Municipality of Neebing

Asset Management Plan

2020

Asset Management Plan 2020

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2020

Project No.: 19P-00176-00
Date: 25 September 2020

WSP

wsp.com

September 25, 2020

Final

Municipality of Neebing
4766 Highway 61,
Neebing ON,
P7L 0B5

Attention: Erika Kromm, Treasurer/Deputy Clerk

Dear Madam:

Subject: Draft Asset Management Plan

A final version of the asset management plan for all infrastructure assets owned by the Corporation of the Municipality of Neebing is attached.

The plan is compliant with the Ontario Regulations for Asset Management (O.Reg.558/17), the Association of Municipalities Ontario (AMO) Gas Tax Program, and the Development Charges Act. As appropriate, we have addressed all comments previously provided and where relevant information is available.

Yours sincerely,

Karen Robichaud
Project Manager

Encl.
WSP ref.: 19P-00176-00

Revision History

FIRST ISSUE

Aug 8, 2020	Final AMP Document	
Prepared by	Reviewed by	Approved By
Karen Robichaud Bernadette O'Connor	Martin Gordon	Martin Gordon

FINAL ISSUE

Sep 24, 2020	Final AMP Document	
Prepared by	Reviewed by	Approved By
Karen Robichaud Bernadette O'Connor	Martin Gordon	Martin Gordon

Signature

Approved[1] by

 Karen Robichaud, Project Manager	September 24, 2020 Date

[1] Approval of this document is an administrative function indicating readiness for release and does not impart legal liability on to the Approver for any technical content contained herein. Technical accuracy and fit-for-purpose of this content is obtained through the review process. The Approver shall ensure the applicable review process has occurred prior to signing the document.

Contributors

MUNICIPALITY OF NEEBING

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WSP

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1 Introduction

1.1 Purpose of this plan

This asset management plan (AMP) outlines the activities, estimated costs and timelines required for operating, maintaining, and renewing The Municipality of Neebing's infrastructure assets for the 10-year period from 2020 to 2029. The plan demonstrates the assets are being managed in a cost-effective way for present and future users by showing:

- Compliance with regulatory requirements including the *Ontario Regulation 588/17 for Asset Management Planning for Municipal Infrastructure* and the Federal gas tax agreement;
- The levels of service that will be provided to the community through its assets;
- A 10-year plan has been developed to maintain and replace assets as required to meet these levels of service; and
- The funding needed over a 10-year planning period to do this required work.

The Municipality of Neebing (Neebing) manages assets with an approximate value of $175.8M. The assets support the delivery of transportation, recreational, parks, solid waste, fire protection, and government services to the community of 2,100 residents.

These services and the infrastructure assets that support them are important for Neebing to achieve its vision of:

> Valuing the natural beauty of our community and our unique quality of life, respecting our heritage and recognizing our diversity

Over the last four years, the Neebing's average budget for managing assets has been $749,000. The AMP will guide infrastructure investment decisions for the next 10 years. Investment decisions will be based on achieving strategic goals while minimizing asset life-cycle costs and risks.

Table 1: Neebing - Portfolio Summary of Asset Value

Asset Group / Class	Asset Value	Current Replacement Cost	30 yr Avg Annual Renewal Costs
Transportation			
Class 5 Highway Sealed Surface	$14,931,100	$14,931,100	$1,461,200
Class 6 Highway Sealed Surface	$922,891	$922,891	$92,300
Class 5 Highway Base	$23,258,379		$0
Class 6 Highway Base	$1,437,604		$0
Class 5 Highway Gravel	$8,574,281		$0
Class 6 Highway Gravel	$95,436,466		$0
Roads (Sub-Total)	**$144,560,721**	**$15,853,991**	**$1,553,500**
Drainage	$4,070,799	$4,070,799	$47,070
Bridge	$7,000,000	$7,000,000	$150,010
Major Culverts	$875,000	$875,000	$0
TS Buildings & Site Assets	$2,956,679	$2,956,679	$64,330
Transportation Fleet	$1,887,600	$1,887,600	$103,080
TS Equipment	$2,533,667	$2,533,667	$138,180
Transportation (Total)	**$163,884,466**	**$35,177,736**	**$2,056,170**
Community Services	$1,023,734	$1,023,734	$51,260
Environmental Services	$123,678	$123,678	$3,850
Emergency Services	$7,426,062	$7,426,062	$281,810
Corporate Services	$3,372,957	$3,372,957	$26,960
TOTAL	$175,830,897	$47,124,167	$2,420,050
TOTAL	**$175,830,900**	**$47,124,200**	**$2,420,050**

2 AMP context

2.1 Community overview

The Municipality of Neebing is located within the District of Thunder Bay in Northwestern Ontario. It is comprised of the geographic townships of Blake, Crooks, Pardee, Pearson and Scoble and has a land area of 88,800 hectares. It is governed by an elected council of 7 members who serve a 4-year term: the Mayor, 5 Councillors, representing each township, and 1 Councillor at Large. Together, they provide municipal representation for all citizens.

Neebing is south of the City of Thunder Bay along the shore of Lake Superior extending to the border between Canada and the United States at Grand Portage, Minnesota. Highway 61 connects Neebing with the City of Thunder Bay and the United States and is a major highway that traverses through the municipality in a north/south direction. A number of islands within Lake Superior are also located within the municipal boundary of Neebing.

Land uses in Neebing are rural in nature consisting primarily of rural residential, agricultural, forestry, and recreational. Commercial and industrial uses are primarily in the form of home occupations and industries within a largely undeveloped rural area. These home-based businesses are an important component of Neebing's economy. Economic growth in the municipality is required to increase the tax base and lessen Neebing's reliance on Thunder Bay's economy.

Neebing offers residents wide open spaces, slower paced lifestyle, and room to roam with both freedom and privacy. The cost of living is generally lower and many Neebing residents have lived in Neebing for generations.

The area also offers many outdoors activities to both residents and visitors, such as hiking, canoeing, fishing, and boating.

2.2 Municipal services and corporate structure

The municipality provides the following services:

- Road transportation;
- Community services including parks, sport fields, playgrounds, a rink, and a cemetery;
- Solid waste services;
- Fire protection; and
- Community administrative services.

Water supply and sewerage disposal are the responsibilities of individual property owners. The source of water supply is primarily from private individual wells. Private individual septic tanks and tile field systems are the primary means of sewage disposal in the municipality.

Table 2 shows the organizational structure for delivering the services, and the assets that support the services.

