



2019

Asset Management Plan Update

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1.0 Introduction

Infrastructure assets are essential to the delivery of municipal services to the residents in the Town of Erin. They allow for an efficient flow of people and products, support cultural enrichment and economic development initiatives, and contribute to quality of life. Ensuring robust asset management practices through maintenance and renewal activities is essential in advancing the Town's asset management initiatives.

The Town's Asset Management Plan (AMP) was formally updated in 2018 based on 2017 data. This identified an annual infrastructure deficit of \$2,039,000 and included several recommendations for Town staff to implement to advance asset management practices.

This report updates key sections of the Asset Management Plan to strengthen decision-making during the 2020 budget cycle in recognition of the deficit identified in the 2017 Asset Management Plan and the Town's options to achieve long-term sustainability.

2.0 Financial Profile: Tax Funded Assets

2.1 Funding Objective

As with any Asset Management Plan, the objective is to have ownership of an asset base that is fully funded. This section provides an overview of the Town’s current funding position. Details pertaining to these calculations are found in the remainder of the report.

2.2 Current Funding Position

Presented below is an updated funding scenario calculating the Town of Erin’s infrastructure deficit by utilizing the same methodology as the 2017 Asset Management Plan. This is calculated by taking each assets’ replacement cost and dividing it by the estimated useful life. The result yields the “Average Annual Investment Required” in order to meet the replacement cost needs at the end of the useful life. This annual average is compared against the funding available in 2019 to arrive at an annual funding deficit amount.

Funding Position based on CPI Replacement Cost Methodology

Town of Erin							
Summary of Infrastructure Requirements & Current Funding Available							
Asset Category	Average Annual Investment Required	Total Funding Available in 2019					Annual Deficit
		Taxes	Gas Tax	OCIF	Taxes to Reserves	Total	
Tax funded:							
Road Network	1,955,984	0	347,016	0	587,059	934,075	1,021,909
Bridges & Culverts	359,498	263,896	0	258,604	0	522,500	-163,002
Facilities	821,832	240,000	0	0	0	240,000	581,832
Land Improvements	200,819	63,000	0	0	0	63,000	137,819
Machinery and Equipment	265,502	60,000	0	0	0	60,000	205,502
Fleet	474,453	0	0	0	220,000	220,000	254,453
Total	4,078,088	626,896	347,016	258,604	807,059	2,039,575	2,038,513

Calculated by CityWide, the average annual investment requirement for the above asset categories is \$4,078,088. The 2019 revenue allocated to these assets for capital purposes is \$2,039,575, resulting in an annual average deficit of \$2,038,513. Therefore, these asset categories are currently funded at 50% of their long-term requirement. This is a fairly significant improvement from the 2017 Asset Management Plan where these categories were funded at 43.8% of the long-term requirement.

In 2019, the Town had annual tax revenues of \$7,024,245. Without consideration to any other sources of revenue, full funding would require the following tax change over time:

Asset Class	Tax Change Required for Full Funding
Road Network	14.5%
Bridges & Culverts	-2.3%
Facilities	8.3%
Land Improvements	2.0%
Machinery & Equipment	2.9%
Vehicles	3.6%
TOTAL	29.0%

Therefore, the overall tax change required to achieve full funding decreased from 30.9% in the 2017 Asset Management Plan to 29.0%.

In developing a financial strategy to address this deficit, the following changes in costs and revenues need to be considered:

- The formula-based component of OCIF is scheduled to grow from \$258,604 in 2019 to \$260,016 to 2020.
- Total debt payments for these asset categories will be decreasing by \$171,000 over the next 6-years and by \$332,000 over the next 10-years. In 20-years, the decrease will be \$432,000.

The combined changes in OCIF and decrease in debt payments can be redirected to capital renewal requirements. The table on the next page highlights the overall tax rate increase and the annualized tax-rate increase required to address the infrastructure deficit in the specified number of years. This is shown for scenarios where the changes noted above are and are not included. Additionally, the table from the 2017 Asset Management Plan is also shown for comparative purposes.

Source: 2017 Asset Management Plan – Town of Erin (p.g. 111) Table 32: Effect of Changes to OCIF Funding and Reallocating Decreases in Debt Costs

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	2,049,000	2,049,000	2,049,000	2,049,000	2,049,000	2,049,000	2,049,000	2,049,000
Change in OCIF Grant	N/A	N/A	N/A	N/A	-94,000	-94,000	-94,000	-94,000
Changes in Debt Costs	N/A	N/A	N/A	N/A	-172,000	-333,000	-333,000	-434,000
Resulting Infrastructure Deficit	2,049,000	2,049,000	2,049,000	2,049,000	1,783,000	1,612,000	1,622,000	1,521,000
Resulting Tax Increase Required:								
Total Over Time	31.0%	31.0%	31.0%	31.0%	26.9%	24.5%	24.5%	23.0%
Annually	6.2%	3.1%	2.1%	1.6%	5.4%	2.5%	1.6%	1.2%

2019 Revised Effect of Changes to OCIF Funding and Reallocation Decreases in Debt Costs

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513
Change in OCIF Grant	N/A	N/A	N/A	N/A	-1,000	-1,000	-1,000	-1,000
Change in Debt Costs	N/A	N/A	N/A	N/A	-171,000	-332,000	-333,000	-432,000
Resulting in Infrastructure Deficit	2,038,513	2,038,513	2,038,513	2,038,513	1,866,513	1,705,513	1,704,513	1,605,031
Resulting in Tax Increase Required								
Total Over Time	29.0%	29.0%	29.0%	29.0%	26.6%	24.3%	24.3%	22.8%
Annually	5.2%	2.6%	1.7%	1.3%	4.8%	2.2%	1.5%	1.0%

With consideration to the table on the preceding page, full asset funding can be achieved in a 20-year period by having a dedicated 1.0% increase to the Tax Levy in combination with the following strategies:

- When realized, reallocate reductions in debt payments to infrastructure reserves;
- Allocating Gas Tax and OCIF Funding to asset renewal requirements;

This is a 0.2% improvement from the 2017 Asset Management Plan. This improvement is primarily attributed to the overall increase in the 2019 capital budget, an increase to OCIF allocations, and an increase in reserve transfers. However, the overall reduction in the infrastructure deficit is limited to the continued increases in replacement cost. For example, culverts and bridges estimated replacement costs are \$37 million based on the 2019 OSIM report compared to \$16.8 million from CityWide. As the Town replaces long-lived assets with much higher replacement costs than was previously recorded due to inadequate replacement cost valuations. Additionally, Inflationary pressures continue to push the asset replacement cost higher.

When factoring in debt reduction payments, the annual funding deficit is \$1,605,031, as shown in the table above. A detailed breakdown of how this can be addressed by implementing a 1.0% increase in the tax levy is found in Appendix E.

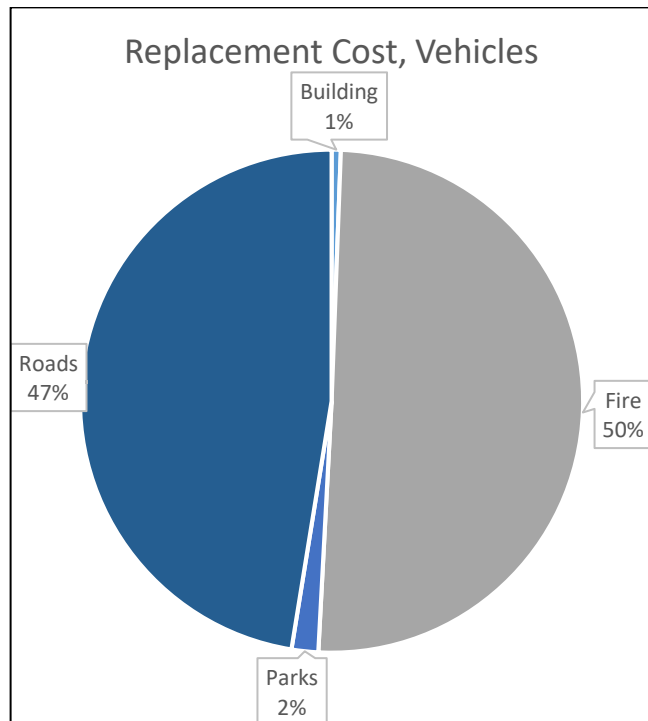
3.0 Vehicles

3.1 Asset Portfolio: Quantity, Useful Life, & Replacement Cost

The table below summarizes key asset attributes for the Town’s vehicles portfolio, including quantities by department, useful life, replacement cost, and the valuation method by which the replacement costs were derived. In total, the Town’s vehicles assets are valued at \$6.9 million based on 2018 replacement costs. A detailed listing of Town vehicles is found Appendix A.

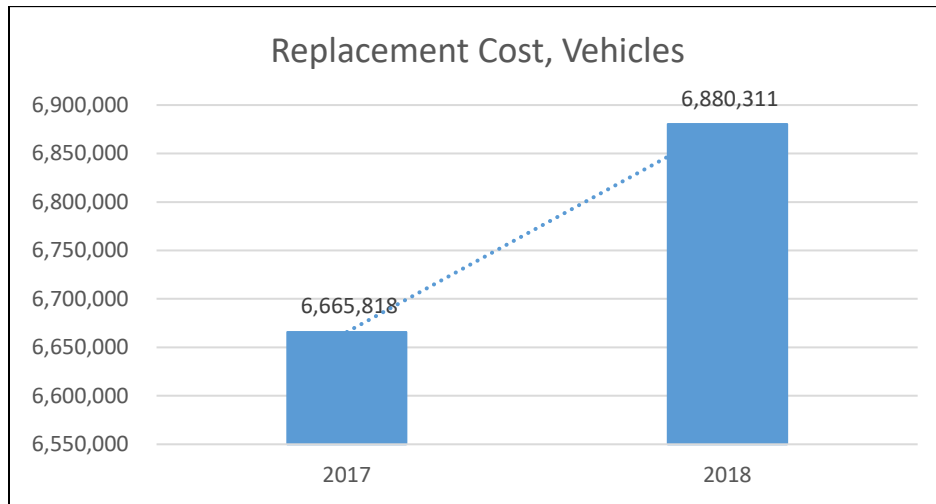
Component	QTY	Useful Life (years)	Valuation Method	Replacement Cost	
				2017	2018
Building Vehicle Licensed	1	10	CPI Monthly (ON)	28,411	40,566
Fire Trailer	1	15	CPI Monthly (ON)	4,482	4,549
Fire Vehicle Licensed	9	10,20	CPI Monthly (ON)	3,419,073	3,429,845
Fire Vehicle Unlicensed	1	10	CPI Monthly (ON)	22,881	23,225
Parks Vehicle Licensed	3	10	CPI Monthly (ON)	30,688	117,782
Roads Trailer	1	15	CPI Monthly (ON)	32,108	32,590
Roads Vehicle Licensed	9	10,20	CPI Monthly (ON)	1,239,701	1,299,449
Roads Vehicle Unlicensed	16	10,12,15,20	CPI Monthly (ON)	1,888,474	1,932,305
TOTAL				6,665,818	6,880,311

The majority of replacement cost for Town of Erin vehicles is the Fire and Roads department.



Replacement cost increased 3.2% from 2017 to 2018. This is a combination of inflationary increases and the net addition of the following 3 vehicles:

- 1) Asset #892 – 2017 GMC Savana – Transferred from Water Department (included as Water Asset in the 2017 Asset Management Plan)
- 2) Asset #893 – 2015 GMC Sierra Pickup – Transferred from Water Department (included as Water Asset in the 2017 Asset Management Plan)
- 3) Asset #905 – Road Shoulder Reclaimer – Purchased in 2018.



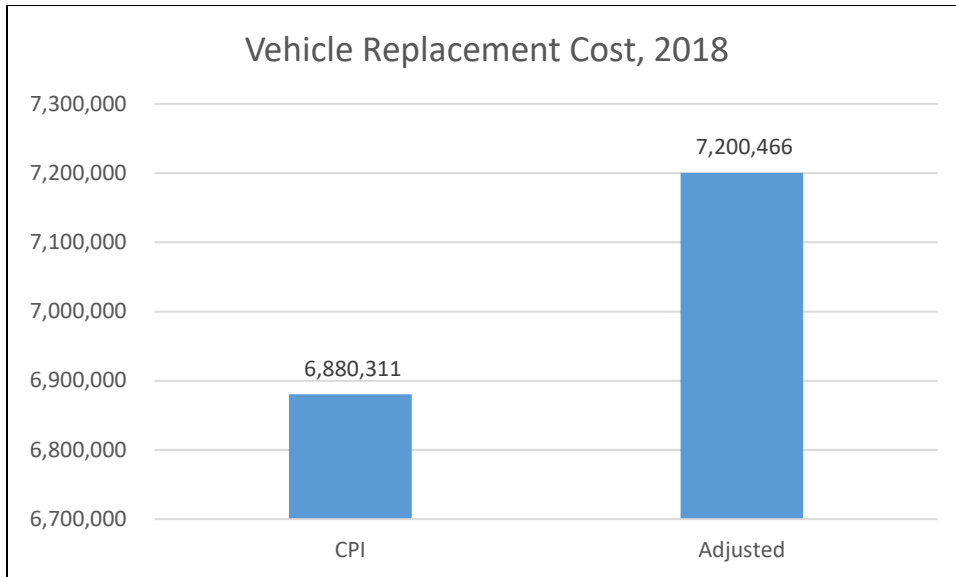
These replacement costs were derived applying an inflationary factor to their respective historical costs. Using this methodology the risk of replacement cost inaccuracy increases the longer an asset ages (i.e. inflating historical cost may provide an accurate representation of replacement cost early in an asset life cycle, but the accuracy diminishes as more time passes). Therefore, there may be circumstances where an inflationary adjustment to historical cost may not be appropriate and should only be used for assets with shorter lifecycles (i.e. < 7 years).

Additionally, inflating historical cost to calculate a replacement value assumes each asset will be replaced with a similar asset. However, the Freightliner Rescue vans owned by the Fire Department will not be a direct replacement as it's recommended to be replaced with two vehicles that require less equipment to meet service level needs. Moreover, the Fire Department received informal quotations from vendors on current market prices for their vehicles. The table below summarizes the differences in using replacement cost calculated by CPI and current market rates for Fire Department vehicles:

Replacement Cost Discrepancies :Fire Vehicles

Category	Description	REPLACEMENT COST		Difference
		CPI	Market Rate	
Fire Trailer	Moritz 6x12 Tilt Black 2015	4,549	4,549	-
Fire Vehicle Unlicensed	Kubota ATV TV-X1120D	23,225	23,225	-
Fire Vehicle Licensed	Freightliner Dependable Pumper, P12, 750 Gallon Water Tank, Plate:7800LK	382,431	450,000	67,569
	Freightliner Dependable Pumper, P52, 750 Gallon Water Tank, Plate:9035JY	387,718	450,000	62,282
	Freightliner C-Max Rescue Van, R55, Plate:YK7267	298,312	400,000	101,688
	Freightliner Metalfab Tanker, T17, 2300 Gallon Water Tank, Plate YK7296	357,975	300,000	(57,975)
	GMC Sentinal Rescue Van, R15, Plate:JB1816	302,548	400,000	97,452
	International Dependable Tanker, T57, 1500 Gallon Water Tank, Plate:DK4960	369,121	300,000	(69,121)
	Chevrolet Fire Pumper, P11, 500 Gallon Water Tank, Plate:NH8479	423,555	575,000	151,445
	Freightliner C-Max Tanker, T17, 1500 Gallon Water Tank, Plate:3875WN	450,007	300,000	(150,007)
	Spartan Dependable Pumper Rescue Truck, P51, Plate:AD20464	458,178	575,000	116,822
TOTAL		3,457,619	3,777,774	320,155

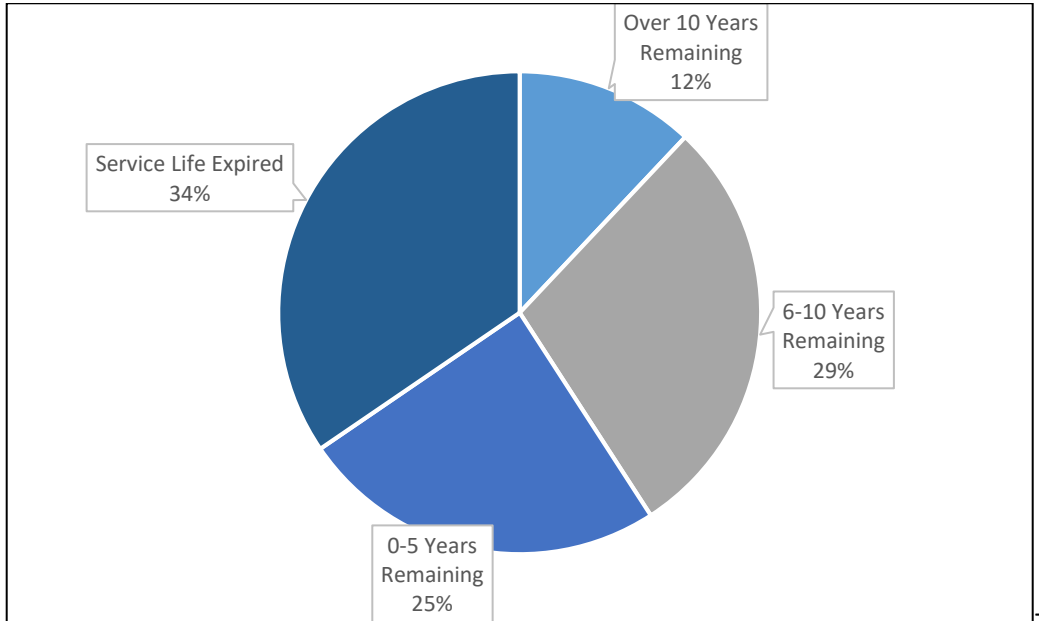
The risk of replacement cost inaccuracy exists for all departments. However, without factoring in potential replacement cost discrepancies from other departments, substituting the Market Rate for Fire Vehicles in the overall replacement cost for the Vehicle asset class increases the replacement cost to \$7.2 million in 2018. This is an additional 4.65% replacement increase in 2018.



