ 152	0.0%	\$ -	\$ 1,434,319	\$ 139,210	\$ 30,604,277
2053	\$ 1,573,169	\$ 1,434,471	\$ 152	0.0%	\$ -	\$ 1,434,471	\$ 138,698	\$ 30,742,975
2054	\$ 1,573,169	\$ 1,434,623	\$ 152	0.0%	\$ -	\$ 1,434,623	\$ 138,546	\$ 30,881,521
2055	\$ 1,573,169	\$ 1,434,775	\$ 152	0.0%	\$ -	\$ 1,434,775	\$ 138,394	\$ 31,019,915
2056	\$ 1,573,169	\$ 1,434,927	\$ 152	0.0%	\$ -	\$ 1,434,927	\$ 138,242	\$ 31,158,157
2057	\$ 1,573,169	\$ 1,435,079	\$ 152	0.0%	\$ -	\$ 1,435,079	\$ 138,090	\$ 31,296,247
2058	\$ 1,435,231	\$ 1,435,231	\$ 152	0.0%	\$ -	\$ 1,435,231	\$ 0	\$ 31,296,247

40-Year Infrastructure Deficit

Total Rate Funding	\$ 57,290,667
2019 Total Rate Levy	\$ 1,066,808
Inc. as % of Rate Levy	0.01%