Table 2: Neebing's service areas and supporting infrastructure assets

Service	Department and staff providing the service	Infrastructure assets supporting the service
Transportation	Public Works Department • Working Roads Foreman	• roads • signs • culverts • bridges • operational buildings • operating and maintenance vehicles, trailers and equipment
Community Services	Public Works Department • Working Roads Foreman	• park buildings • parking lots • lights • playgrounds • sports fields including fences, lights, benches • boat launches • rink
Environmental Services (Solid Waste)	Public Works Department • Working Roads Foreman	• buildings • fence • recycle bins
Emergency Services (Fire protection)	Fire Department • Fire Chief • 2 Deputy Fire Chiefs	• buildings • parking lots • vehicles • equipment
Corporate Services	Administration • Clerk – Treasurer • Deputy Clerk - Treasurer	• buildings • parking areas • IT hardware

Other points to note include;

- Neebing maintains roads under its jurisdiction.
- The Ministry of Transportation is responsible for the maintenance of the numbered highways in the municipality.
- Neebing is a party to "Boundary Road Agreements" with The Corporation of the Municipality of Oliver Paipoonge and The Corporation of the Township of Gillies.

Table lists the roadways included in the agreements.

Table 3: Roads included in Boundary Road Agreements with neighbouring corporations

Municipality of Oliver Paipoonge	Municipality of Gillies
• Boundary Drive East • Boundary Drive West • Candy Mountain Drive • McCluskey Drive	• Union School Road North • Chimo Road

In accordance with the agreements, the other party may be providing maintenance on a Municipal Highway.

2.3 Goals and objectives of asset ownership

Neebing's objectives for asset management are presented in its *Amended Strategic Asset Management Policy* approved June 5, 2019. The objective of the Asset Management Plan is:

"*to effectively manage existing and new infrastructure to maximize benefits, reduce risk, and provide safe and sustainable Levels of Service to the community*."

The plan will be regularly updated to provide an understanding of:

- The extent of the Corporation's asset inventory and replacement valuation;
- The condition of each asset in the inventory
- The financial commitments needed to operate, maintain, renew, and replace assets;
- The policies and programs required for sustainability; and
- The public and business risks associated with asset failure.

It will be referenced by municipal staff to forecast spending needs, determine progress, identify gaps and prioritize spending needs for the years to be budgeted.

Neebing's governance structure for asset management is shown in Figure 1. Additional information on roles and responsibilities for asset management are described in the asset management policy attached as Appendix A.

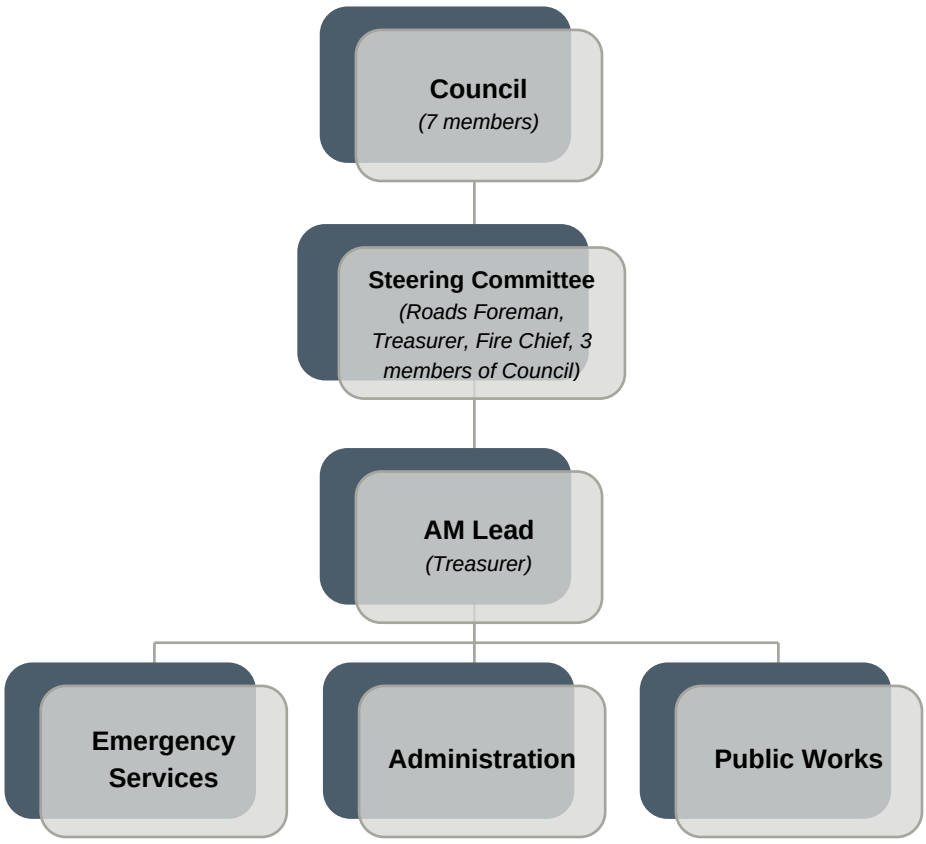


Figure 1: Asset Management Governance Structure

2.4 Demand for Neebing's services

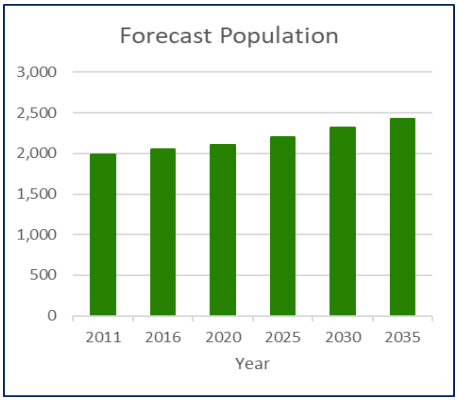
Asset management planning must consider potential future impacts on the services being delivered. This includes future population and economic growth within the municipality. The 2016 population in the Municipality of Neebing, according to census data, was 2055 persons. This was an increase of 3.5% in population since the 2011 census, representing an average annual growth rate of 0.7% per year. The low growth rate since 2011 is reflected in the population projections reported in the 2017 Official Plan.

This pattern of limited growth is expected to continue for the municipality for the next 15 years. Development constraints on creating new residential opportunities have a notable influence on expected growth. Therefore, some growth can be expected to occur as seniors leave their farmsteads for less work-intensive housing in urban settings, and young families adopt the rural lifestyle.

Table 4 presents population projections based on growth at 1% per year.

Table 4: Historical and forecasted population

Year	Population	Source
2011	1,986	census
2016	2,055	census
2020	2,100	forecast
2025	2,205	forecast
2030	2,315	forecast
2035	2,430	forecast



The low population forecast supports the following statement from Section 5.1.1 of the Official Plan (2017):

"It is not expected that there will be additional significant demands for community services or facilities above the level that presently exists."