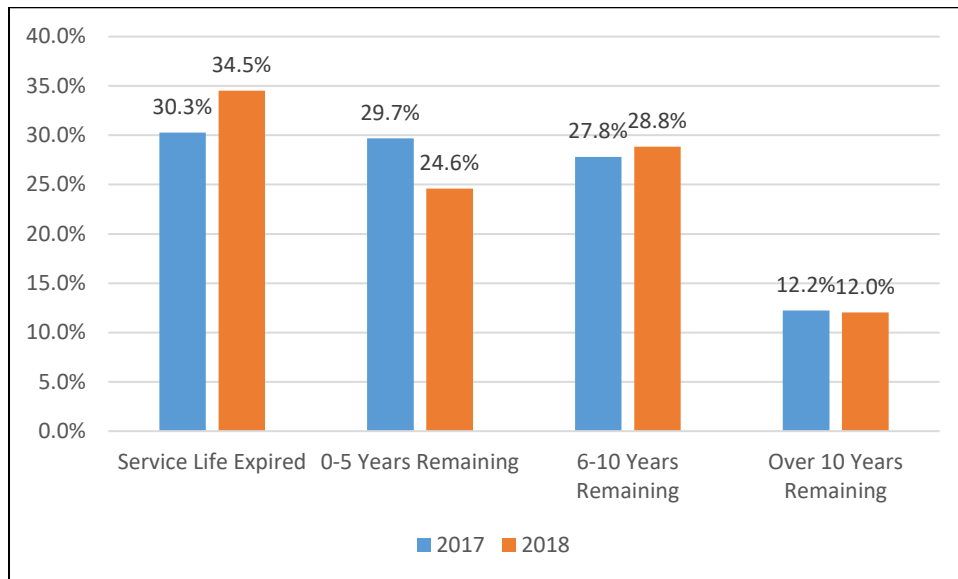
Note: Adjusted refers to the substitution of Market Rates for Fire Department vehicles only.

3.2 Useful Life Consumption

Understanding the consumption rate of assets based on industry established useful life standards provides a more complete profile of the state of a community's infrastructure. The figure below illustrates the useful life consumption levels as of 2018 for the Town's vehicles.

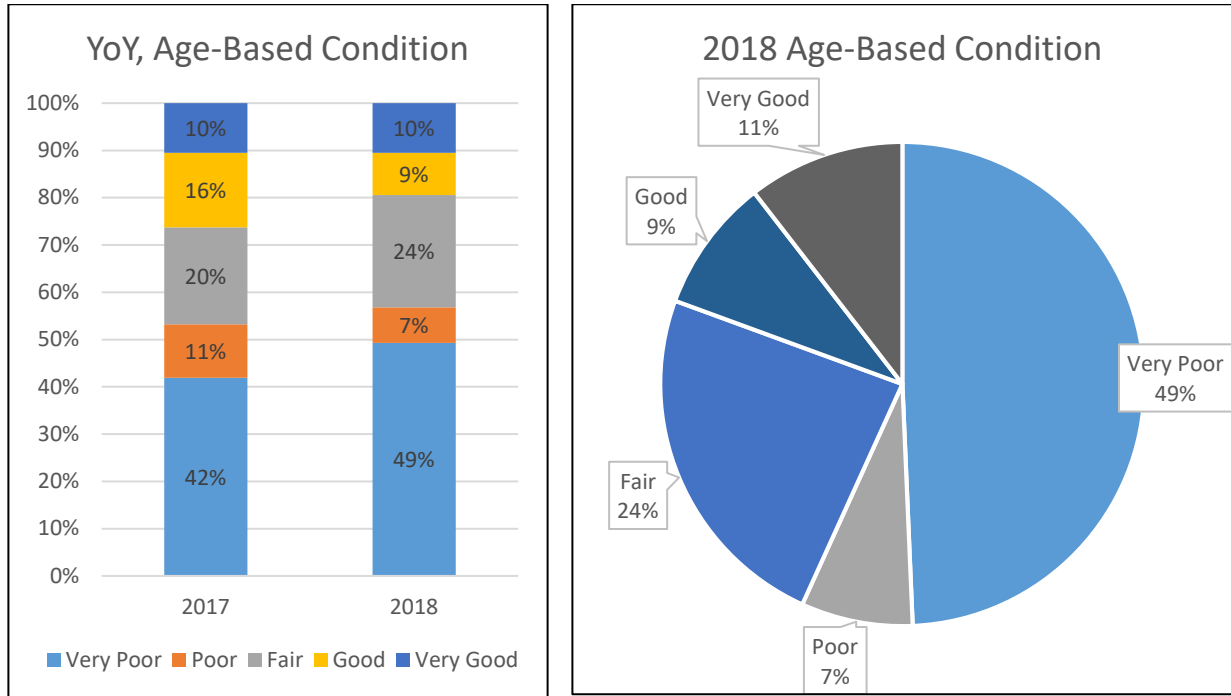


A comparison of service life remaining between 2017 and 2018 is below:



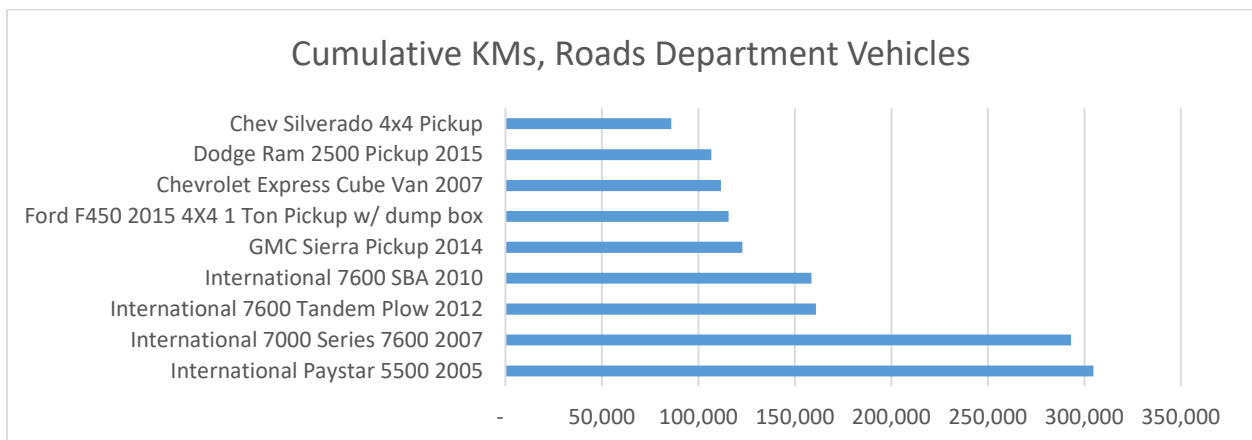
3.3 Asset Condition

The Town of Erin does not have a formal mechanism for tracking vehicle condition. Therefore, the chart below summarizes replacement cost using age-based condition. It's compared against the age-based condition reported in the 2017 Asset Management Plan to allow for a year-over-year (YoY) comparison.



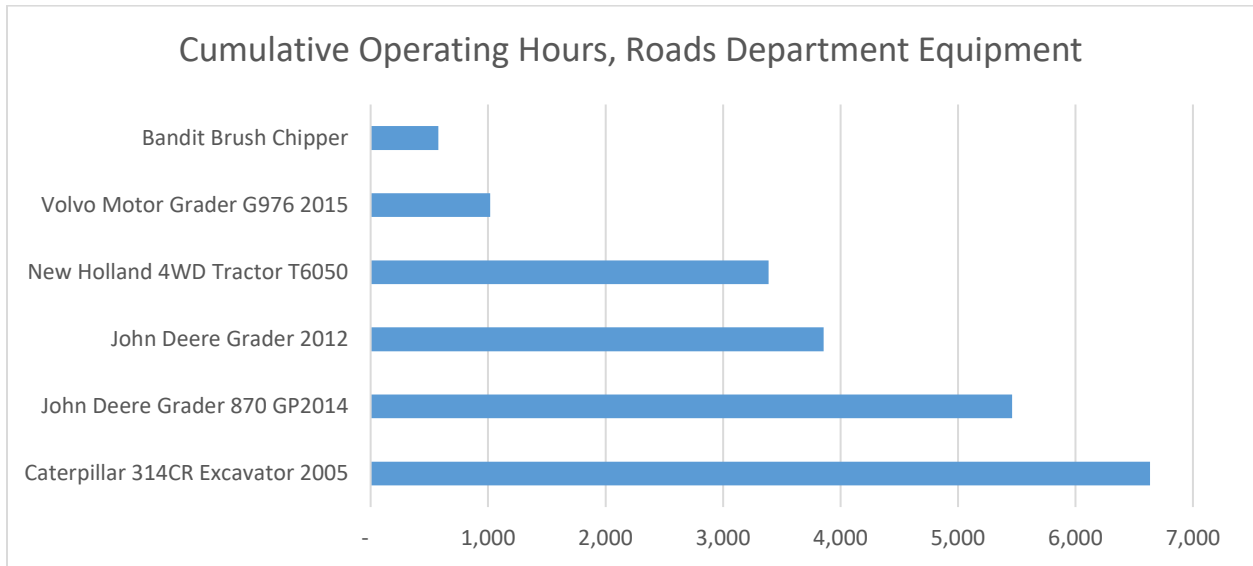
However, age-based condition can only be used as a proxy to guide replacement decisions. A more accurate proxy for condition can be asset consumption as measured by vehicle mileage and/or cumulative operating hours and yearly maintenance expenditures.

The Town of Erin Roads Department measures this data on a monthly basis. It is also captured in the Town's Fuel Management System. A summary of vehicles where asset consumption data is available is below. The cumulative KMs driven is as of December 2018.



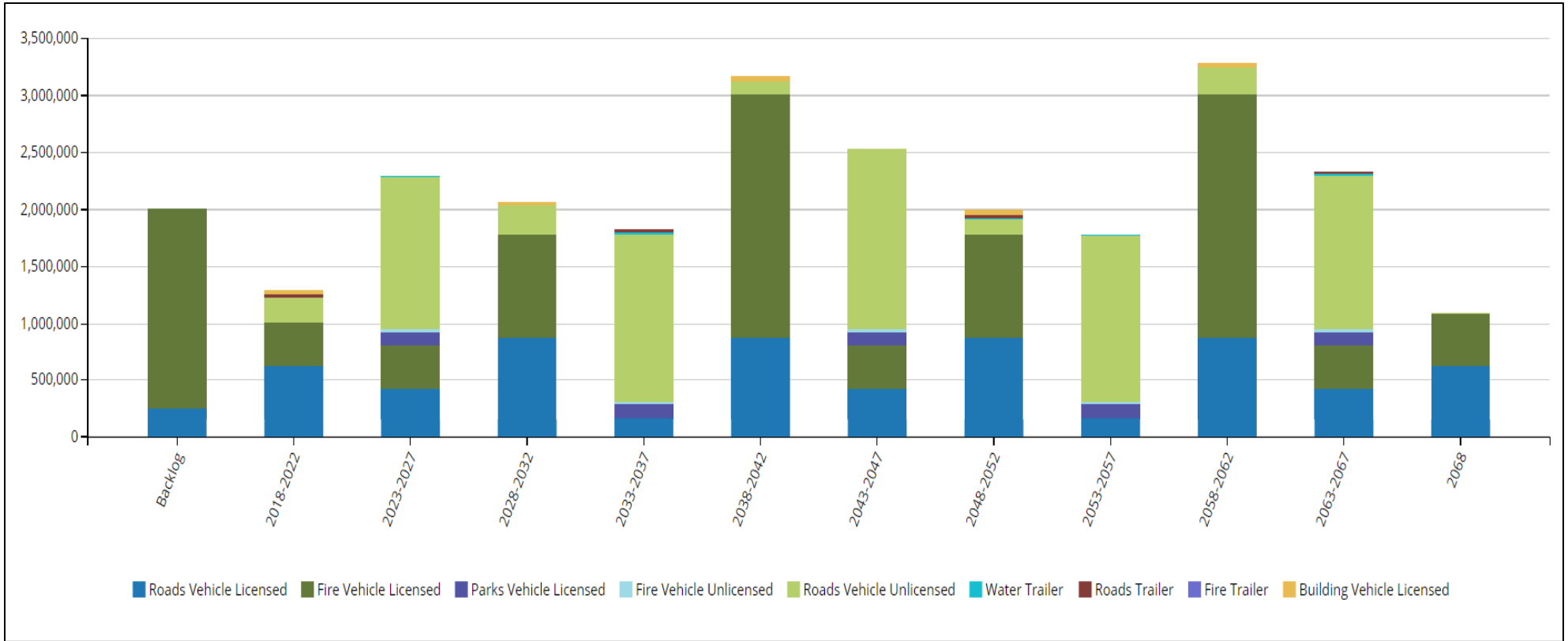
Analyzing the prior 3-years of mileage data on the above noted vehicles, these vehicles drive an average of 24,500KMs/year.

The operating hours of Roads Equipment as of December 2018 is summarized below



3.4 Forecasting Replacement Needs

In this section, the short-, medium- and long-term infrastructure spending requirements (replacement only) for the Town's vehicles assets are illustrated. The backlog is the aggregate investment in infrastructure that was deferred over previous years or decades. In the absence of observed data, the backlog represents the value of assets that remain in operation beyond their useful life.



3.5 Recommendations

The recommendations below were identified in the 2017 Asset Management Plan. Beneath each recommendation is an explanation detailing the Town of Erin approach for implementation.

- 1) A preventative maintenance and lifecycle assessment program should be established for all vehicle assets to gain a better understanding of current condition and performance as well as the short- and medium-term replacement needs.

The 2019 Budget, includes reserve contributions of \$50,000 towards Roads Vehicles and \$170,000 for 2019 and \$100,000 thereafter towards Fire Vehicle Reserve. Also, a more formal vehicle preventative maintenance program will be incorporated into the 2020 Operations Plan.

- 2) Using the above information [from recommendation 1], the Town should assess its short-, medium- and long-term capital and operations and maintenance needs.

This will be incorporated into the 2020 Operations Plan.

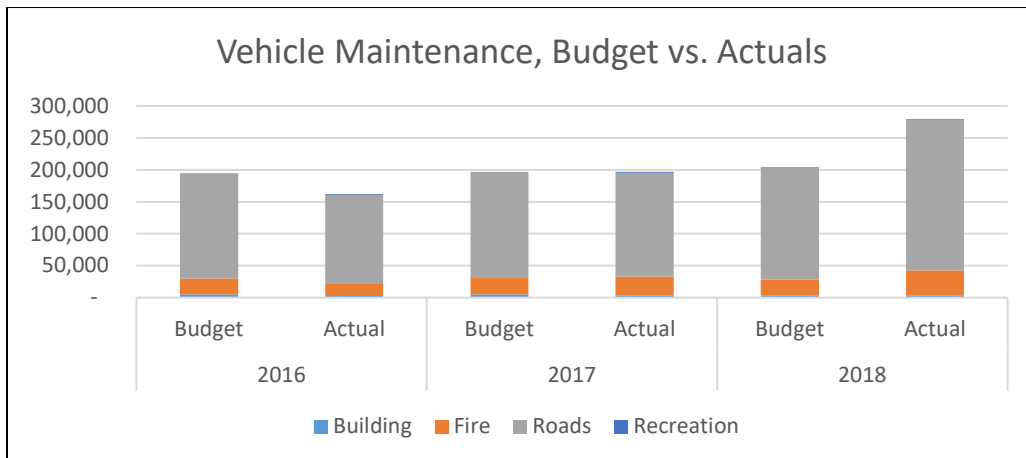
- 3) An appropriate percentage of the replacement cost should be allocated for the Town’s O&M requirements.

The Town doesn’t apply a specific replacement cost to vehicle operating and maintenance requirements in the annual budget. Instead, operating and maintenance requirements are reflected in the budget based on historical spending requirements and performance against budget.

The preventative maintenance program is contracted to Nortrax for vehicles in the Roads Department. Preventative maintenance encompasses the following activities:

Activities	Frequency		
	Trucks	Graders	4-Wheelers
- Oil Change	Every 300 operating hours	Every 500 operating hours	Every 8,000kms
- Air & Hydraulic Filter Replacement			

These preventative maintenance measures are reflected in the Town of Erin’s annual budgeting process with an annual average of \$206,000 for the 3-preceding years. This represents 3% of the vehicle replacement cost. A summary of budget vs. actual performance is below.



4) The town is funding 46% of its long-term replacement needs for its vehicles on an annual basis.

In the 2019 budget, a \$170,000 reserve allocation for Fire Vehicles with plans to allocate \$100,000 for the next two years and by 2022 a continuous reserve allocation of \$50,000.

For the roads vehicles, an annual reserve allocation of \$50,000 starting in 2019.

These changes have been incorporated into the Current Funding Position in Section 8 of this document.

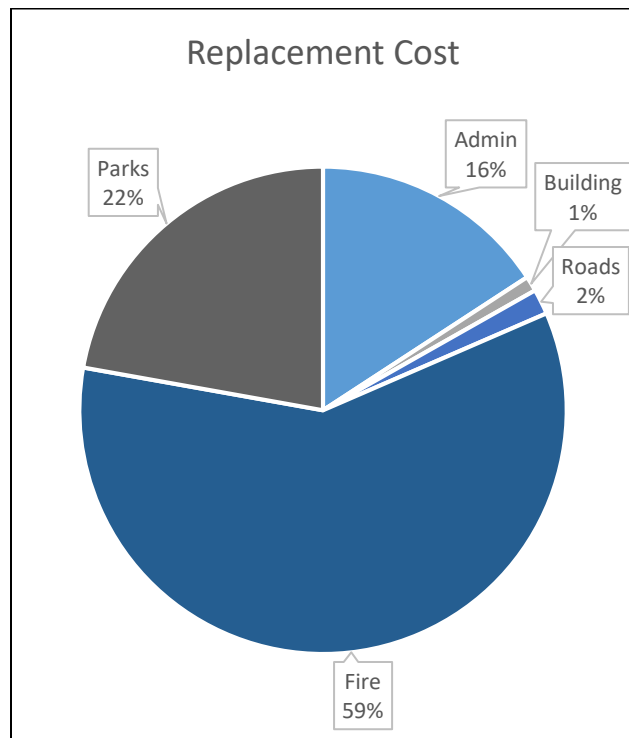
4.0 Machinery, Equipment & Computers

4.1 Asset Portfolio: Quantity, Useful Life, & Replacement Cost

The table below illustrates key asset attributes for the Town’s Machinery, Equipment & Computers portfolio, including quantities by department, useful life, replacement cost, and the valuation method by which the replacement costs were derived. In total, the Town’s Machinery, Equipment & Computers assets are valued at \$2.2 million based on 2018 replacement costs. A detailed listing of the Town’s Machinery, Equipment & Computers is found in Appendix B.

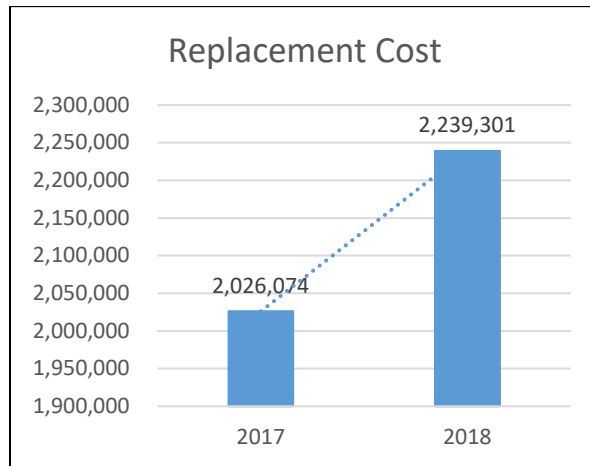
Component	QTY	Useful Life (years)	Valuation Method	Replacement Cost	
				2017	2018
Admin Computer Software	1	5	CPI Monthly (ON)	43,090	43,737
Admin Computers & Equipment	15	5	CPI Monthly (ON)	258,125	310,174
Building Computer Software	1	5	CPI Monthly (ON)	21,011	21,326
Building Computers & Equipment	1	5	CPI Monthly (ON)	1,168	1,186
Fire Equipment	38	5,7,10,15,20	CPI Monthly (ON)	1,186,391	1,328,397
Parks Equipment	11	10,15,20	CPI Monthly (ON)	489,553	496,902
Roads Equipment	2	10	CPI Monthly (ON)	26,736	37,579
TOTAL				2,026,074	2,239,301

The majority of replacement cost for Town of Erin Machinery, Equipment & Computers is for the Town’s Fire and Parks (Recreation) department.



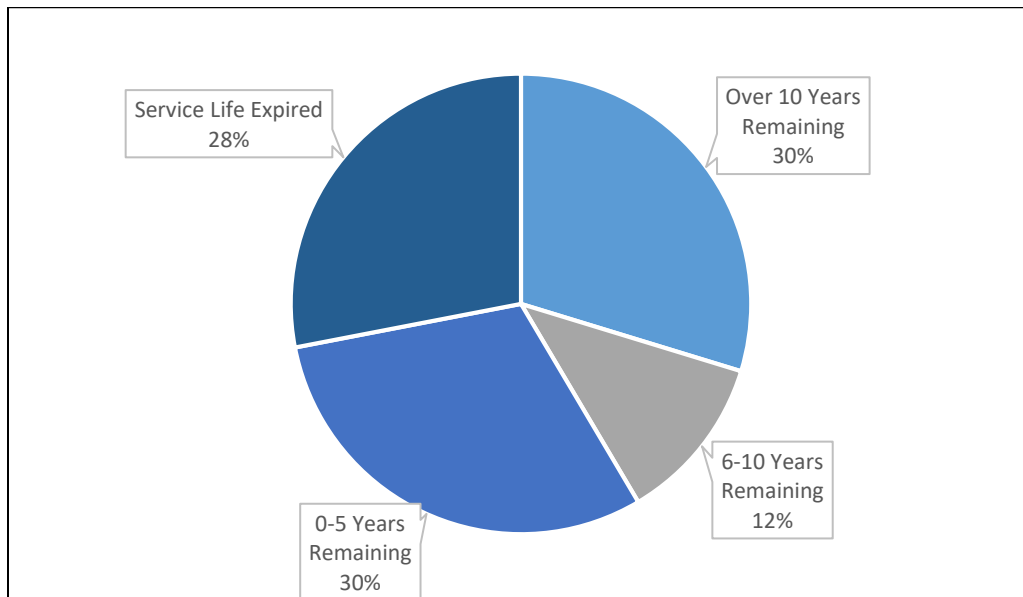
Replacement cost has risen 10.5% from 2017 to 2018. This is a combination of inflationary increases and the addition of the following items in 2018:

- 1) Asset #899 – Telephone System
- 2) Asset #900 – Admin building Security
- 3) Asset #901 – Server Room A/C
- 4) Asset #902 – Fire Radio System
- 5) Asset #903 - Fire Extrication Equipment (Cutters)

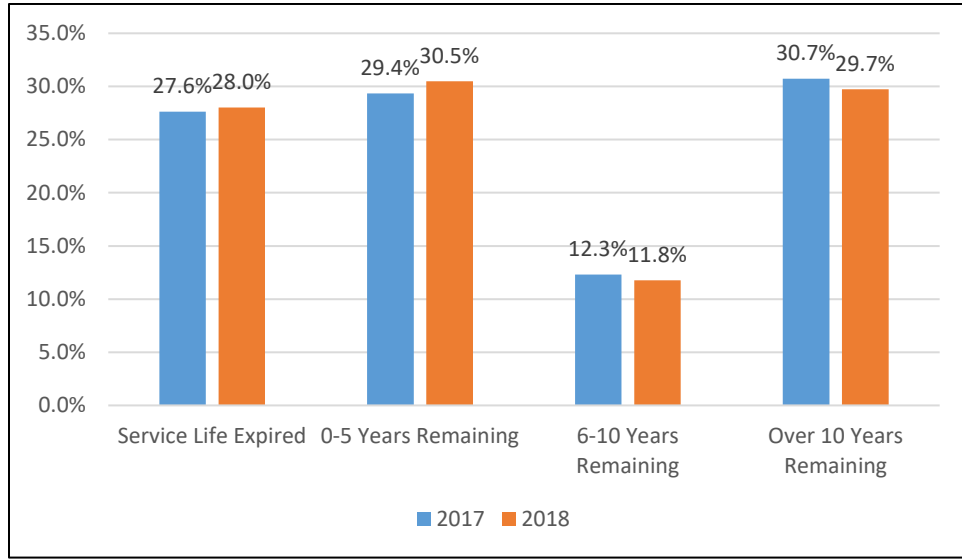


4.2 Useful Life Consumption

Understanding the consumption rate of assets based on industry established useful life standards provides a more complete profile of the state of a community’s infrastructure. The figure below illustrates the useful life consumption levels as of 2018 for the Town’s Machinery, Equipment & Computers.

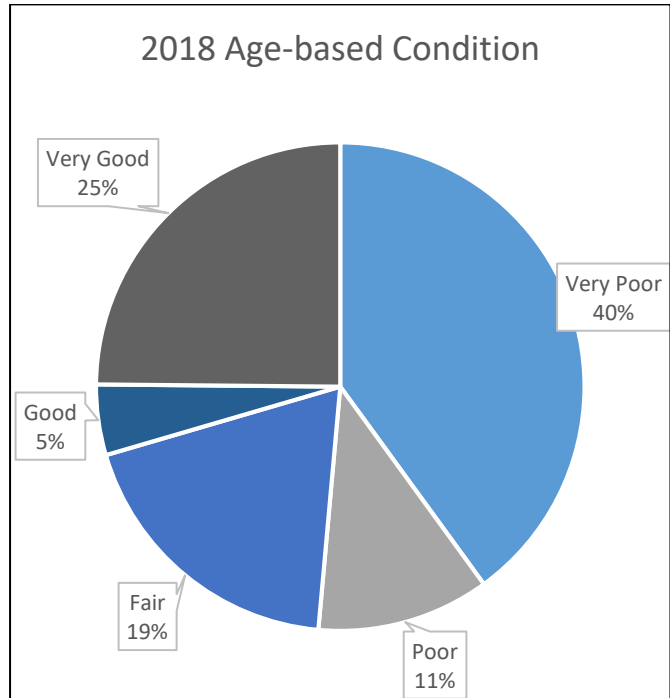
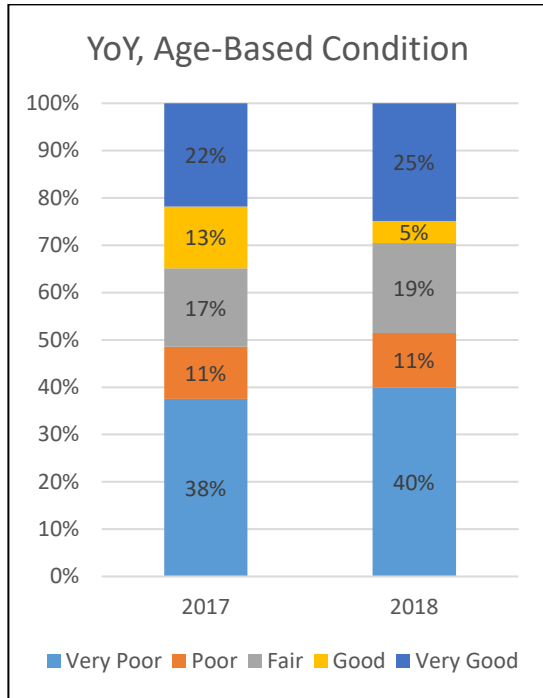


A comparison of service life remaining between 2017 and 2018 is below:



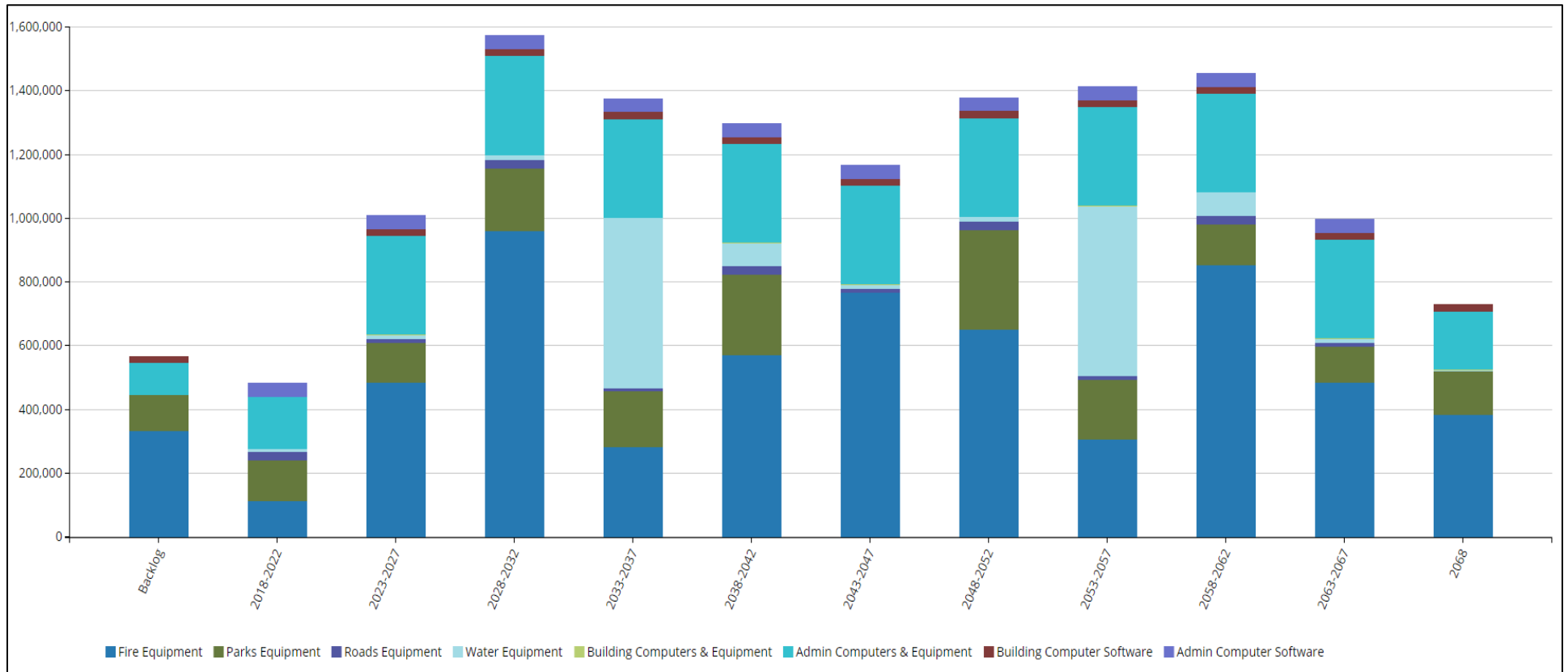
4.3 Asset Condition

Using replacement cost, the condition of the Town’s Machinery, Equipment & Computers assets are summarized by condition as of 2018. The Town does not have a mechanism for tracking asset condition for machinery and equipment so age-based data is used as a proxy.



4.4 Forecasting Future Replacement Needs

In this section, the short-, medium- and long-term infrastructure spending requirements (replacement only) for the Town's machinery and equipment assets are illustrated. The backlog is the aggregate investment in infrastructure that was deferred over previous years or decades. In the absence of observed data, the backlog represents the value of assets that remain in operation beyond their useful life.



4.5 Recommendations

The recommendations below were identified in the 2017 Asset Management Plan. Beneath each recommendation is an explanation detailing the Town of Erin approach for implementation.

- 1) The Town should implement a component-based condition inspection program for all machinery & equipment assets to better define financial requirements for machinery & equipment.

The majority of assets the Town of Erin recognizes within this category are Fire Equipment (Pagers, Protective Equipment, Extraction Equipment, Pumps, etc.) and IT-related (See Appendix B for a complete listing). Given the nature of assets included within this category the costs associated with a condition inspection program would outweigh any potential benefits. Instead, the Town's IT department and each of the department heads can manage directly. Moreover, these assets are already recognized at the component level.

- 2) Using the information from above (recommendation 1), the Town should assess its short-, medium-, and long-term capital and operations and maintenance needs.

This will be addressed in the 2020 Operations Plans.

- 3) An appropriate percentage of the replacement costs should be allocated for the town's operating and maintenance requirements.

The IT-related assets within this category have a useful life of 5-years and have minimal maintenance needs. Similarly, the Fire Equipment is primarily comprised of Uniforms, Protective Equipment, Pumps, and Pagers and also requires minimal maintenance.

- 4) The Town is funding 16% of its long-term requirements for its machinery & equipment assets on an annual basis.

This is based on average capital budget specific to this asset class.

5.0 Buildings and Facilities

5.1 Asset Portfolio: Quantity, Useful Life, & Replacement Cost

The table below illustrates key asset attributes for the Town's Buildings & Facilities portfolio. It's developed using the same methodology as the 2017 Asset Management Plan to allow for a year-over-year comparison and includes asset quantities, useful life, and replacement cost. In total, the Town's Buildings & Facilities assets are valued at \$24 million based on 2018 replacement costs. A detailed listing of the Town's Buildings & Facilities is found in Appendix C.

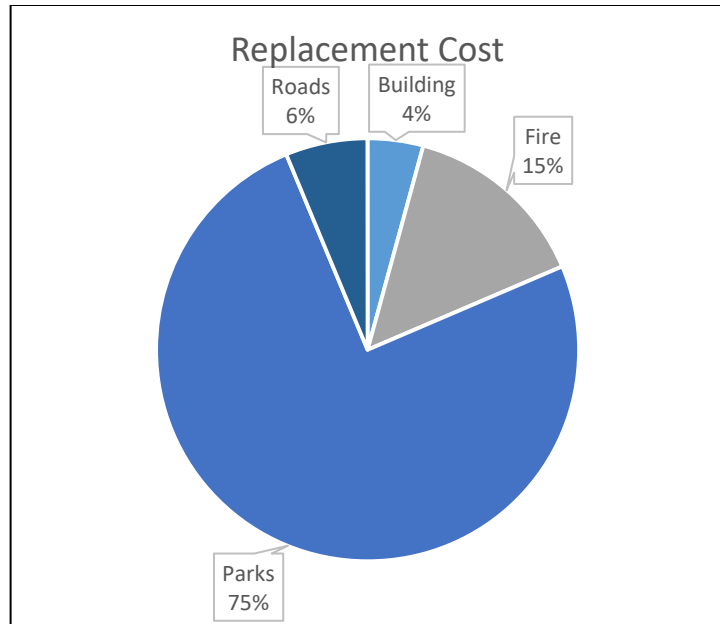
Asset Type	Component	QTY*	Useful Life (years)	Valuation Method	Replacement Cost	
					2017	2018
Buildings & Facilities	Admin Building	3	40	CPI Monthly (ON)	853,579	1,017,480
	Fire Building	3	20,40	CPI Monthly (ON)	3,373,166	3,423,814
	Parks Building	24	20,40	CPI Monthly (ON)	17,724,898	17,984,319
	Roads Building	6	20,40	CPI Monthly (ON)	1,414,489	1,500,828
TOTAL					23,366,223	23,926,441

*QTY refers to the total number of Building Components recognized in the Town's Asset Management Software

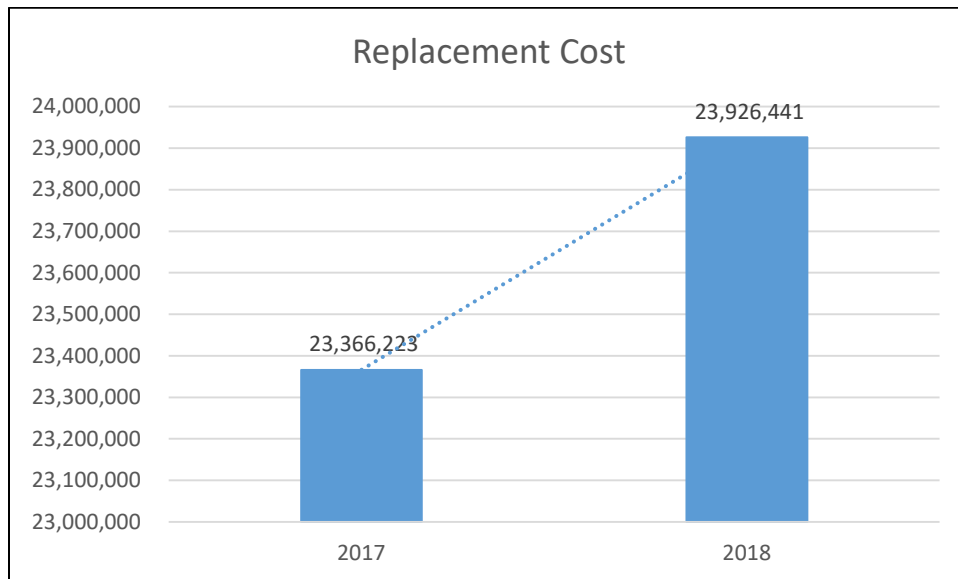
Details of each building can be found in Appendix C while a financial overview of each facility is below:

Facility	Cost	Accumulated Amortization	Net Book Value	Replacement Cost	# of Components
ECC	5,063,406	(2,893,684)	2,169,722	12,461,852	7
HCC	1,498,683	(1,248,115)	250,568	4,495,186	11
BCC	203,289	(178,516)	24,773	593,095	2
Parks Buildings	269,111	(108,410)	160,702	434,186	4
Roads Shop	895,537	(513,131)	382,405	1,500,828	6
Admin Building	696,571	(341,418)	355,153	1,017,480	3
Hillsburgh Fire Hall	2,538,108	(319,073)	2,219,036	2,782,596	2
Erin Fire Hall	287,884	(244,681)	43,204	641,218	1
TOTALS	11,452,590	(5,847,027)	5,605,563	23,926,441	36

The majority of replacement cost of Buildings & Facilities is for the Parks (Recreation) department.