It was assumed for the AMP that the demand on existing services will remain relatively static for the next 10 years. Consequently, no substantial growth projects will be necessary to manage increasing demand (i.e. new assets, expansion, or upgrading capacity) to maintain the current level of service during the 10-year planning period. The one exception to this would be expansion of the Sandhill Landfill that will be needed as the current facility reaches capacity.

2.5 Relationship with other municipal plans

This AMP is a tactical plan for a 10-year period. Table 5 lists other municipal plans reviewed to develop the AMP.

Table 5: Relationship between the AMP and other municipal plans

AMP Section	AMP Content	Other municipal plans and documents reviewed to develop the AMP
Section 2:	• AMP context and Neebing's strategic goals	• 2017 Official Plan • 2016-2021 Economic Development Plan. • Council's Strategic Plan.
Section 1.2:	• Governing principles and expectations for the AMP	• Strategic Asset Management Policy

AMP Section	AMP Content	Other municipal plans and documents reviewed to develop the AMP
Sections 4 to 8:	• Levels of service • Life-cycle activities for managing assets • Impact of future demand on activities	• 2017 Official Plan • Road Maintenance Policy • Emergency Services Strategic Plan • Multi Year Accessibility Plan
Section 9:	• Funding sources • Financial shortfall • Investment prioritization	• Policies and procedures governing creation and approval of the Corporation's annual budget. • Reserve Fund Policies. • User Fee Policies. • The Tangible Capital Asset Policy

2.6 Municipality of Neebing's Strategic Goals

The Municipality of Neebing is currently developing a corporate strategic plan. It requires public input before it can be finalized. The draft plan has six key themes for the current council term[2].

Table 6 lists the themes and the activities identified for each one that are relevant to the AMP.

[2] Draft Strategic Plan, 2018, Municipality of Neebing

Table 6: Strategic Plan's Themes, Objectives and Activities

Theme and Objective	Activities relevant to asset management
1. Municipal Infrastructure *Municipal infrastructure is maintained to optimize its life cycle and replaced as necessary*	• Implement asset management plan priorities as needed and affordable • Develop and implement the Road Maintenance Policy (bridges, culverts, ditching, gravel, chipseal, grading, etc.) • Extend the life of the landfill sites through: viable alternatives; new waste management techniques; increased recycling/diversion efforts • Complete the applications for expansion approvals for both Scoble and Sandhill • Seek funding to support a new Fire Hall • Finalize the Fire Strategic Plan • Optimize municipal landholdings
2. Tourism *Neebing is a known and popular tourism destination.*	• Develop at least one RV park and/or campground
3. Attracting Business / Economic Development *Expand business capacity in Neebing*	• Continue efforts to attract new business, particularly those in support of tourism uses – i.e. coffee shop, mini storage outfit, outfitters, etc..
4. Health *Neebing has Health and Related Services available to support "aging in place"*	• No asset related activities identified
5. Community and Recreation *Neebing is a community of neighbourhoods where people work together in support of recreation activities, facilities and healthy lifestyles.*	• Develop parks appropriately in communities within the Municipality (i.e. Alf Olsen Center area) • Name, maintain, and promote parks and other amenities • Approach the Province to expand the Sturgeon Bay Boat launch facility • Increase utilization of Blake Hall • Develop a solution for parking issues at West Oliver Lake
6. Governance and Administration *Neebing is managed by the right number of people with the right skills.*	• No asset related activities identified

The Official Plan guides future development and provides direction to manage change. Any public works undertaken in the municipality shall conform to the land use policies and

development constraints in the plan. Key objectives from the plan relevant to asset management include:

1. Encouraging patterns of development which facilitate the provision of local services with minimal or no impact on local finances and provides for the efficient use of land, infrastructure and public service facilities;
2. Endeavouring to preserve and enhance, where possible, the environmental quality of the area and minimize impacts of land uses on the natural environment, and to protect the integrity of ecosystems;

3 Asset Management Planning Approach

3.1 Plan Content

This section describes the content of the remainder of the asset management plan and the methodologies and assumptions used to develop it.

- Sections 4 to 8 present the following for each of Neebing's five service areas:
    1. Overview of services supported by infrastructure assets
    2. State of the infrastructure in terms of types and quantity of assets, average age, average condition, and replacement value
    3. Levels of service
    4. Lifecycle strategies
    5. Risk management
- Section 9 summarizes the lifecycle costs to operate, maintain, renew and replace existing and new assets over the 10-year planning period and compares the results to current funding sources. Forecasted shortfalls are identified and investment options are prioritized in case there is insufficient funds to cover all planned costs.
    - A subsection is provided on Investment Prioritization. Note that potential investment options for forecasted shortfalls have not been included in the lifecycle cost estimates for the existing portfolio, but that some items in the list may take precedence over renewal investment, if they have a service or strategic priority for the Municipality. The trade-off between investing in renewals versus new capital should be evaluated transparently, with consideration given to service expectations and risk. For example, expansion of the landfill may be required to allow the Municipality to continue to deliver solid waste management services independently, without reliance on neighboring facilities. Bridge closures limit network mobility for some users. Investment levels overall should be targeted to align with the long-term average renewal costs established for the portfolio as part of this plan and increased further to accommodate these new asset investments.
- Section 10 presents an AM Improvement Plan, describing opportunities for continuous improvement to the asset management program.

3.2 Register of Asset Data

A register of asset data for developing the plan was created in an Excel spreadsheet. Table 7 lists the various sources of data used to create the register. Appendix B contains additional details on the process followed and assumptions made to populate the register.

Table 7: Asset Inventory Data Sources

Asset Class	Data Sources	Comments
Roads – all functional classes	- DOT Export Roads - Road Inventory Bylaw - GIS database	- See additional notes in Appendix B on road segmentation.
Roadside Assets (signs, lights, guardrail)	- None	- No data was available on these assets
Drainage	- TCA Cont. Schedule - GIS db	- No data was available on ditches
Major Structures – Bridges and Structural Culverts	- Working Capital Assets Inventory - Bridge Inspection Reports	- Primary source was bridge inspection reports
Facilities	- Working Capital Assets Inventory - WSP Inspections - Hatch Mott MacDonald Inspections	- WSP inspectors confirmed data from the asset inventory and older inspections while assessing asset condition.
Fleet	- Working Capital Assets Inventory - By-Law Number 2016-023 - Replacement List and invoices from Neebing files	- Model data needs to be confirmed
Parks – buildings, sites, rinks, fields Cemetery – buildings and site	- WSP field data collection - Working Capital Assets Inventory	- Data from existing inventory was verified in the field by WSP during condition assessments
Equipment	- Working Capital Assets Inventory - Aug 2019 Inventory (Fire Dept.)"	- Number of following equipment types is unknown – jaws of life, hydraulic ram, air compressor - No data on bins at landfills
Hardware	- Neebing Asset Inventory Notes, Aug 23	- Security cameras included under “Other IT” asset type - No data on printers or computers

The data were organized into a hierarchical relationship starting with the service area at the top followed by service function, asset class, asset type, and asset components. An example is provided in Table 8 for Environmental Services. The hierarchy for all Neebing’s service areas and assets is included in Appendix C.