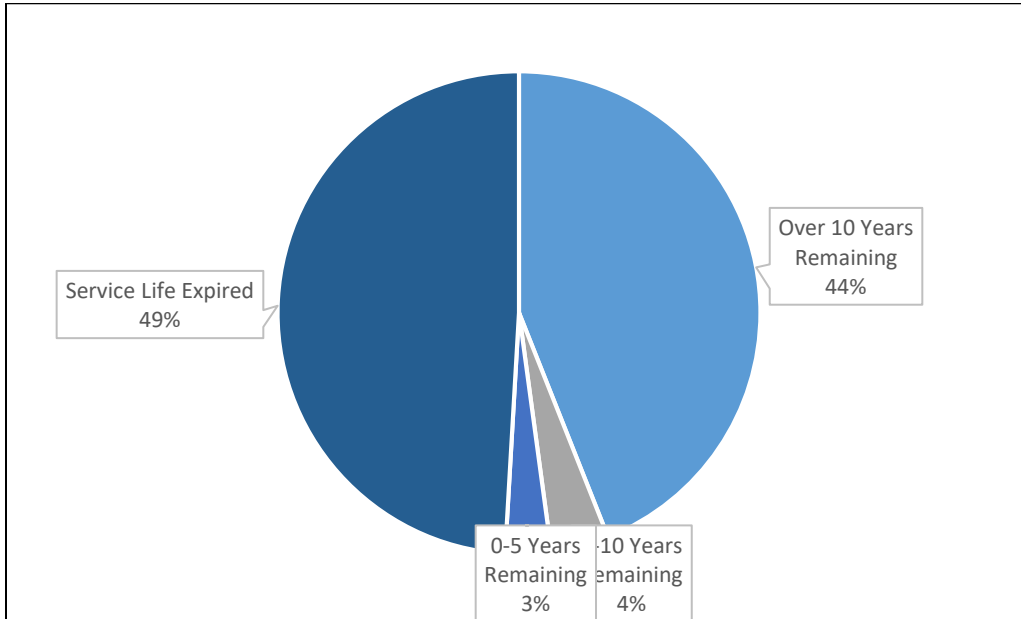


Replacement cost has risen 2.4% from 2017 to 2018.

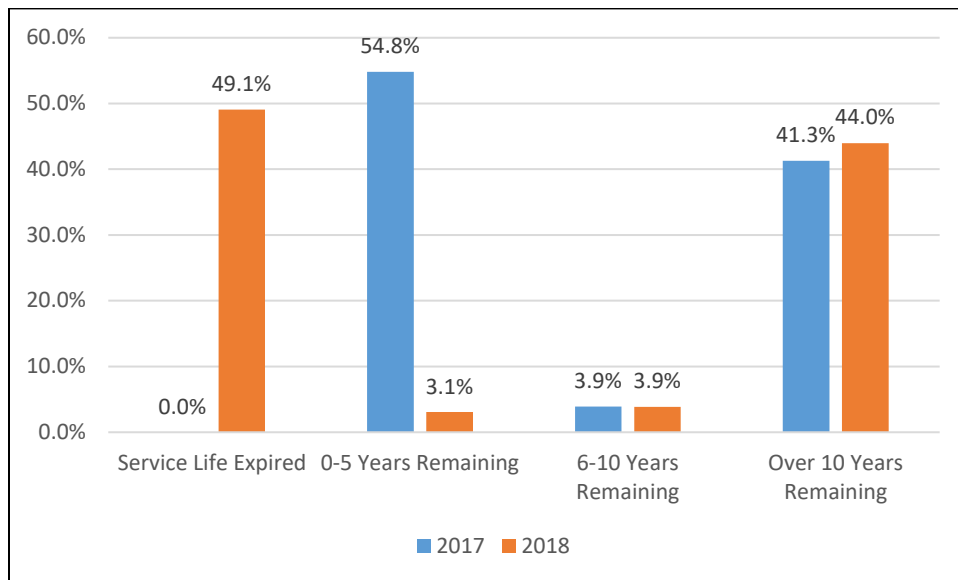


5.2 Useful Life Consumption

Understanding the consumption rate of assets based on industry established useful life standards provides a more complete profile of the state of a community's infrastructure. The figure below illustrates the useful life consumption levels as of 2018 for the Town's Buildings & Facilities.

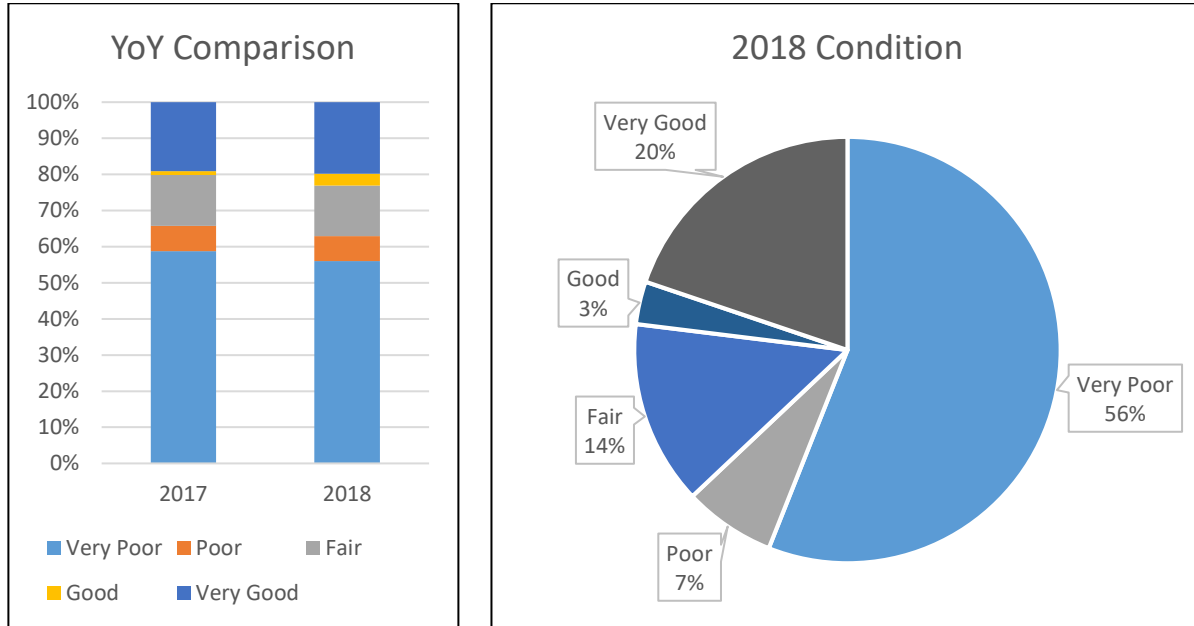


A comparison of service life remaining between 2017 and 2018 is below:



5.3 Asset Condition

Using replacement cost, in this section, we summarize the condition of the Town’s Buildings & Facilities assets as of 2018. To allow for comparison with the 2017 Asset Management Plan age-based data is used as a proxy for condition.



Additionally, Building Condition Assessments (BCA) were performed on the following Town of Erin Buildings during 2019 by Pinchin Engineering:

- Ballinafad Community Centre
- Hillsburgh Community Centre
- Erin Community Centre (& Tennis Courts)
- Parks (Includes Victoria Park, Barbour Field, and McMillan Park)
- Erin Fire Station
- Hillsburgh Fire Station
- Admin Office

During their assessment a visual inspection of buildings elements was conducted except for the Roads Shop. All common and service rooms were reviewed and an inspection of the exterior was completed. A summary of the components by condition assigned is below:

	Erin Community Centre	Hillsburgh Community Centre	Ballinafad Community Centre	Parks Buildings	Municipal Office	Hillsburgh Fire Station	Erin Fire Station
Very Poor	5	3	1	1	0	0	0
Poor	3	4	0	2	1	0	4
Fair	8	9	7	9	5	0	5
Good	9	3	9	7	6	4	11
Very Good	5	5	14	48	19	26	9

However, some building components have a high replacement cost while others have a low replacement cost and this doesn't provide an indication to the overall condition of each facility. To translate this into an overall condition by facility the Town can utilize the recommendations from the BCAs to calculate the Facility Condition Index (FCI) for each building.

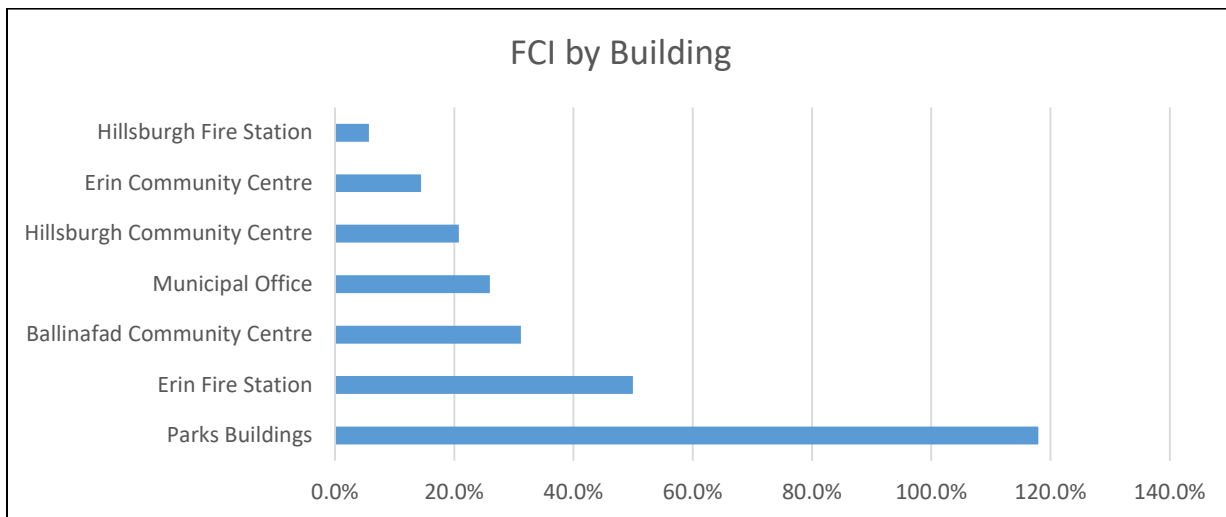
Facility Condition Index (FCI) is an industry standard metric for assigning an overall building condition at a specific point in time. It results in a numerical value for condition to allow for comparison. FCI is the ratio of the aggregated required repairs and replacements to the current building replacement value.

$$FCI = \frac{\text{Cumulative 10 Year Renewal Requirements}}{\text{Building Replacement Cost}}$$

There is an inverse relationship between the FCI value and condition as the lower an FCI value, the better overall condition. This is because the renewal needs are low relative to the building's replacement cost. As the ratio increases in value, rehabilitation may not be recommended as the entire building can be replaced for a similar dollar value as it would cost for complete rehabilitation. FCI is used to only determine the relative condition of each building and is only used as a guide for asset management purposes. A qualitative condition description for FCI are based on the ranges in the following table:

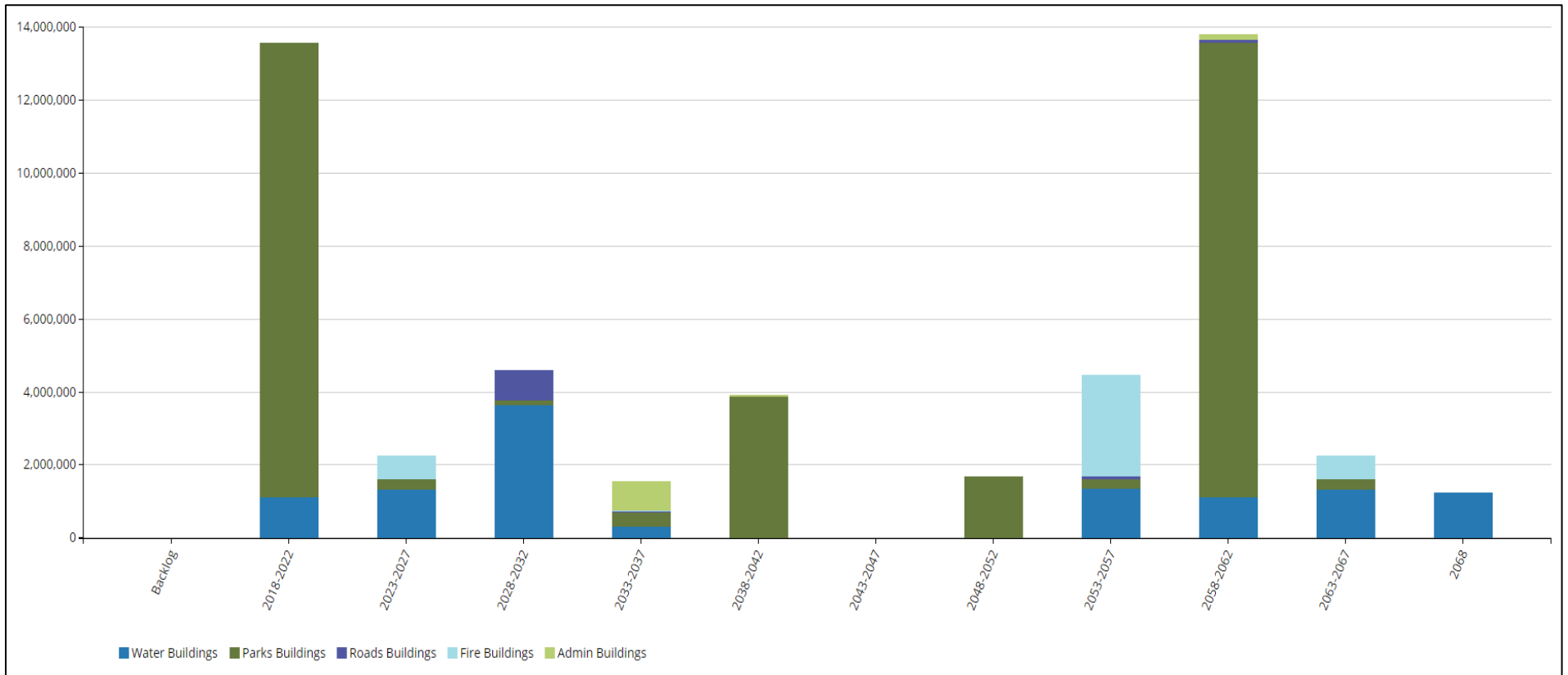
FCI Range	Condition	Descriptive Qualities of Building
0-5%	Good	- Building appears in near perfect condition
5-15%	Fair	- No obvious signs of deterioration - Building has moderately deteriorated and most cost is preventative maintenance
>15%	Poor	- Obvious and visual deterioration - Building components are at a high risk of failure

The chart below outlines condition by building as derived by the FCI calculation:



5.4 Forecasting Future Replacement Needs

In this section, the short-, medium- and long-term infrastructure spending requirements (replacement only) for the Town's Buildings & Facilities assets are illustrated. The backlog is the aggregate investment in infrastructure that was deferred over previous years or decades. In the absence of observed data, the backlog represents the value of assets that remain in operation beyond their useful life.



The 10-year replacement needs visualized in the chart on the preceding page is summarized in the table below and compared against recommendations from Building Condition Assessments (BCAs):

	CityWide (Age-based)			BCA 10-Year
	2018-2022	2023-2027	10-Year Total	
ECC	7,850,360	--	7,850,360	1,802,900
HCC	4,200,590	--	4,200,590	934,000
BCC	307,771	285,324	593,095	185,000
Parks Buildings	117,347	---	117,347	512,100
Roads Shop	--	--	--	N/A
Admin Building	--	--	--	264,150
Hillsburgh Fire	--	--	--	158,500
Erin Fire Hall	--	641,218	641,218	320,300
TOTAL	12,476,068	926,542	13,402,610	4,176,950

5.5 Recommendations

The recommendations below were identified in the 2017 Asset Management Plan. Beneath each recommendation is an explanation detailing the Town of Erin approach for implementation.

- 1) The Town should look to incorporate condition data from its condition inspection program into CityWide to more precisely estimate future financial needs.

The Town conducted Building Condition Assessments (BCAs) on several municipally owned facilities in 2019. The 2020 Capital Budget will address the BCA results.

- 2) The data collected through condition assessment programs should be integrated into a risk management framework which will guide prioritization of short-, medium-, and long-term replacement needs.

Development of a risk management framework is a priority moving forward.

- 3) In addition to the above, a tailored lifecycle activity framework should be developed to promote standard lifecycle management of buildings and facilities.

Incorporating recommendations from the BCA, the 2020 Operations Plan will be updated accordingly.

- 4) Using the above information, the Town should assess its short-, medium-, and long-term capital and operations, and maintenance needs.

The maintenance and operating needs for municipal facilities was obtained in 2019 during the BCA process.

- 5) An appropriate percentage of the replacement costs should be allocated to meet operating and maintenance requirements.

Key findings from the 2019 BCAs will be incorporated into the 2020 Capital Budget.

6) Facility Key Performance Indicators should be established and tracked annually.

Facility Condition Index (FCI) was incorporated into this AMP update.

7) The Town is funding 23% of its long-term requirement for its buildings and facilities on an annual basis.

The Town has increased the funding long-term funding percentage to 29.2% in 2019.