Table 8: Asset Hierarchy for the Environmental Services Area

Service Area	Service Function	Asset Class	Asset Type	Level 1 Components
Environmental Services	Solid Waste	Facilities	Buildings	— Interior — Exterior — Roof — Foundation — HVAC — Plumbing — Electrical — Septic system
			Sites	— Grounds — Signs — Driveway/Access — Fence
		Equipment	Recycle bins	— None

The assets listed in Table 9 were inspected in the field to confirm and update the data in the asset registry. The inspections were completed between October 10 and 18, 2019.

Table 9: Assets inspected in the field in October 2019

Asset Class and Type	Assets Inspected
Facilities - Buildings	- Blake Hall Building - Municipal Office (office, shed, sea can) - Municipal Garage (garage, shed, salt shed, sand shed, 2 street lights) - Old Municipal Office - Firehalls 1, 2, 3B, 4, 5, 6 - Firehall 6 helipad - Scoble Landfill (fence, 2 sheds, gate, signs) - Sandhill Landfill (sign, fence with gates, 3 sheds, 3 jersey barriers)
Parks and Cemetery	- Alf Olsen Centre (playground; mountain bike park; unboarded hockey rink; skate change shed; porta pottie; baseball diamond including bleachers, dugout, fence, and backstop; signage, parking area) - Blake Hall (rink, skate shed, fence) - Cloud Bay Cemetery (shed, gazebo, sign, benches, porta pottie, service road) - Municipal Office Park (playground equipment, gazebo, baseball field, sign) - Cottage Dr Boat Launch

	- Cloud Lake Boat Launch (boat launch, gazebo, garage) - Margaret St. Boat Launch (gazebo, bench, boat launch, garbage bins, information sign) - Memory Road Boat Launch (2 boat launches) - Pigeon Bay Boat Launch (boat launch, picnic table) - West Oliver Lake Boat Launch (boat launch, portapottie, bollards with concrete anchors, garbage bins, sign) - East Oliver Lake Boat Launch (boat launch)
Facilities – Sites	- Gate to gravel pit in Oliver Paipoonge - Sign at Sandhill gravel pit

3.3 State of the Infrastructure (SOI)

The State of the Infrastructure section for each service area presents:

- A summary of the classes and types of assets supporting the services;
- The average age of the assets determined by assessing the age of the asset components;
- The replacement costs of the assets; and
- Available information on the condition of the assets.

3.3.1 Replacement Costs

Replacement costs were calculated in $2019 at the asset component level. The costs were estimated based on unit rates and the quantities of components from the asset register. A schedule of unit rates was delivered in an Excel spreadsheet with the asset register. Additional details on the replacement costs are noted below.

- Replacement costs are for a new asset that replicates the existing asset at the lowest cost while providing the same level of service.
- Historical unit costs were adjusted to $2019 using the Consumer Price Index (CPI).
- Factors were applied to the unit costs to account for the additional costs for demolition, planning, architectural and engineering services, and restoration as required;
- Unit rates specific to Neebing were used for the following assets:

- Culverts (invoices supplied by Neebing[3])
- Gravel Roads (Gravel Road Replacement Feasibility Study by JML Engineering)

- Unit costs for major structures were based on estimates by WSP's bridge engineers
- Table 10 describes the approach used for estimating the replacement costs of buildings.

Table 10: Approach for Estimating Replacement Costs for Buildings

Step	Description
1. Determine unit rates	- Estimated the following construction costs per square metre using the 2018 Canadian Construction Costs Guide developed by Altus Corp. o $3,472 for fire stations o $2,872 for the municipal office o $,1073 for sheds and gazebos

[3] Invoices from Neebing were updated by consumer price index (as appropriate) to determine unit replacement costs in $2019.

<table>
<tr><th>Step</th><th>Description</th></tr>
<tr><td>2. Calculate component costs</td><td>- Determined the cost to replace the entire building using the unit costs and the floor area of the building
- Replacement costs for the building components were estimated as a percentage of the total costs using the values shown below.
<table>
<tr><th>Building Types</th><th>Level 1 Components</th><th>Percent Breakdown</th></tr>
<tr><td rowspan="8">Municipal Hall
Public Works Garage
Blake Hall
Fire Halls</td><td>Interior</td><td>10%</td></tr>
<tr><td>Exterior (includes framing, exterior finishes, doors, and windows)</td><td>40%</td></tr>
<tr><td>Foundation</td><td>15%</td></tr>
<tr><td>Roof</td><td>25%</td></tr>
<tr><td>Electrical</td><td>4%</td></tr>
<tr><td>HVAC</td><td>2%</td></tr>
<tr><td>Plumbing</td><td>2%</td></tr>
<tr><td>Septic System</td><td>2%</td></tr>
<tr><td>Portable Toilet*</td><td></td></tr>
<tr><td rowspan="3">Sand Storage Shed</td><td>Foundation</td><td>30%</td></tr>
<tr><td>Support Trusses</td><td>35%</td></tr>
<tr><td>Canvas</td><td>35%</td></tr>
<tr><td rowspan="5">Salt Storage Shed</td><td>Foundation</td><td>25%</td></tr>
<tr><td>Shed Floor</td><td>20%</td></tr>
<tr><td>Wood Frame</td><td>20%</td></tr>
<tr><td>Metal Siding</td><td>20%</td></tr>
<tr><td>Roof</td><td>15%</td></tr>
<tr><td>Sheds, Storage Barns, Gazebos</td><td>Entire structure</td><td>100%</td></tr>
<tr><td colspan="3">* Some of the fire halls do not have a septic system and have a portable toilet instead. The unit rates for portable toilets were sourced separately rather than as a percentage of the building construction cost.</td></tr>
</table></td></tr>
<tr><td>3. Estimate the costs for site assets</td><td>- The site assets for the facilities included parking areas, access roads, signs, fences
o A unit rate of 5% of the square metre construction rate of the buildings was used for the parking areas and access roads
- The unit rates for signs and fences were sourced from other local municipalities and indexed to 2019 dollars.</td></tr>
<tr><td>4. Increase the unit rates to account for other costs</td><td>- The unit rates for ALL building types were increased by the amounts shown below to account for additional costs:
o Engineering - 30%
o Architectural - 10%
o Demolition - 2%</td></tr>
</table>

The unit rates for the bridge components were calculated using a percentage of the overall construction cost as shown in the table below.