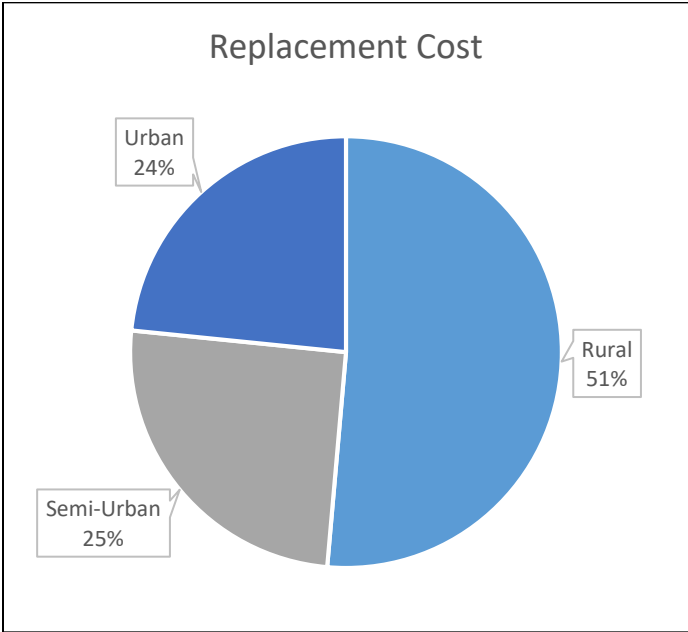
6.0 Road Network

6.1 Asset Portfolio: Quantity, Useful Life, & Replacement Cost

The table below illustrates key asset attributes for the Town’s Road Network portfolio, including quantities of various assets, their useful life, replacement cost, and the valuation method by which the replacement costs were derived. In total, the Town’s Road assets are valued at \$62 million based on 2018 replacement costs. The useful life indicated for each asset type below was assigned by the

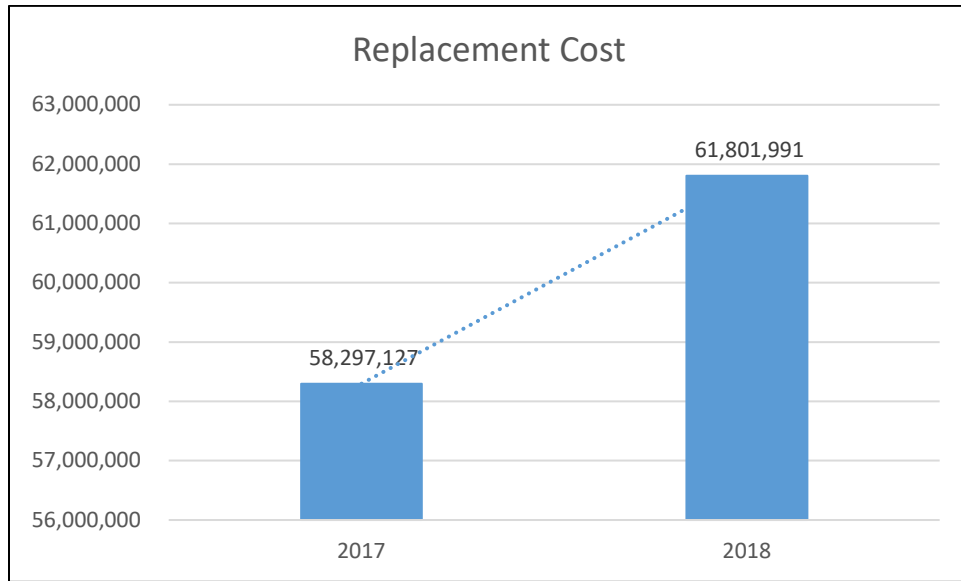
Component	QTY	Useful Life (years)	Valuation Method	Replacement Cost	
				2017	2018
Road Base – Asphalt – R	36km	40	NRBCPI Quarterly	14,883,388	15,726,861
Road Base – Asphalt – S	23km	40	NRBCPI Quarterly	8,889,508	9,367,455
Road Base – Asphalt – U	10km	40	NRBCPI Quarterly	10,362,205	10,956,073
Road Base – Earth – R	0.32km	40	Not Planned	-	-
Road Base – Earth – S	0.25km	40	Not Planned	-	-
Road Base – Gravel – R	190km	40	Not Planned	-	-
Road Base – Gravel – S	2km	40	Not Planned	-	-
Road Base – Surface Treatment – R	30km	40	NRBCPI Quarterly	8,150,319	8,588,486
Road Base – Surface Treatment – S	2km	40	NRBCPI Quarterly	610,098	640,441
Road Surface – Asphalt – R	30km	20	NRBCPI Quarterly	7,047,459	7,445,952
Road Surface – Asphalt – S	23km	20	NRBCPI Quarterly	5,126,711	5,573,859
Road Surface – Asphalt – U	11km	20	NRBCPI Quarterly	3,227,439	3,502,864
TOTAL				58,297,127	61,801,991

The majority of replacement cost is comprised of rural roads in the Town of Erin:



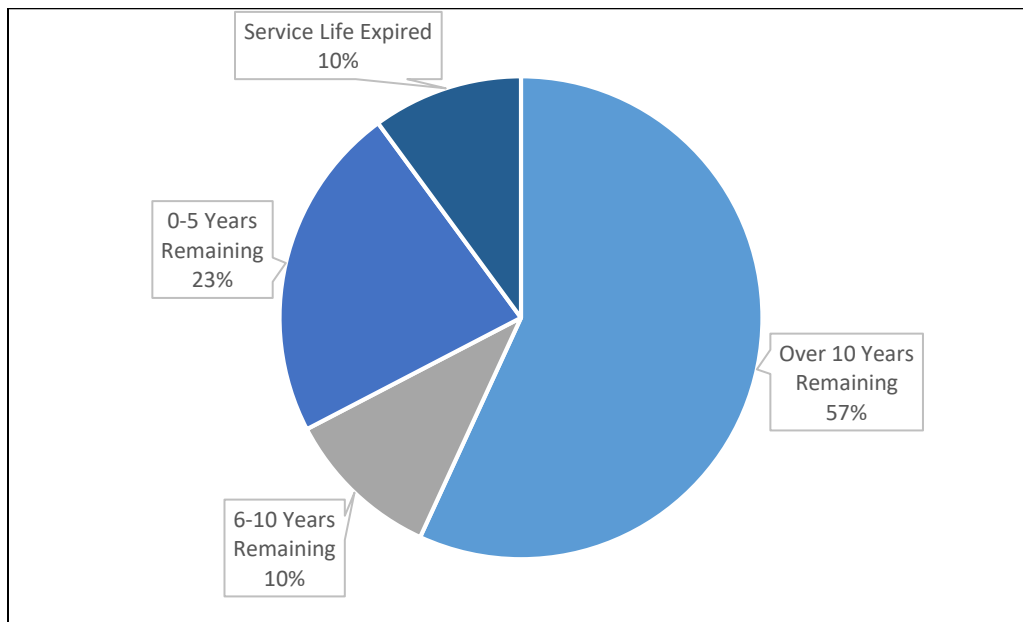
Replacement cost has risen 6.0% from 2017 to 2018. This is a combination of inflationary increases and the addition of the following road-related components that totalled to a net addition of \$300,000:

- 1) Asset #904 – Sidewalk along Baker St.
- 2) Asset #907 – Crosswalk on Main St.
- 3) Asset #912 - Pulverize and resurface Dundas St (from Erin Heights to Bridge at Carberry)

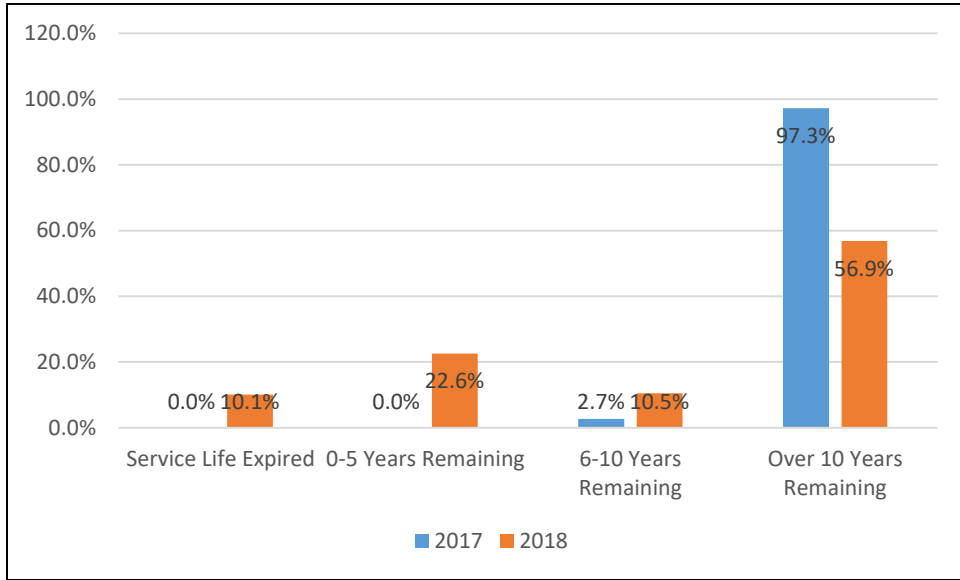


6.2 Useful Life Consumption

Understanding the consumption rate of assets based on industry established useful life standards provides a more complete profile of the state of a community's infrastructure. The figure below illustrates the useful life consumption levels as of 2018 for the Town's Road Network.

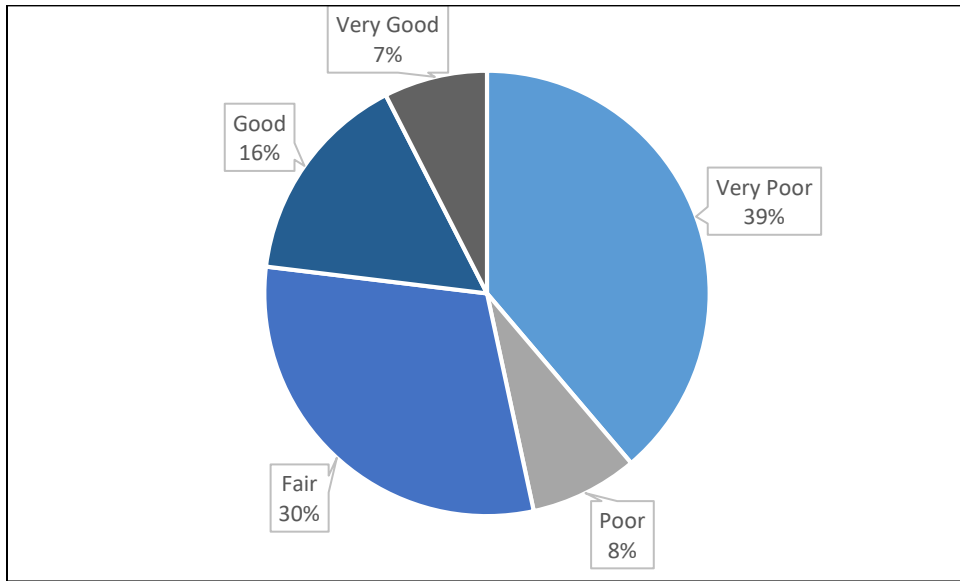


A comparison of service life remaining between 2017 and 2018 is below:



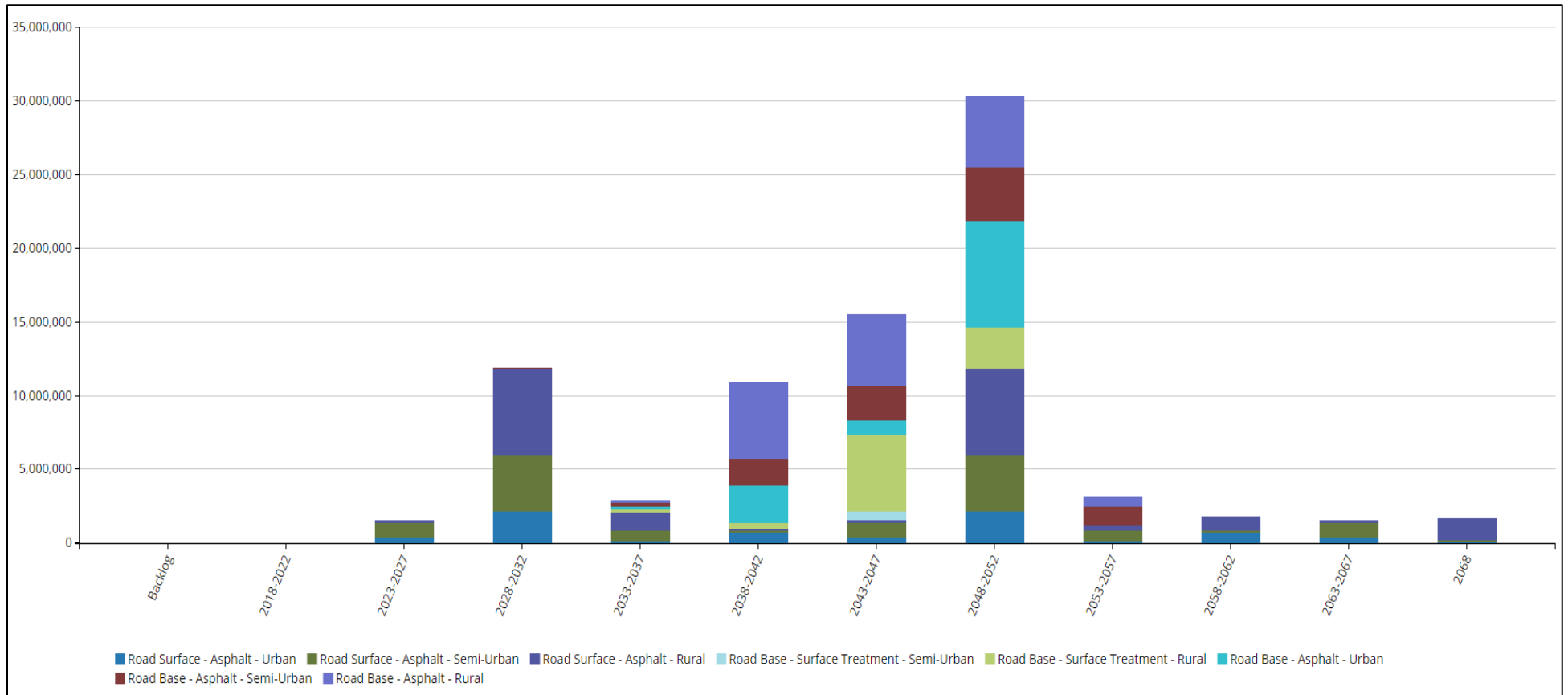
6.3 Asset Condition

Using replacement cost, in this section, we summarize the condition of the Town’s Road Network assets as of 2018. The Town does not have a mechanism for tracking asset condition for Road Network so age-based data is used as a proxy.



6.4 Forecasting Future Replacement Needs

In this section, the short-, medium- and long-term infrastructure spending requirements (replacement only) for the Town's Roads assets are illustrated. The backlog is the aggregate investment in infrastructure that was deferred over previous years or decades. In the absence of observed data, the backlog represents the value of assets that remain in operation beyond their useful life.



6.5 Recommendations

The recommendations below were identified in the 2017 Asset Management Plan. Beneath each recommendation is an explanation detailing the Town of Erin approach for implementation.

- 1) Age-based data indicates no backlog and 10-year replacement needs of \$769,000. The Town should conduct condition assessments of road surfaces and expand the program to incorporate all assets in order to more precisely estimate its actual financial requirements and field needs.

This will be incorporated into the 2020 Operations Plan.

- 2) The data collected through condition assessment programs should be integrated into a risk management framework which will guide prioritization of the backlog as well as short, medium, and long-term replacement needs.

This will be incorporated into the 2020 Operations Plan.

- 3) In addition to the above, a tailored lifecycle activity framework should be developed to promote standard lifecycle management of the road network.

A Roads Needs Study would address this recommendation and is planned for 2020.

- 4) Road network Key Performance Indicators should be established and tracked annually as part of an overall level of service model.

Key Performance Indicators will be developed shortly that will incorporate community consultation.

- 5) The town is funding 61% of its long-term requirements for its road network on an annual basis.

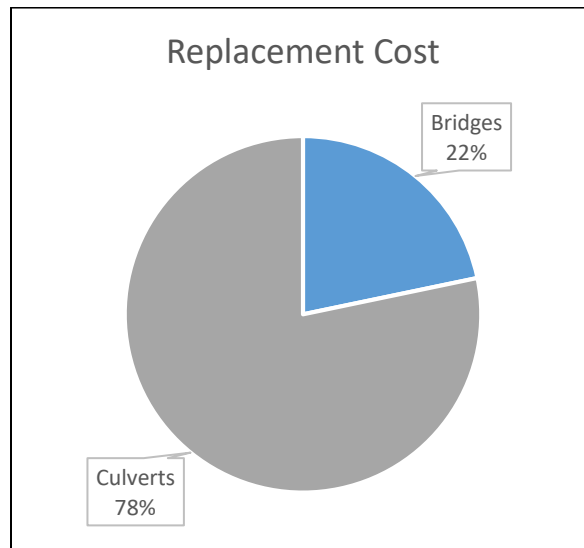
7.0 Bridges and Culverts

7.1 Asset Portfolio: Quantity, Useful Life, & Replacement Cost

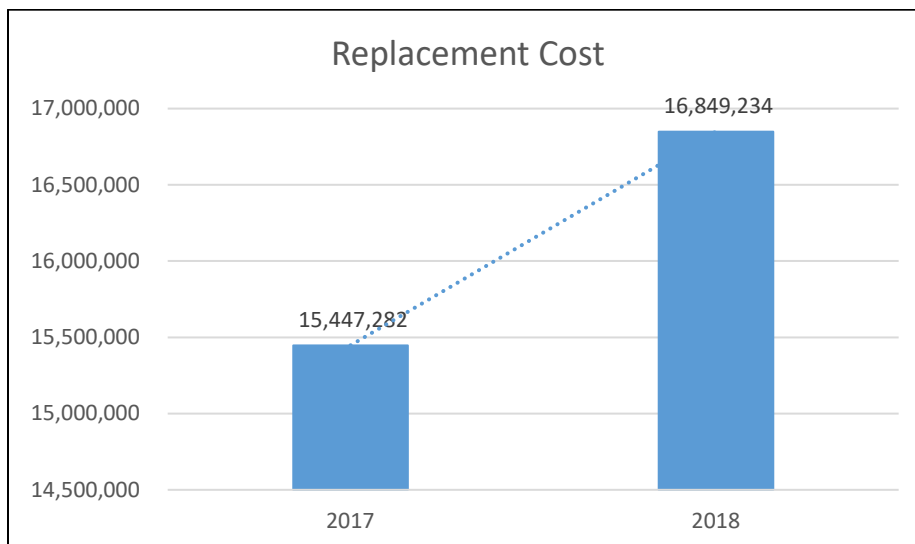
The table below illustrates key asset attributes for the Town's Bridges & Culverts portfolio. It's developed using the same methodology as the 2017 Asset Management Plan to allow for a year-over-year comparison and includes asset quantities, useful life, replacement cost. In total, the Town's Bridges & Culverts assets are valued at \$16.9 million based on 2018 replacement costs.

Component	QTY	Useful Life (years)	Valuation Method	Replacement Cost	
				2017	2018
Bridges	11	45,50	NRBCPI Quarterly (Toronto)	3,537,781	3,661,045
Culvert	37	40,50	NRBCPI Quarterly (Toronto)	11,909,501	13,188,189
TOTAL				15,447,282	16,849,234

The majority of replacement cost is comprised of Culverts in the Town of Erin:

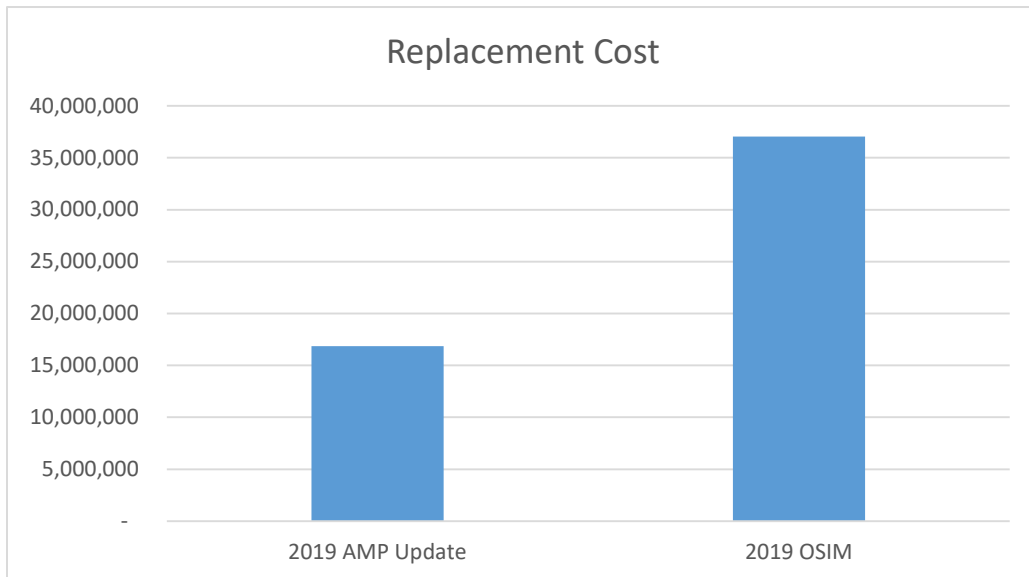


Replacement cost has risen 9.1% from 2017 to 2018.



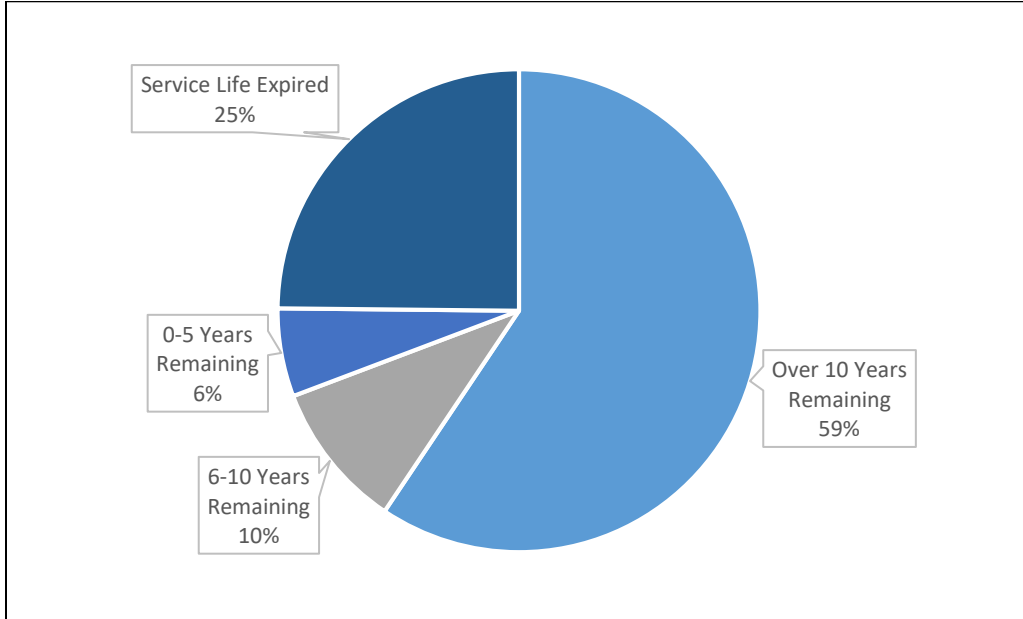
The 9.1% increase in replacement cost is the combination of inflationary increases and the inaccuracy of existing replacement costs. For example, Culvert 2045 was replaced in 2018. The replacement cost identified in CityWide (by inflating the historical cost from 1950) was \$151,948. However, the cost of this structure in 2018 was \$598,902 greater and totalled to \$750,850, which forms the basis of the new replacement cost. Inflating this figure by 1-year gives a new replacement cost of \$783,208. Overall, and without considering the inflationary increases of other structures, updating the replacement cost for Culvert 2045 resulted in a 4.1% increase to the total Replacement cost of the Bridges & Culverts asset class.

The replacement cost utilized in the development of the 2017 Asset Management Plan was calculated by inflating the historical cost. However, replacement cost is also assigned during through the Town’s bi-annual OSIM inspections. During the 2019 inspections, RJ Burnside assigned a replacement cost of \$37 million for the Town’s bridges and culverts compared to \$16.8 million calculated by CityWide. This figure is 120% larger than the replacement cost calculated by inflating historical cost.

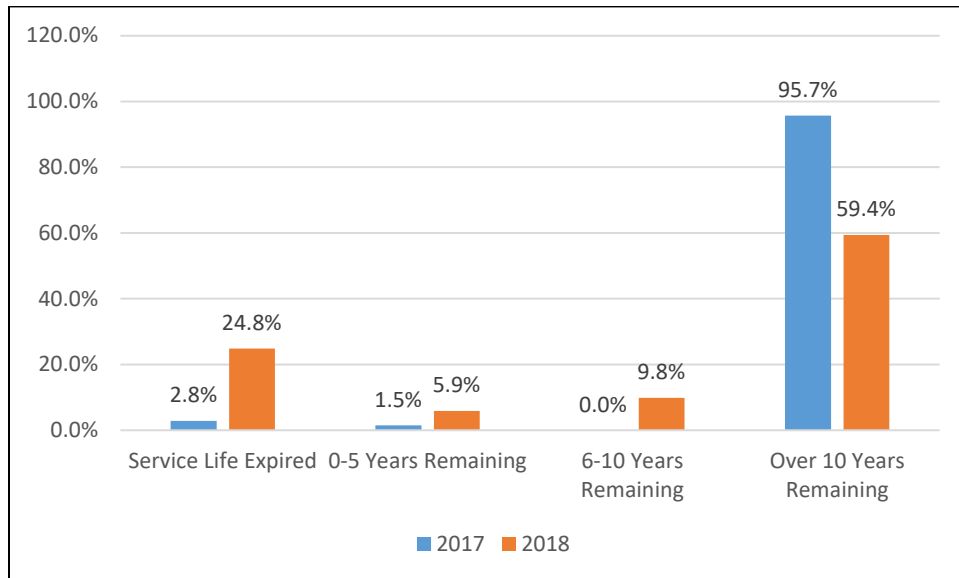


7.2 Useful Life Consumption

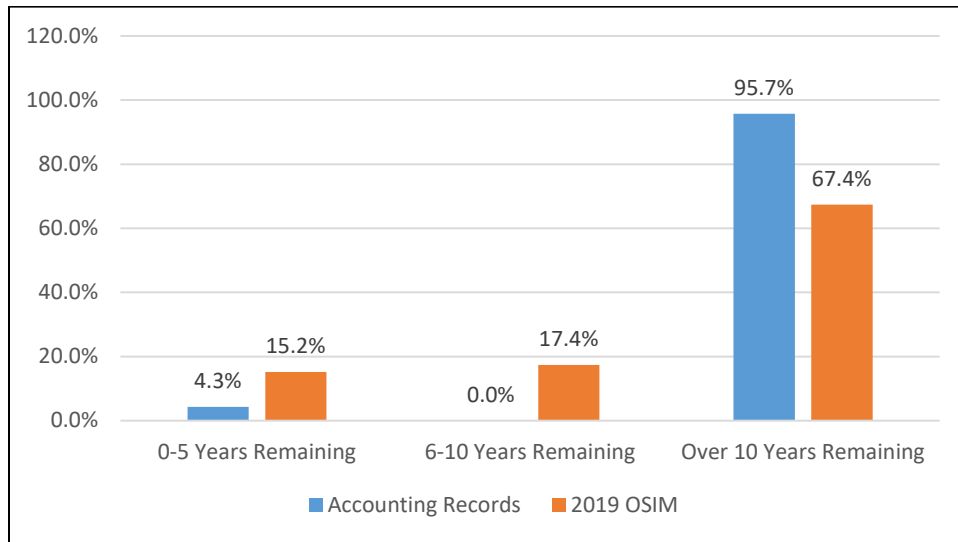
Understanding the consumption rate of assets based on industry established useful life standards provides a more complete profile of the state of a community's infrastructure. The figure below illustrates the useful life consumption levels as of 2018 for the Town's Bridges and Culverts.



A comparison of service life remaining between 2017 and 2018 is below:



A comparison of service life remaining as assigned during the 2019 OSIM inspections vs. the Town's accounting records:



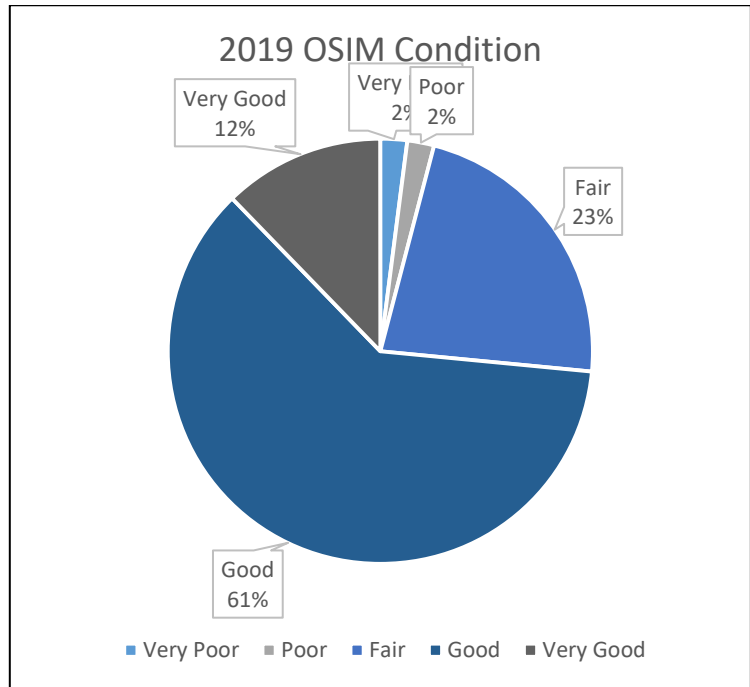
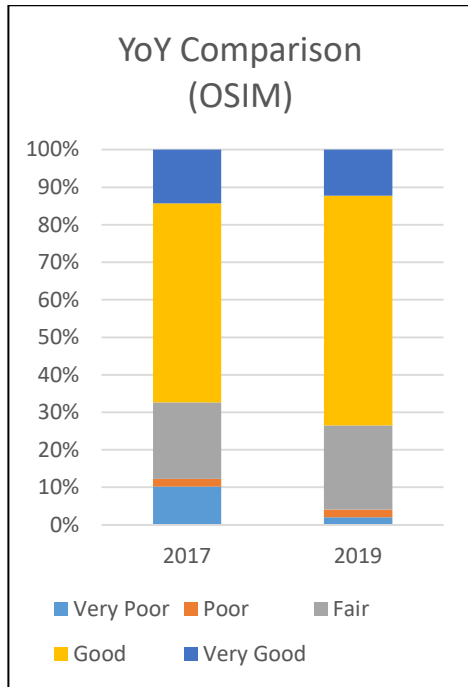
7.3 Asset Condition

The Town of Erin's bridges and culverts are inspected bi-annually using the Ontario Structure Inspection Manual (OSIM) format. All structures in excess of 3 meters are mandated to be included in the Town's OSIM inspection inventory. Therefore, the condition data outlined in this section is based off the observed field data from the 2019 OSIM inspections. Where a structure is below 3 meters, age-based condition is used as a proxy.

The OSIM inspections assign each structure a numerical condition rating referred to as the Bridge Condition Index (BCI). This figure ranges from 0-100 and condition is assigned as Poor, Fair, or Good based on the following thresholds:

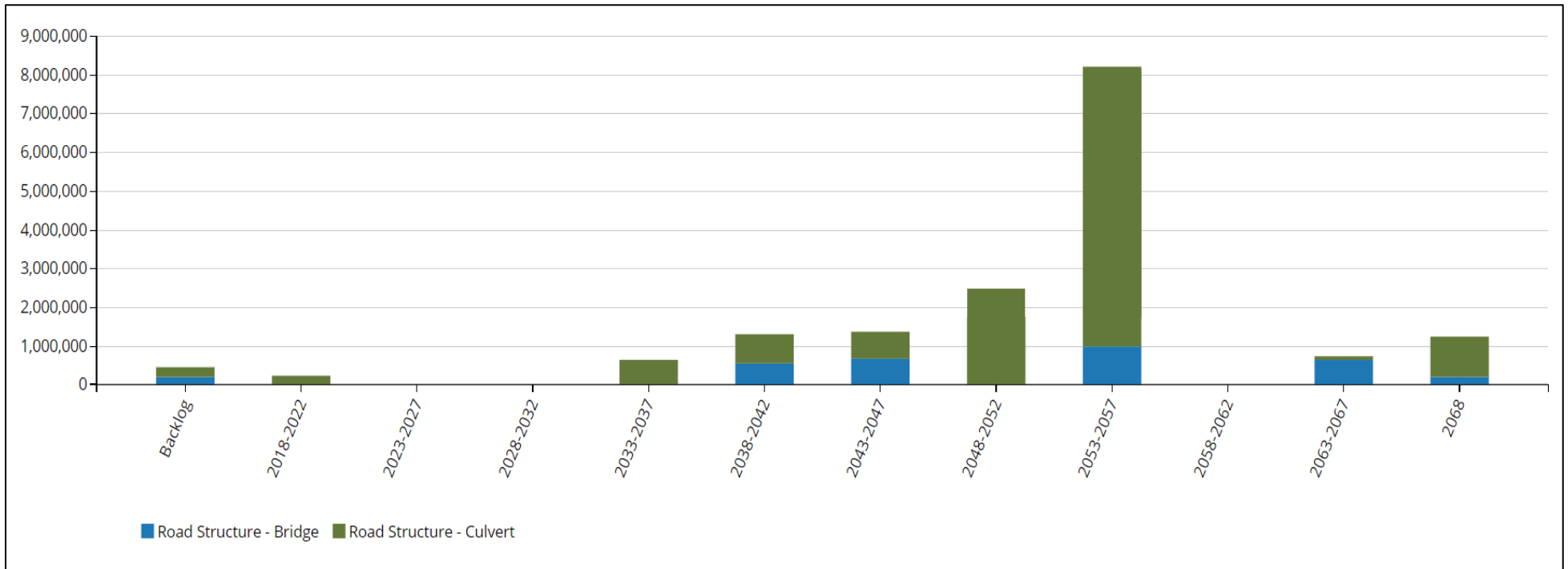
BCI Range	Condition
<20	Very Poor
20-40	Poor
40-60	Fair
60-80	Good
>80	Very Good

The average BCI for the Town’s bridges and culverts in 2019 is 68.1. This figure is unchanged from the 2017 OSIM inspections where the average BCI rating was 68.4. A breakdown of overall condition is below:



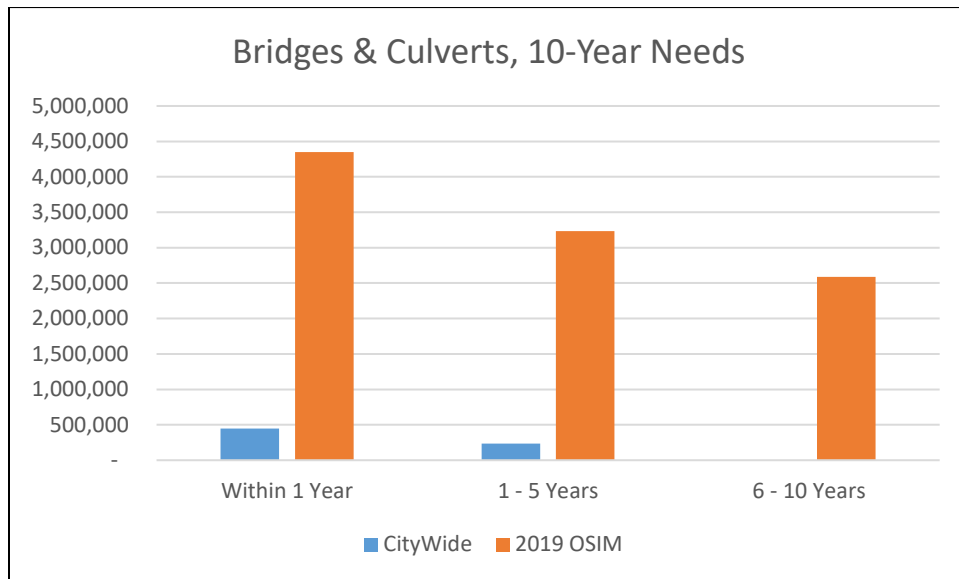
7.4 Forecasting Future Replacement Needs

In this section, the short-, medium- and long-term infrastructure spending requirements (replacement only) for the Town's Bridges and Culverts are illustrated. The backlog is the aggregate investment in infrastructure that was deferred over previous years or decades. In the absence of observed data, the backlog represents the value of assets that remain in operation beyond their useful life.



As with the 2017 Asset Management Plan, the replacement needs visualized in the chart on the preceding page is based on in-service date and its assigned useful life. However, recall from the Asset Condition section of Bridges & Culverts that there is a discrepancy between remaining useful life from the data in CityWide and the observed field data included in the 2019 OSIM inspections. Moreover, the chart on the preceding page assumes full structure replacement (based on CPI method of replacement cost valuation) at the expiry of the structure’s useful life. Instead, the OSIM inspections often recommended major or minor rehabilitation instead of complete structure replacement.

The 10-year replacement needs visualized in the chart on the preceding page is summarized in the table chart and compared against recommendations from the 2019 OSIM Inspections. A detailed listing of these differences is found in Appendix D.



7.5 Recommendations

The recommendations below were first identified in the 2017 Asset Management Plan. Beneath each recommendation is an explanation detailing the Town of Erin approach for implementation.

- 1) Primarily assessed data indicates a backlog of \$438,000 and 5-year replacement needs of \$229,000. The Town should integrate a risk management framework with its OSIM condition assessment programs to prioritize bridges & culverts capital projects within the short- and long-term budget.

OSIM Inspections were performed in 2019 and the data from these reports is utilized in the development of the 2020 Capital Budget and long-term forecast.

- 2) Bridge and culvert structure key performance indicators should be established and tracked annually as part of an overall level of service model.
- 3) The town is funding 82% of its long-term requirement for its bridges and culverts on an annual basis.

Based on the updated financial profile bridges & culverts are fully funded.

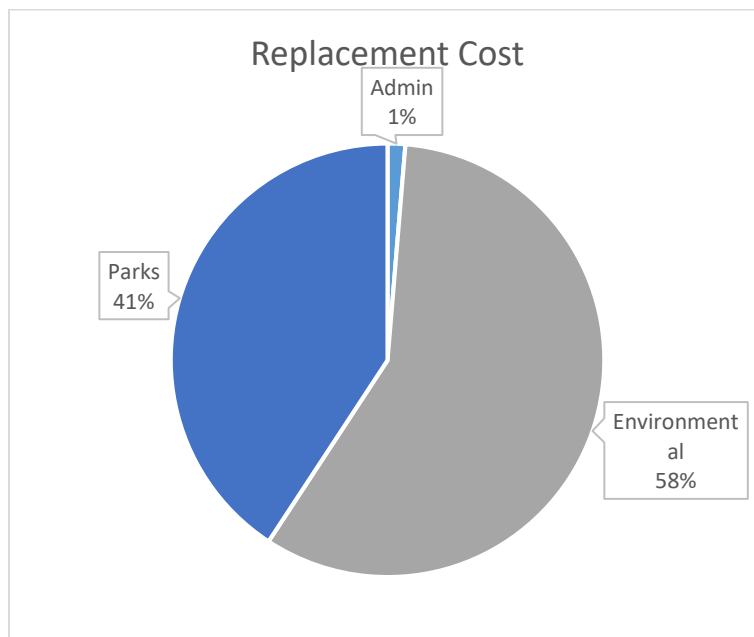
8.0 Land Improvements

8.1 Asset Portfolio: Quantity, Useful Life, & Replacement Cost

The table below illustrates key asset attributes for the Town’s Land Improvements, which include parks, tennis courts, playground equipment, and other items. The table outlines quantities, useful life, replacement cost, and the valuation method by which the replacement costs were derived. In total, the Town’s land improvement assets are valued at \$2.97 million based on 2018 replacement costs.