Table 11: Bridge Component Costs as a Percentage of Construction Costs

Bridge Component	Percentage of Total Construction Cost
Deck	45%
Substructure	25%
Superstructure	25%
Barriers & Railings	5%

3.3.2 Condition Assessments

Asset condition was assessed on a 1 to 5 scale for the plan where:

- 1 = Very Good
- 2 = Good
- 3 = Fair
- 4 = Poor
- 5 = Very Poor

Condition data were available from various sources as described in the following sections. If a condition rating was not available for an asset, the condition was estimated based on age using the relationship shown in Table 12.

Table 12: Assumed Relationship between Age and Condition

Age/ Expected Useful Life	Condition Rating
0 to 0.24	1 – Very Good
0.25 to 0.64	2 – Good
0.65 to 0.86	3 – Fair
0.87 to 0.96	4 – Poor
greater than 0.97	5 – Very Poor

This approach was used for the fleet and equipment assets, and some building components not visible in the field.

3.3.2.1 Roads

The roads were assessed in 2017 using the guide shown in Table 13. The table also shows the relationship to condition rating values used in the AMP.

Table 13: Road Condition Rating Criteria

Rating	Description	AMP Condition Rating
0-1.9	• Severe roadway surface distress • Severe distorted areas • Very rough on vehicular traffic	5
2 – 3.9	• Majority of roadway improperly shaped • Various roadway surface distress manifestations making travel unpleasant due to potholes, wash-boarding, distortions and poor drainage	4
4 – 5.9	• Mixture of properly shaped roadway surface and improperly shaped areas • Various surface distress manifestations such as pot holes, wash-boarding – in slight to moderate class	3
6-7.9	• Intermittent to isolated pot hole and distorted sections • Generally good travelling road surface	2
8-10	• No surface distress manifestation	1

3.3.2.2 Major Structures

Condition ratings for major structures were available from engineering inspection reports for each structure. The condition is based on the Ontario Structures Inspection Manual (OSIM) Bridge Condition Index (BCI). The BCI ratings were adjusted from a 3 point to a 5 point scale by dividing the Good and Poor categories in half to add Very Good and Very Poor categories as shown in Table 14. This allowed the major structure condition scores to be compared with the other assets in this report.

Table 14: Bridge Condition Index and Equivalent Asset Management Plan Condition Ratings

BCI Rating	Description	AMP Condition Rating
> 85	Very Good	1
> 70 to 85	Good	2
60 to 70	Fair	3
< 60 to 30	Poor	4
< 30 or closed	Very Poor	5

3.3.2.3 Entrance and Centerline Culverts

The entrance and centerline culverts were inspected in 2018 to validate the inventory and assess the asset condition. Culvert condition was assessed on a 1 to 5 scale following the

National Cooperative Highway Research Program (NCHRP) 14-26 Culvert and Storm Drain System Inspection Manual methodology described in Table 15.

Table 15: Culvert Condition Index and Equivalent Asset Management Plan Condition Ratings

Culvert Rating & AMP Condition Rating	Description	Condition Description	Action Indicated
1	Good	Like new, with little or no deterioration, structurally sound and functionally adequate.	No action is recommended. Note in inspection report only.
2	Fair	Some deterioration, but structurally sound and functionally adequate.	No immediate action is recommended, but more inspection may be warranted. Maintenance personnel should be informed.
3	Poor	Significant deterioration or functional inadequacy, requiring some maintenance or repair.	Inspector evaluates need for corrective action and makes recommendation in inspection report.
4	Critical	Very poor conditions that indicate possible imminent failure which could threaten public safety.	Corrective action is required and urgent. Engineering evaluation is required to specify appropriate repair.
5	Failed	Failed or non-functional condition.	Emergency action is required to address public safety hazard. Roadway closure is typical

3.3.2.4 Field Inspected Assets

Table 16 shows the condition rating used to assess the assets inspected in the field in 2019 (see Table 9), and the relationship to the standard condition ratings used across all asset classes, in preparing this asset management plan.

Table 16: Condition Rating Guide

AMP Condition Rating	Field Inspection Rating	Description	Long Description
1	5	Very Good	Asset in like new condition or new.

AMP Condition Rating	Field Inspection Rating	Description	Long Description
2	4	Good	Asset in good working order, limited signs of wear, unlikely to fail. Minor treatments may be needed to keep asset in good condition.
3	3	Fair	Asset starting to show signs of possible failure. Asset replacement should be considered. Service interruptions expected. Some wear and tear. Increased risks but likelihood moderate to low. Repairs needed to restore to good condition.
4	2	Poor	Asset near failure. Wear and tear evident. Asset should be decommissioned/refurbished/repaired before total failure. Could provide danger with continued use. Requires replacing with in 2 to 5 years.
5	1	Very Poor	Asset has failed or is near failure. Shows signs of extreme wear. Dangerous to continue using. Does not function as designed or intended. Replace/Remove/Refurbish immediately

3.3.2.5 Vehicles and Equipment

Expected useful lives were estimated based on photos, type of equipment, and typical application for a small municipality. Condition was then assessed based on age.

3.4 Levels of Service

3.4.1 Overview

The level of service (LOS) section for each service area describes the LOS the Municipality of Neebing aims to deliver and defines the criteria, measures, and targets that will be used to report achievement.

LOS are the service outcomes that an organization delivers. They are a key driver for decisions on future investments in infrastructure assets. As such, they need to be clearly articulated in terms that end users and decision-makers can understand. Having well defined service levels will allow Neebing to work with its internal stakeholders (other business units and service areas that use the municipal infrastructure), taxpayers and other stakeholders to find an appropriate balance between affordability and community expectations for level of service.

Performance measures are used to indicate what the customers and stakeholders should expect from the service that is delivered. Performance measures also define management targets for staff to manage infrastructure and service. Target values are set for performance measures to deliver the intended level of service. Comparison of performance delivered (measured results) to performance intended (target values), will assist Neebing in strategic planning, operational, and investment decisions.

Table 17 describes the approach for defining levels of service, selecting performance measures, and setting performance targets.

Table 17: Description of Levels of Service and Performance Measures

<table>
<tr><th>Concept</th><th>Definition</th><th>Example</th></tr>
<tr><td>Level of Service (LOS) statements</td><td>A statement of specific attributes of the service that the organization intends to deliver from the customer point of view.
LOS statements link corporate objectives for the service, asset management objectives, and technical and operational objectives. These must align to give the customer the intended experience of the service.</td><td>Playgrounds are safe, well maintained, and clean, with facilities in suitable locations.</td></tr>
<tr><td>Service Criteria</td><td>These are the specific attributes or key characteristics that each stakeholder group is interested in, with regard to the customer level of service</td><td>• Availability • Suitability
• Cleanliness • Safety
• Location • Compliance</td></tr>
<tr><td>Key Performance Indicators (KPI), also called Key Performance Measures</td><td>Criteria that can be measured and provide an indication of how the organization is doing in delivering the intended LOS. These can be defined as:
- Customer performance measures: Measures describing how the customer receives or experiences the service.
- Technical performance measures: Technical criteria the organization can measure to indicate how the service being achieved.</td><td><table><tr><td>Availability</td><td>Number of times per year that the site or asset is unavailable for use.</td></tr><tr><td>Cleanliness</td><td>Number of visits to site by the cleanliness team.</td></tr><tr><td>Location</td><td>Within acceptable distance to residential areas.</td></tr><tr><td>Suitability</td><td>Customer survey results.</td></tr></table></td></tr>
</table>

Concept	Definition	Example	
Performance Targets	The required value (target), for each criterion that is being used as a performance measure. The expectation is that the intended LOS will be achieved if these targets are met.	Availability	10 times per year
		Cleanliness	1 visit / week
		Location	Within 1 km of residential areas
		Suitability	Rated as suitable by 80% of customers

3.4.2 Level of Service Development Approach

Neebing staff participated in an initial round-table discussion to:

- Identify user groups within each stakeholder category;
- Define the service criteria of most interest to each user group; and
- Identify appropriate indicators for measuring performance.

The Neebing team identified four broad categories of stakeholders for the LOS assessment:

Users – This is the perspective of everyone who uses the service, current or future, who lives and/or works in the community.

Service providers – This is the perspective of other businesses and service areas that depend on the service or assets to conduct their business.

Regulators – These are governing agencies responsible to administer or oversee compliance with legislation and regulations relevant to the service.

Wider community – This is the perspective of stakeholders in the community such as residents and tax payers who have an interest in the community and how the council manages public money but may or may not be a direct user of the service.

The results of the initial discussion were populated into LOS and KPI tables for each service area. Following this, Neebing staff reviewed and further refined these tables and the results are reported in the LOS section for each service area. Neebing intends to monitor these measures for the next year to report detailed performance in each service area.

When more detailed information is available on levels of service, Neebing will be in a stronger position to consult stakeholders on future desired levels of service to be funded. Until that time, the level of service information for each service area is based on staff assessment of current services and local knowledge of stakeholder expectations.

3.4.3 Legislative Requirements

The services provided by municipal assets must meet the legislative requirements at the municipal, provincial and federal levels.

Key legislative requirements applicable to municipal organizations as well as the various services and asset groups, are included in Table 18 to Table 21.

Table 18 Organizational Legislation

Legislation	Requirement
Municipal Government Act 2001	Sets out role, for 443 of 444 Ontario municipalities) and recognizes them as a responsible and accountable level of government. The act gives municipalities broad powers to pass bylaws and govern within their jurisdiction. The act also outlines requirements for municipalities including: • practices and procedures • accountability and transparency • finance
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 and protection of the environment, and incorporate design excellence into infrastructure planning.
Municipal by-laws	Regulations approved by Council to safeguard and protect persons and properties
Occupational Health and Safety Act	Rules governing health and safety in Ontario's workplaces
Fisheries and Oceans Canada (DFO)	Provides guidelines and laws to protect fisheries habitat in proximities to roadways and bridges
Planning Act	Provides direction on municipal planning activities
Building Code Act	Provides requirements to adhere to construction safety practices.
Accessibility of Ontarians with Disabilities Act	The purpose of this Act is to benefit all Ontarians by, developing, implementing and enforcing accessibility standards.
Environmental Protection and Enhancement Act	Provides for orderly development of roadway systems while protecting the environment
Police Services Act	Provides the principles related to police services.
Fire Protection and Prevention Act	Defines municipal responsibilities for fire protection services.

Legislation	Requirement
Emergency Management and Civil Protection Act	Provides requirements for emergency management.
Navigation Protection Act	An Act respecting the protection of navigable waters

Table 19 Transportation Legislation

Legislation	Requirement
Traffic Safety Act	Provides safety standards for motor vehicles and road traffic safety

Table 20 Utilities Legislation

Legislation	Requirement
Water Act	Provides provincial guidance to better manage and protect its water and to streamline water-related administrative processes.
Canada Water Act	Contains provisions for formal consultation and agreements with the provinces
Clean Water Act	Provincial legislation for potable water.

Table 21 Recreation and Parks Legislation

Legislation	Requirement
Weed Control Act	Provides Provincial guidelines for the control of noxious weeds.

3.5 Lifecycle Activities for Current Levels of Service

3.5.1 Overview

Lifecycle management refers to the different phases an asset passes through as it ages. An awareness of these phases is important because different management interventions are appropriate (or required) for different phases of the asset lifecycle and will affect the future financial planning. Figure 2 demonstrates eight stages of the Asset Lifecycle. As condition deteriorates over time, various opportunities for intervention are available to extend the service life of the asset. Preventive maintenance treatments are less costly than rehabilitation. Likewise, rehabilitation treatments are typically less costly than reconstruction. The purpose of lifecycle strategies is to maintain the assets in an

appropriate way that will deliver the planned level of service for least overall cost, while keeping risk within agreed boundaries.