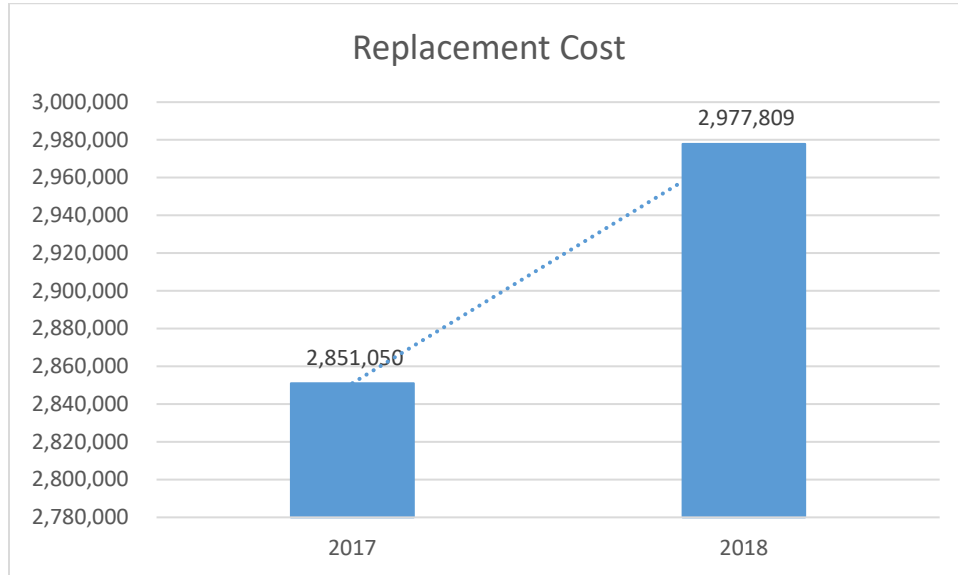
Component	QTY	Useful Life (years)	Valuation Method	Replacement Cost	
				2017	2018
Admin	2	10	CPI Monthly (ON)	38,705	39,285
Environmental - Water	1	15	CPI Monthly (ON)	1,699,546	1,725,065
Parks	18	10,20	CPI Monthly (ON)	1,112,799	1,213,459
TOTAL				2,851,050	2,977,809

The majority of Land Improvement replacement cost is comprised of Environmental and Parks in the Town of Erin:



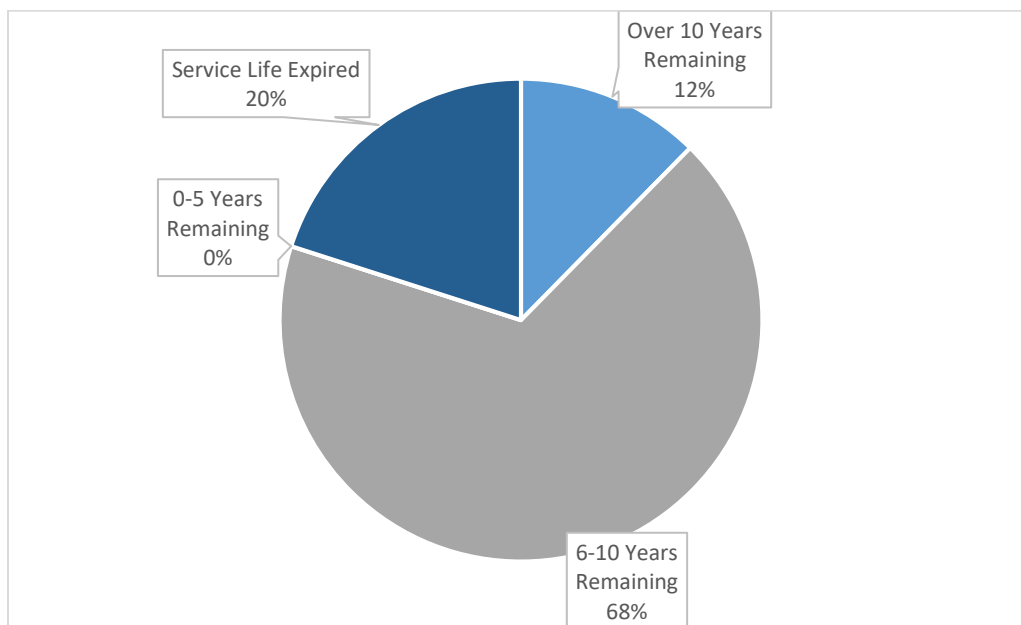
Replacement cost has risen 4.4% from 2017 to 2018. This is a combination of inflationary increases and the addition of the following Land Improvement assets in 2018 that totalled to \$84,000:

- 1) Asset #913 – McMillan Park Revitalization
- 2) Asset #914 – Barbour Field Septic System

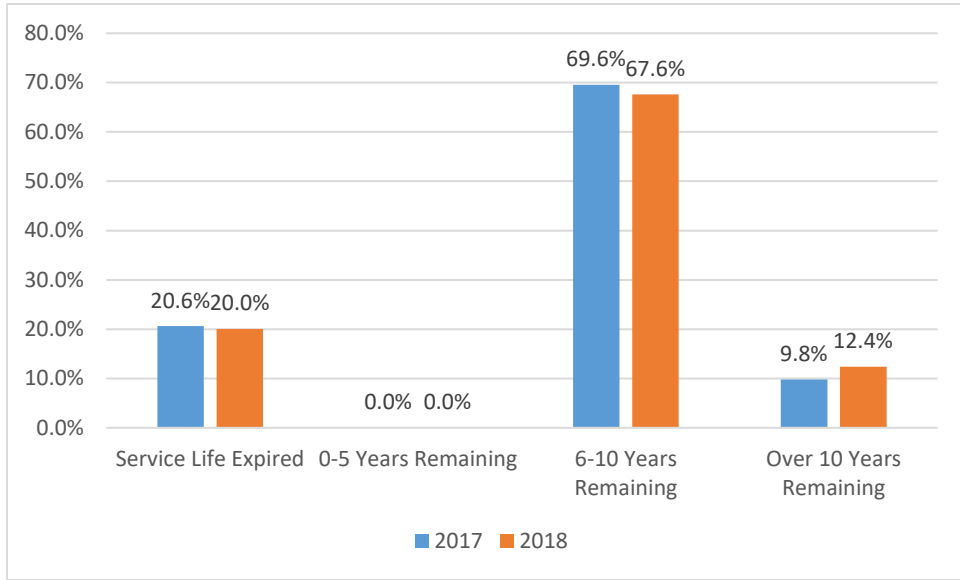


8.2 Useful Life Consumption

Understanding the consumption rate of assets based on industry established useful life standards provides a more complete profile of the state of a community’s infrastructure. The figure below illustrates the useful life consumption levels as of 2018 for the Town’s Land Improvements.

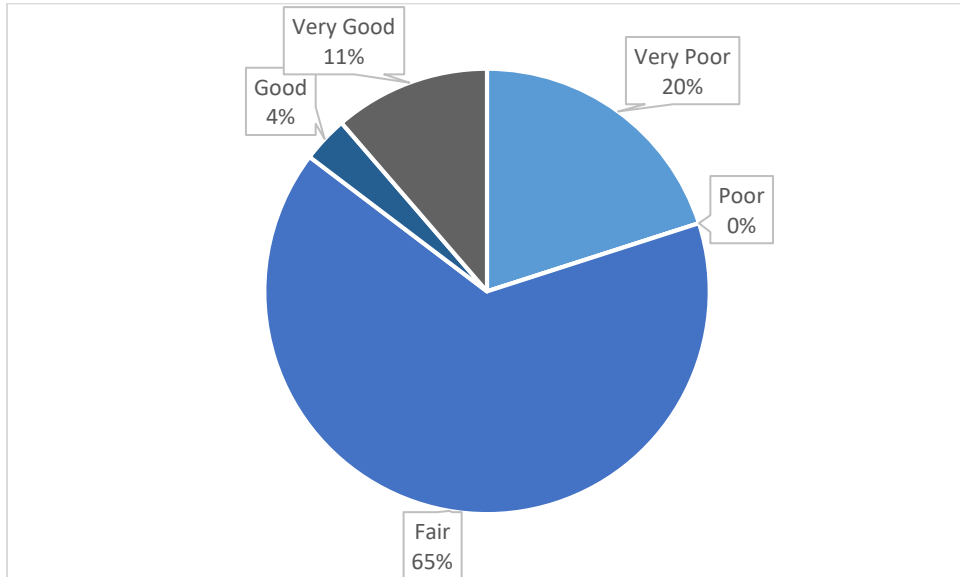


A comparison of service life remaining between 2017 and 2018 is below:



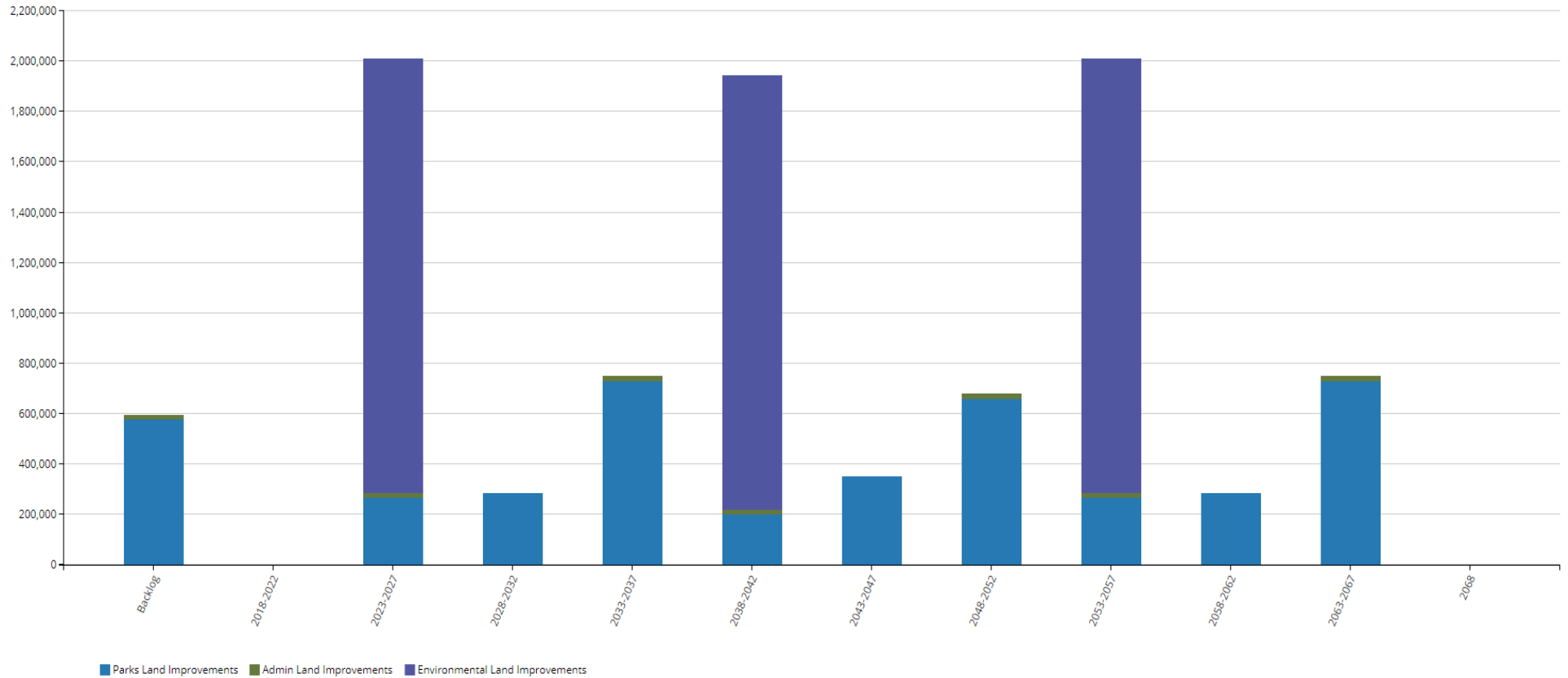
8.3 Asset Condition

Using replacement cost, in this section, we summarize the condition of the Town’s Land Improvement assets as of 2018. The Town does not have a mechanism for tracking asset condition so age-based data is used as a proxy.



8.4 Forecasting Future Replacement Needs

In this section, the short-, medium- and long-term infrastructure spending requirements (replacement only) for the Town's Land Improvement assets are illustrated. The backlog is the aggregate investment in infrastructure that was deferred over previous years or decades. In the absence of observed data, the backlog represents the value of assets that remain in operation beyond their useful life.



8.5 Recommendations

The recommendations below were identified in the 2017 Asset Management Plan. Beneath each recommendation is an explanation detailing the Town of Erin approach for implementation.

- 1) The Town should start a condition assessment program for its land improvement assets to precisely estimate financial needs.
Staff annually inspect playgrounds and trails.
- 2) The data collected through condition assessment programs should be integrated into a risk management framework which will guide prioritization of short-, medium-, and long-term replacement needs.
Staff researched the cost of having formal assessments and recommended that it was too high cost. Staff are formally trained in inspecting playgrounds to meet provincial requirements and perform repairs as needed.
- 3) Using the above information, the Town should assess its short-, medium-, and long-term capital and operations and maintenance needs.
The Parks, Recreations and Culture Masterplan provided the Town with a long-term plan.
- 4) An appropriate percentage of the replacement costs should then be allocated to the Towns' operating and maintenance requirements.
At this time, the Town will attend to immediate needs and will follow the recommendations in the Parks, Recreations and Culture Masterplan.
- 5) The town is funding 11% of its long-term requirement for its land improvements on an annual basis.
An amount is set aside annually to address immediate needs in land improvements assets.

Appendix A – Vehicle Listing

Roads Vehicles

Vehicle Type	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Mileage, 2018	Hours, 2018	Replacement Cost
Vehicle Licensed	International Paystar 5500 2005, Plate:5628ZD	1/1/2005	198,612.96	198,612.96	-	304,673	13,629	255,495.00
	International 7600 SBA 2010, Water Tank, Sander, Reversible Plow, Plate:5446YW	1/1/2005	245,317.53	196,170.07	49,147.46	158,656	7,843	315,575.00
	International 7600 Tandem Plow 2012, Plate:AB39582	1/1/2012	225,919.79	158,085.87	67,833.92	161,000	-	253,270.00
	Ford F450 2015 4X4 1 Ton Pickup with dump box, Plate:AJ14423	1/1/2014	66,089.70	33,026.00	33,063.70	-	-	72,468.00
	GMC Sierra Pickup 2014, Plate:AH81852	1/1/2014	30,472.42	15,227.52	15,244.90	122,870	-	33,413.00
	Dodge Ram 2500 Pickup 2015, Plate:AL46686	1/1/2015	38,794.43	15,506.40	23,288.03	106,633	-	41,860.00
	International 7000 Series 7600 2007, Plate:3361VC	1/1/2007	197,012.41	118,177.49	78,834.92	293,117	13,117	245,268.00
	Chev Silverado 4x4 Pickup, Plate:AF38834	12/31/2018	26,298.91	13,141.95	13,156.96	85,998	-	28,837.00
Vehicle Unlicensed	Chevrolet Express Cube Van 2007, Plate:2684TL	1/1/2018	42,626.52	42,626.52	-	111,650	-	53,263.00
	Bandit Brush Chipper	1/1/2009	41,648.82	41,648.82	-	-	577	50,097.00
	Excavator - Hydraulic Thumb	1/1/2011	9,679.92	7,741.73	1,938.19	-	-	11,110.00
	Rolloff Bins x 2	1/1/2011	10,369.35	8,293.12	2,076.23	-	-	11,901.00
	Roadside mower H6740	1/1/2011	9,107.77	7,284.14	1,823.63	-	-	10,453.00
	John Deere Grader 2012	1/1/2013	324,162.53	194,408.76	129,753.77	-	3,857	361,309.00
	Roller / Gravel Packer 8' drum	1/1/2013	18,316.81	10,985.07	7,331.74	-	-	20,416.00
	Gravel packer / roller	1/1/2014	13,127.05	6,559.78	6,567.27	-	-	14,394.00
	John Deere Grader 870 GP2014	1/1/2014	361,778.51	180,786.08	180,992.43	-	5,460	396,695.00
	Volvo Motor Grader G976 2015	1/1/2017	313,962.43	62,696.98	251,265.45	-	1,017	324,524.00
	New Holland 4WD Tractor T6050	1/1/2009	97,526.16	81,251.10	16,275.06	-	3,388	117,309.00
	Trackless - attachments 2006	1/1/2007	11,192.04	8,951.99	2,240.05	-	-	13,933.00
	Sidewalk Machine Trackless	1/1/2016	121,603.20	24,298.76	97,304.44	-	7,066	128,644.00
	Caterpillar 314CR Excavator 2005	1/1/2005	170,974.80	119,657.28	51,317.52	-	6,635	219,941.00
	Thompson Steamer	1/1/2009	12,236.93	6,116.56	6,120.37	-	-	14,719.00
	Case Wheel Loader 621FXT	1/1/2016	209,269.44	31,356.59	177,912.85	-	4,576	221,387.00
	Road Shoulder Reclaimer	1/1/2018	15,244.48	1,524.45	13,720.03	-	-	15,473.00
Roads Trailer	Float King Tandem 24 ton 2007	1/1/2006	26,082.00	22,601.01	3,480.99	-	-	32,590.00
			2,837,426.91	1,606,736.99	1,230,689.92	1,344,597.00	67,165.00	3,264,344.00

Fire Vehicles

Vehicle Type	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Mileage, 2018	Hours, 2018	Replacement Cost
Fire Vehicle Licensed	Freightliner Dependable Pumper, P12, 750 Gallon Water Tank, Plate:7800LK	1/1/2003	288,237.73	230,550.72	57,687.01			382,431.00
	Freightliner Dependable Pumper, P52, 750 Gallon Water Tank, Plate:9035JY	1/1/2000	267,273.16	253,886.64	13,386.53			387,718.00
	Freightliner C-Max Rescue Van, R55, Plate:YK7267	1/1/1994	187,769.00	187,769.00	-			298,312.00
	Freightliner Metalfab Tanker, T17, 2300 Gallon Water Tank, Plate YK7296	1/1/1994	225,323.00	225,323.00	-			357,975.00
	GMC Sentinel Rescue Van, R15, Plate:JB1816	1/1/1992	184,617.00	184,617.00	-			302,548.00
	International Dependable Tanker, T57, 1500 Gallon Water Tank, Plate:DK4960	1/1/1990	210,770.00	210,770.00	-			369,121.00
	Chevrolet Fire Pumper, P11, 500 Gallon Water Tank, Plate:NH8479	1/1/1985	190,161.00	190,161.00	-			423,555.00
	Freightliner C-Max Tanker, T17, 1500 Gallon Water Tank, Plate:3875WN	1/1/2008	369,125.80	202,962.35	166,163.45			450,007.00
Spartan Dependable Pumper Rescue Truck, P51, Plate:AD20464	1/1/2012	408,699.80	142,980.00	265,719.81			458,178.00	
Fire Trailer	Moritz 6x12 Tilt Black 2015	1/1/2015	4,216.09	1,123.54	3,092.55			4,549.00
Fire Vehicle Unlicensed	Kubota ATV TV-X1120D	1/1/2015	21,524.11	8,603.32	12,920.79			23,225.00
			2,357,716.69	1,838,746.56	518,970.13	-	-	3,457,619.00