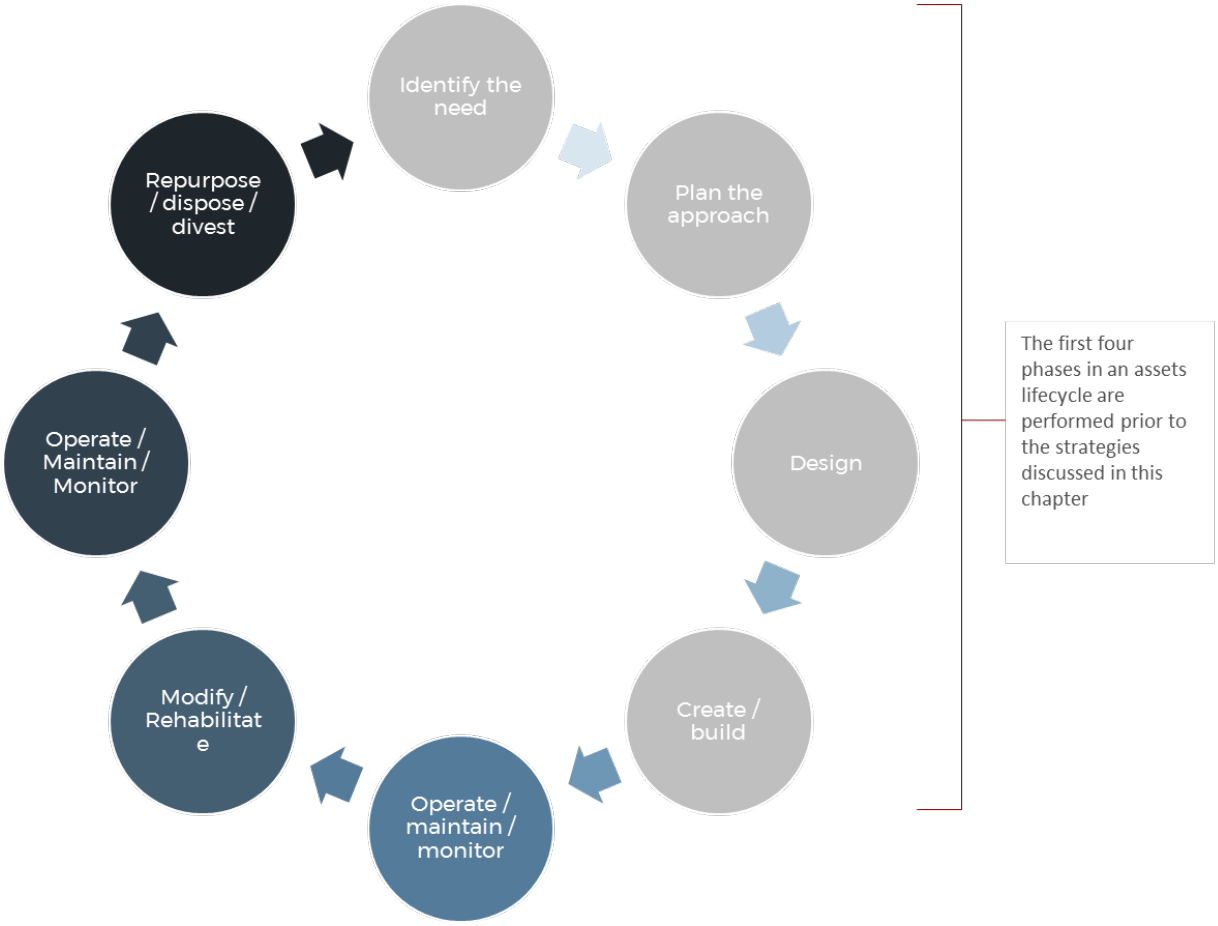


Figure 2: Phases of an Assets Lifecycle

The current business practices employed by the Municipality of Neebing staff to manage assets throughout their lifecycle are described for each service area. At this early stage of implementing and improving asset management practices, staff have not undertaken any studies to review current practices for lifecycle management or researched alternative options for service delivery. These have been identified as improvement tasks.

Once the current lifecycle strategies are identified, the true cost to maintain existing levels of service can be understood. These lifecycle strategies can then be adjusted where needed, to best fit required level of service for least total cost and appropriate managed risk.

3.5.2 Lifecycle Interventions

Throughout an asset lifecycle there are two (2) categories of interventions that need to be performed. These interventions are:

- Operations, maintenance and inspections (OMI) activities that do not replace the asset, but are for the direction operations of the asset, or to sustain the asset during its expected useful life. They are typically funded through operations budgets; and
- Renewal and Rehabilitation (R&R) interventions that fully replace an asset with an equivalent new asset or apply a treatment that reinstates the asset (or a component of the asset) to new or near new condition. They are funded generally through capital budgets.

Each intervention is described in more detail in Table 22.

Table 22: Types of Asset Lifecycle Interventions

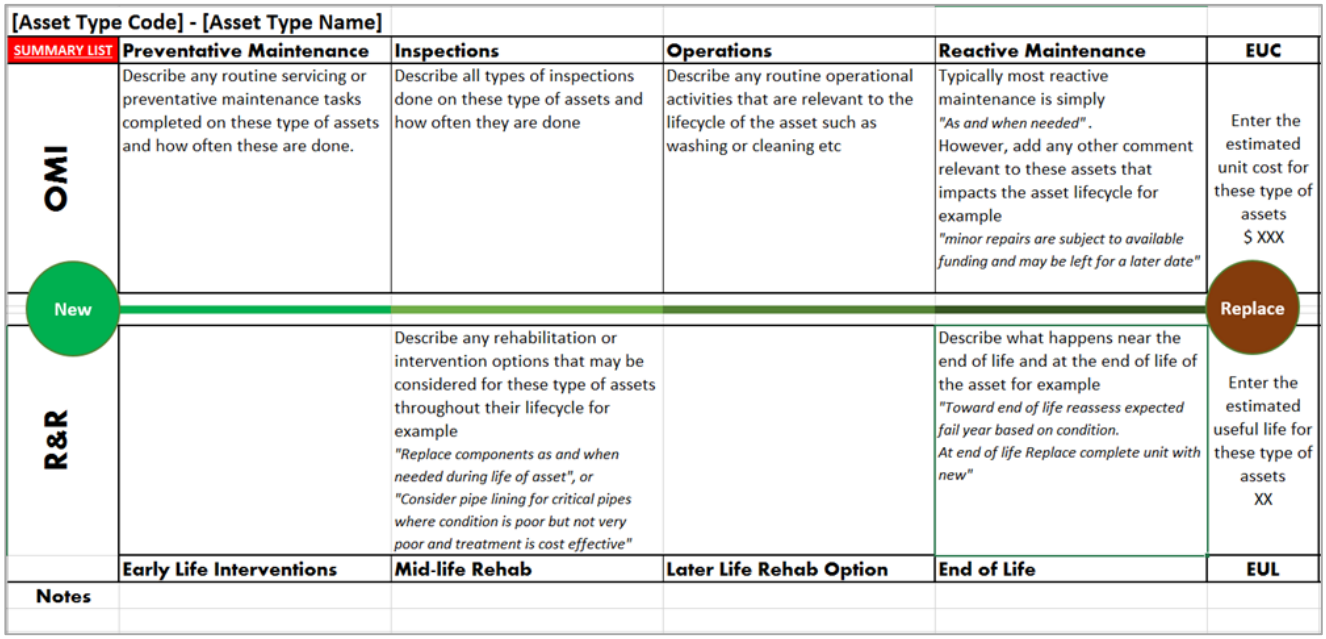
Intervention	Description
OMI – Operations	These are routine activities necessary for the correct operation of the assets. They differ from Preventative Maintenance (PM) activities in that operational tasks are activities that must occur, or the asset will cease to function as intended (e.g. cease to operate), whereas an asset will usually continue to operate even if PM tasks are not done, but the overall lifespan of the asset could be reduce and the asset fail early.
OMI – Inspections	There are different types of inspections that can occur throughout the lifecycle of an asset. Some are for checking if the asset is operating as planned – these provide early warning for any issue that can then be remedied promptly and less expensively than if the issue remained for some time. Other inspections are for measuring or observing the condition of the assets, or for measuring performance. These provide information for planning renewals and determining if performance targets will be met. Inspections may also be required by legislation, departmental policy, or completed based on industry standard or manufacturers recommendation.
OMI-Preventative Maintenance	These are regularly scheduled activities, completed while the asset is still in an "operational" condition. The purpose of preventative maintenance is to ensure the asset achieves or exceeds its expected life (i.e. does not fail early). Not all assets require or benefit from preventative maintenance activities.
OMI-Reactive Maintenance	These activities are physical repairs to an asset that has broken down or is not functioning as required. The repair reinstates the asset to its normal "operating" condition but does not significantly extend the overall life of the asset i.e. it is a repair not a full replacement or an upgrade or major rehabilitation. Maintenance repairs are expected as assets age and are part of the overall lifecycle management, to keep the asset operational for as long as physically and economically viable.