Building Vehicles

Vehicle Type	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Mileage, 2018	Hours, 2018	Replacement Cost
Building Vehicle Licensed	Ford F150 Pickup 2013 Red Crew Cab, Unit:101, Plate:AD24409	12/31/2018	36,185.33	25,320.43	10,864.90			40,566.00
			36,185.33	25,320.43	10,864.90	-	-	40,566.00

Parks Vehicles

Vehicle Type	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Mileage, 2018	Hours, 2018	Replacement Cost
Parks Vehicle Licensed	Dodge Ram Pickup 1500 RTR, Plate:AP67444	1/1/2016	29,444.00	8,824.38	20,619.62			31,149.00
	2017 GMC Savana Cargo Van RWD 2500 135"	1/1/2018	30,199.90	6,030.79	24,169.11			31,216.00
	GMC Siera Pickup 2015, Plate:AL62085	1/1/2018	51,359.11	20,528.57	30,830.54			55,417.00
			111,003.01	35,383.74	75,619.27	-	-	117,782.00

Appendix B – Machinery & Equipment Listing

Administration

Category	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Computer Software	Keystone Software 2016	1/1/2016	41,343	24,787	16,556	43,737
Computers & Equipment	Computer Upgrades Pooled 2010	1/1/2010	49,568	49,568	-	58,529
	Computer Upgrades Pooled 2011	1/1/2011	19,714	19,714	-	22,626
	Desktops x 6 2012	1/1/2012	5,465	5,465	-	6,127
	Colour Digital Copier	1/1/2012	10,116	10,116	-	11,341
	Desktops x 6 2013	1/1/2013	8,516	8,510	6	9,492
	Servers x 3, rack mounted	1/1/2013	24,416	24,400	17	27,214
	Network Server upgrade	1/1/2014	7,408	7,408	-	8,123
	Audio-Visual System- Council Chambers	1/1/2014	14,926	14,926	-	16,367
	Storage Area Network SAN	1/1/2016	35,707	21,408	14,299	37,775
	Hardware Upgrades	1/1/2017	20,672	8,258	12,414	21,368
	Security Cameras, Access Control	1/1/2017	15,884	6,345	9,539	16,418
	LED Entrance Sign	1/1/2017	25,756	10,289	15,467	26,622
	Telephone system	1/1/2018	25,169	5,034	20,135	25,547
	Municipal building Security	1/1/2018	20,098	4,020	16,078	20,400
Server Room A/C	1/1/2018	2,193	439	1,754	2,225	
			326,951	220,686	106,265	353,911

Building

Category	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Computer Software	Keystone Software 2010	1/1/2010	18,061	18,061	-	21,326
Computers & Equipment	Monitor, Adapter, Keystone Upgrade	1/1/2011	1,033	1,033	-	1,186
			19,094	19,094	-	22,512

Fire

Category	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Fire Equipment	Fire Pagers	1/1/2008	1,117	1,117	-	1,361
	Fire Pagers	1/1/2007	18,426	18,426	-	22,939
	Fire Pagers	1/1/2006	16,654	16,654	-	20,809
	Fire Pagers	1/1/2011	4,771	4,771	-	5,475
	Radio System Mobile XPR5550	1/1/2016	84,568	50,702	33,866	89,465
	Thermal Cameras	1/1/2009	21,051	21,051	-	25,322
	Defibrillators (AED)	1/1/2004	18,883	18,883	-	24,690
	Hurst Hydraulic Pump	1/1/2015	11,189	4,472	6,716	12,073
	Dress Uniforms x 9	1/1/2008	4,449	4,447	2	5,424
	Dress Uniforms x 11	1/1/2007	5,346	5,346	-	6,655
	Dress Uniforms x 14	1/1/2006	6,676	6,676	-	8,341
	Dress Uniforms x 10	1/1/2005	4,692	4,692	-	6,036
	Dress Uniforms x 10	1/1/2004	4,606	4,606	-	6,023
	Protective Equipment x 7	1/1/2008	14,547	14,542	5	17,735
	Protective Equipment x 7	1/1/2007	14,301	14,301	-	17,804
	Protective Equipment x 7	1/1/2006	14,033	14,033	-	17,534
	Protective Equipment x 7	1/1/2005	13,809	13,809	-	17,764
	Protective Equipment x 15	1/1/2004	29,048	29,048	-	37,982
	Protective Equipment x 20	1/1/2003	38,120	38,120	-	50,578
	Breathing Apparatus SCBA	1/1/2016	266,793	53,311	213,483	282,242
	Command Lights	1/1/2006	28,700	18,651	10,049	35,862
	Extrication Equipment - H. Pumps	1/1/2005	56,673	39,663	17,010	72,904
	Extrication Equipment - Jaws	1/1/2003	25,920	20,732	5,188	34,390
	Extrication Equipment - Cutters	1/1/2003	26,568	21,251	5,317	35,250
	Extrication Equipment - Rams	1/1/2003	25,272	20,214	5,058	33,531
	Portable Pumps	1/1/2008	15,500	8,523	6,977	18,896
	Portable Pumps	1/1/2004	4,750	3,562	1,188	6,211
	Portable Pumps	1/1/1995	15,000	15,000	-	23,609
	Portable Pumps	1/1/1985	7,500	7,500	-	16,705
	Generators	1/1/2008	5,335	2,933	2,402	6,504
	Generators	1/1/1995	12,725	12,725	-	20,028
	Generators	1/1/1985	1,700	1,700	-	3,786
	SCBA Compressors	1/1/2009	48,886	24,436	24,451	58,803
	Emergency Plan - Generators	1/1/2009	86,352	43,163	43,189	103,868
Bunker Gear Racks	1/1/2012	15,749	5,510	10,239	17,655	
Generator 50kw Diesel	1/1/2016	37,763	5,658	32,104	39,949	
Radio System Multi Site	1/1/2018	89,153	17,831	71,322	90,491	
Extrication Equipment - Cutters	1/1/2018	33,204	1,660	31,544	33,703	
			1,129,828	609,718	520,110	1,328,397

Parks & Recreation

Category	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Parks Equipment	ECC - Score Clock	1/1/2007	10,704	10,704	-	13,326
	HCC - Score Clock	1/1/1999	8,791	8,791	-	13,061
	Centre 2000 - Projector	1/1/2002	62,832	62,832	-	86,949
	Tractor Mower John Deere 1445 Series 2 4WD with 72" Front Mower	1/1/2012	14,990	10,489	4,501	16,805
	New Holland Compact Tractor TZ18 + 60" Mower Deck MC60 + Loader 10LA	1/1/2007	15,984	12,785	3,199	19,899
	HCC - Olympia	1/1/2004	71,181	71,181	-	93,072
	Kubota Tractor F3680 + Mower Deck, rear discharge RCK72RF36	1/1/2008	19,494	14,293	5,201	23,765
	ECC - Zamboni	1/1/2009	83,681	55,773	27,907	100,655
	ECC - Replace 50 HP Compressor	1/1/2010	57,052	25,664	31,388	67,366
	Desuperheater - Burnside Report	1/1/2017	27,915	2,787	25,128	28,854
Replace 30hp Compressor #2 ECC	1/1/2017	32,071	3,202	28,869	33,150	
			404,695	278,502	126,193	496,902

Roads

Category	Name	In-Service Date	Historical Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Roads Equipment	Fuel Management System	1/1/2010	22,983	20,680	2,302	27,137
	Snow Plough blade 8.5	1/1/2018	9,871	2,958	6,912	10,442
			32,853	23,639	9,215	37,579

Appendix C – Buildings & Facilities Listing

Erin Community Centre

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Centre 2000 - Expansion	1/1/2000	2,163,342.34	1,027,410.93	1,135,931.41	3,138,239.00
Centre 2000 Community Centre	1/1/1975	652,655.81	652,655.81	-	3,213,154.00
Centre 2000 - Arena	1/1/1975	957,985.71	957,985.71	-	4,637,206.00
Centre 2000 - Arena expansion project	1/1/2011	1,215,097.28	242,918.64	972,178.64	1,394,577.00
Sewage Flow Meter	1/1/2012	21,170.00	7,406.14	13,763.86	23,733.00
ECC - Rooftop HVAC Units	1/1/2017	23,795.00	2,375.64	21,419.36	24,595.00
ECC - Replace Rubber Flooring	1/1/2017	29,360.00	2,931.24	26,428.76	30,348.00
Erin Community Centre		5,063,406.14	2,893,684.12	2,169,722.02	12,461,852.00

Hillsburgh Community Centre

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Hillsburgh Community Centre	1/1/1975	712,233.85	712,233.85	-	3,467,877.00
HCC - ice surface floor replacement	1/1/2000	198,864.96	188,904.70	9,960.26	288,482.00
HCC - refrigeration system replacement	1/1/2001	294,093.02	264,650.17	29,442.85	412,035.00
HCC - lobby flooring	1/1/2002	23,266.00	19,773.12	3,492.89	32,196.00
HCC - Roof Replacement (Betterment)	1/1/2010	33,990.00	15,290.17	18,699.84	40,135.00
HCC - Lobby & Dressing Room flooring R	1/1/2011	25,398.68	10,155.46	15,243.22	29,150.00
HCC Dasher Board Replacement	1/1/2015	130,280.62	26,035.14	104,245.48	140,574.00
Condenser Evaporative HCC	1/1/2016	49,391.50	7,400.74	41,990.76	52,251.00
Accessibility Renovations	1/1/2016	11,200.00	1,678.19	9,521.81	11,849.00
HCC - Rooftop HVAC Unit	1/1/2017	8,995.00	898.04	8,096.96	9,298.00
HCC - Ice surface lighting	1/1/2017	10,969.57	1,095.18	9,874.39	11,339.00
Hillsburgh Community Centre		1,498,683.20	1,248,114.75	250,568.45	4,495,186.00

Ballinafad Community Centre

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Ballinafad Community Centre	1/1/1975	63,581.50	66,760.57	(3,179.07)	307,771.00
Ballinafad Community Centre	1/1/1987	139,707.35	111,755.25	27,952.10	285,324.00
Ballinafad Community Centre		203,288.85	178,515.82	24,773.03	593,095.00

Parks Buildings

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Victoria Park: booth	1/1/1975	24,242.40	25,454.52	(1,212.12)	117,347.00
Barbour Field: booth, pavillion	1/1/1997	74,665.00	41,059.70	33,605.30	112,916.00
McMillan Park Pavillion	1/1/2009	155,569.73	38,879.55	116,690.18	187,127.00
Washrooms at Victoria Park	1/1/2011	14,634.36	3,016.20	11,618.16	16,796.00
Parks Buildings		269,111.49	108,409.97	160,701.52	434,186.00

Roads Shops

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Roads Shop	1/1/1992	84,893.82	57,296.58	27,597.24	139,123.00
Roads Shop Roof	1/1/2018	64,138.23	1,603.46	62,534.77	65,101.00
Sand Dome	1/1/1983	249,677.05	154,611.98	95,065.07	519,328.00
Equipment Depot	1/1/1992	434,518.31	293,265.33	141,252.98	712,083.00
Salt Storage Structure	1/1/2017	29,845.63	1,489.80	28,355.83	30,850.00
Roads Shop Vehicle Exhaust System	1/1/2016	32,463.48	4,864.27	27,599.21	34,343.00
	Roads Shop	895,536.52	513,131.43	382,405.09	1,500,828.00

Municipal Office

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Municipal Office	1/1/1994	511,039.54	319,358.73	191,680.81	811,898.00
Municipal Office - Basement Offices	1/1/1999	36,680.99	18,337.51	18,343.48	54,497.00
Municipal Office Renovations	1/1/2018	148,850.46	3,721.26	145,129.20	151,085.00
	Municipal Office	696,570.99	341,417.51	355,153.48	1,017,480.00

Hillsburgh Fire Hall

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Hillsburgh Fire Station 50	1/1/2014	2,511,141.95	313,683.87	2,197,458.08	2,753,499.00
Rooftop Solar MicroFit	1/1/2015	26,966.40	5,388.94	21,577.46	29,097.00
	Hillsburgh Fire Station	2,538,108.35	319,072.81	2,219,035.54	2,782,596.00

Erin Fire Hall

	In-Service Date	Cost	Accumulated Amortization	Net Book Value	Replacement Cost
Erin Fire Station 10	1/1/1985	287,884.32	244,680.57	43,203.75	641,218.00
	Erin Fire Station	287,884.32	244,680.57	43,203.75	641,218.00

Appendix D – Bridge & Culvert 10-Year Needs

	CityWide					2019 OSIM				
	Activity	Backlog	2018-2022	2023-2027	10-Year Total	Activity	Within 1 Year	1 - 5 Years	6 - 10 Years	10-Year Total
Bridge 2	Replacement				-	Rehabilitate	234,500	-	-	234,500
Bridge 5	Replacement	-	-	-	-	Replace	913,500	-	-	913,500
Bridge 6	Replacement	-	-	-	-	Rehabilitate	450,500	-	-	450,500
Bridge 9	Replacement	-	-	-	-	Rehabilitate	410,000	-	-	410,000
Bridge 11	Replacement	-	-	-	-	Replace	1,100,000	-	-	1,100,000
Bridge 15	Replacement	-	-	-	-	Rehabilitate	-	310,000	-	310,000
Bridge 2064	Replacement	193,790	-	-	193,790					-
Culvert 13	Replacement	-	-	-	-	Rehabilitate	-	220,000	-	220,000
Culvert 14	Replacement	-	-	-	-	Rehabilitate	-	174,000	-	174,000
Culvert 2011	Replacement	-	-	-	-	Rehabilitate	-	-	195,000	195,000
Culvert 2018	Replacement	-	-	-	-	Replace	-	673,500	-	673,500
Culvert 2027	Replacement	107,628	-	-	107,628	Replace	-	-	613,500	613,500
Culvert 2033	Replacement	-	-	-	-	Replace	-	-	673,500	673,500
Culvert 2051	Replacement	-	-	-	-	Rehabilitate	126,000	-	-	126,000
Culvert 2052	Replacement	-	-	-	-	Rehabilitate	172,000	-	-	172,000
Culvert 2053	Replacement	-	-	-	-	Replace	-	673,500	-	673,500
Culvert 2057	Replacement	-	-	-	-	Replace	-	-	553,500	553,500
Culvert 2059	Replacement	-	-	-	-	Replace	594,500	-	-	594,500
Culvert 2060	Replacement	-	-	-	-	Replace	-	-	553,500	553,500
Culvert 2066	Replacement	-	233,021	-	233,021	Rehabilitate	-	185,000	-	185,000
Culvert 2068	Replacement	143,946	-	-	143,946	Replace	-	-	-	-
Culvert 2072	Replacement	-	-	-	-	Rehabilitate	348,000	-	-	348,000
Culvert 16	Replacement	-	-	-	-	Rehabilitate	-	163,000	-	163,000
Culvert 10	Replacement	-	-	-	-	Replace	-	834,500	-	834,500
		445,364	233,021	-	678,385		4,349,000	3,233,500	2,589,000	10,171,500

Appendix E – Funding (Scenario 1)

WITH CAPTURING CHANGES																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Annual Funding Deficit	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513	2,038,513
Less: Decrease in debt payments	-3,511	-3,596	-13,690	-171,059	-171,279	-198,614	-218,676	-332,184	-332,097	-332,176	-332,388	-331,737	-332,215	-331,838	-332,597	-332,418	-332,379	-432,483	-432,483	-432,483
Less: OCIF Increase	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000
Net Annual Funding deficit	2,034,002	2,033,918	2,023,823	1,866,454	1,866,234	1,838,899	1,818,837	1,705,329	1,705,417	1,705,338	1,705,126	1,705,777	1,705,299	1,705,676	1,704,917	1,705,086	1,705,185	1,605,031	1,605,031	1,605,031

Tax Levy Summary (Capturing Changes)																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Prior Year Levy	7,024,245	7,096,751	7,170,005	7,244,016	7,318,791	7,394,337	7,470,663	7,547,777	7,625,687	7,704,402	7,783,928	7,864,276	7,945,453	8,027,468	8,110,330	8,194,047	8,278,628	8,364,082	8,450,418	8,537,645
Increase (at the 1.0%)	72,506	73,254	74,011	74,775	75,546	76,326	77,114	77,910	78,714	79,527	80,348	81,177	82,015	82,862	83,717	84,581	85,454	86,336	87,227	88,128
	7,096,751	7,170,005	7,244,016	7,318,791	7,394,337	7,470,663	7,547,777	7,625,687	7,704,402	7,783,928	7,864,276	7,945,453	8,027,468	8,110,330	8,194,047	8,278,628	8,364,082	8,450,418	8,537,645	8,625,773
Increase Dedicated to AMP	72,506	145,760	219,771	294,546	370,092	446,418	523,532	601,442	680,157	759,683	840,031	921,208	1,003,223	1,086,085	1,169,802	1,254,383	1,339,837	1,426,173	1,513,400	1,601,528
Annual Funding Deficit	-1,961,496	-1,888,157	-1,804,052	-1,571,909	-1,498,142	-1,392,481	-1,295,305	-1,103,887	-1,025,260	-945,654	-865,095	-784,569	-702,076	-619,591	-535,115	-450,713	-365,298	-178,858	-91,631	-3,503

Percentage Funded by Year																				
Year ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Annual Average Investment Required	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088	4,078,088
Funding Available:																				
2019 Funding	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575	2,039,575
OCIF Increase	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Debt Payment Decrease	3,511	3,596	13,690	171,059	171,279	198,614	218,676	332,184	332,097	332,176	332,388	331,737	332,215	331,838	332,597	332,418	332,379	432,483	432,483	432,483
Tax Levy Increase Required (1%)	72,506	145,760	219,771	294,546	370,092	446,418	523,532	601,442	680,157	759,683	840,031	921,208	1,003,223	1,086,085	1,169,802	1,254,383	1,339,837	1,426,173	1,513,400	1,601,528
Total Funding	2,116,592	2,189,931	2,274,036	2,506,180	2,581,947	2,685,608	2,782,784	2,974,202	3,052,828	3,132,434	3,212,994	3,293,520	3,376,013	3,458,497	3,542,973	3,627,375	3,712,790	3,899,230	3,986,458	4,074,586
Percentage Funded	52%	54%	56%	61%	63%	66%	68%	73%	75%	77%	79%	81%	83%	85%	87%	89%	91%	96%	98%	100%