Intervention	Description
R&R- Early Life Interventions	These are treatment options that may be considered when an asset is in the first quarter of its lifespan. Typically, they are rare for most asset types, but some assets do require replacement of component parts at frequent intervals throughout the overall lifespan of the asset.
R&R- Mid-Life Rehabilitation	These are treatment options that may be considered when an asset is in the second or third quarter of its lifespan. Most common forms of mid-life rehabilitation are the replacement or refurbishment of component parts that have a shorter lifespan than the overall asset.
R&R – Later Life Rehabilitation	These are treatment options considered to be still viable even when an asset is in the fourth quarter of its lifespan. They can include replacement or refurbishment of component parts the same as might be considered for Mid-Life Rehabilitation, except that for Later Life Rehabilitation there is a condition that the treatment option should only be undertaken if it is cost-effective given the potentially short remaining life of the overall asset.
R&R- End of Life	These are treatment options considered when an asset is approaching or at the end of its lifespan. Typical options include replacement (renewal) of the asset with an equivalent new asset, major rehabilitation that returns the asset to new or near new status, disposal (removal) of the asset without replacement, retirement of the asset (with or without disposal), divestment of the asset (sale or gift to another's ownership), or upgrade (replace with new asset that will provide an increase in level of service e.g. a bigger asset or higher specification).

3.5.3 Lifecycle Strategy Methodology

A workshop was held with Neebing staff to document current business practice for managing different types of assets throughout their lifecycle (lifecycle strategies). This workshop identified the OMI and R&R activities that are currently undertaken by the municipality on assets within the portfolio.

The activities were summarized in a chart like the one shown in Figure 3.



[Asset Type Code] - [Asset Type Name]					
SUMMARY LIST	**Preventative Maintenance**	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI	Describe any routine servicing or preventative maintenance tasks completed on these type of assets and how often these are done.	Describe all types of inspections done on these type of assets and how often they are done	Describe any routine operational activities that are relevant to the lifecycle of the asset such as washing or cleaning etc	Typically most reactive maintenance is simply *"As and when needed"*. However, add any other comment relevant to these assets that impacts the asset lifecycle for example *"minor repairs are subject to available funding and may be left for a later date"*	Enter the estimated unit cost for these type of assets $ XXX
New					Replace
R&R		Describe any rehabilitation or intervention options that may be considered for these type of assets throughout their lifecycle for example *"Replace components as and when needed during life of asset", or "Consider pipe lining for critical pipes where condition is poor but not very poor and treatment is cost effective"*		Describe what happens near the end of life and at the end of life of the asset for example *"Toward end of life reassess expected fail year based on condition. At end of life Replace complete unit with new"*	Enter the estimated useful life for these type of assets XX
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**
Notes					

Figure 3: Diagram for Documenting Asset Lifecycle Strategy

A life-cycle strategy chart is included in the relevant sections for each service area. It should be noted that some assets may not have all the OMI and R&R strategies. For example, gravel roads, ditches and trails may be maintained indefinitely after they are built and never replaced.

It is recommended as an improvement item that staff continue to document asset interventions until the complete lifecycle strategy (i.e. current business practice) of all asset types are known.

3.6 Risks to Levels of Service and Performance

3.6.1 Overview

It is very important to have visibility of risk added to the consideration of costs and benefits in decisions relating to assets and services. We intuitively balance costs, risks, and benefits in our mind when making decisions on a wide range of matters, and for different circumstances stakeholders are willing to accept different combinations of cost, risk, and benefit.

There are many well-structured methods for evaluating a variety of types of risk. However, Neebing does not currently have the asset information to support an in-depth analysis or complex assessment of risk across all service areas. Therefore, a simplified approach has been used to obtain visibility of primary risk issues and allow consideration of risk to be incorporated into prioritization of work and investment decision-making.

Evaluation of risk even at the most basic level, must have some structure. Structure ensures repeatability and supports the usefulness of outcomes. The structure used for Neebing's initial asset level risk assessments is set out in the following section.

3.6.2 Methodology and Approach

As a first step, to incorporate risk issues into prioritization and decision-making, Neebing has established asset-level risk scores for all assets. A basic methodology was used for this first assessment, and this can be replaced in the future, with a more sophisticated evaluation method, when Neebing has enough credible data to support such methods.

An asset risk score is derived from the consequence of asset failure and the likelihood it will fail. The principle components for the basic risk evaluation are therefore;

- A simple (1 to 5) criticality rating for each asset, as an indicator for consequence of failure, and
- The remaining life of each asset, as an indicator of its likelihood to fail.

The criticality rating for each asset was determined by consensus in a collaborative workshop with Neebing staff familiar with the assets and relevant service delivery.

Criticality is a measure of the importance of each to delivering the service. If sudden failure of the asset would cause a major outage of the service, and it would take some time to restore service, then it is a highly critical asset. Conversely, if failure of the asset would have little or no impact on delivering the service, then it is a low critical asset.

Neebing staff scored the criticality of each asset on a numeric 1 to 5 scale. This along with a similar likelihood of failure score, allows generation of a numeric risk score that can be used to communicate risk exposure and for prioritizing actions and projects.

Criticality		Score
High	**H**	5
Medium-High	**MH**	4
Medium	**M**	3
Medium-Low	**ML**	2
Low	**L**	1

Likelihood of Failure	Estimated Remaining Life	Score
High	**1yr**	5
Medium-High	**2-3yr**	4
Medium	**4-5yr**	3
Medium-Low	**6-10yr**	2
Low	**11+yr**	1

The process for determining criticality was the consensus of knowledgeable staff through discussion in a collaborative workshop.

The rating for likelihood of failure was determined based on the current estimate of remaining life for each asset. The available asset register records the install date for every asset, along with the expected lifespan, allowing calculation of an age-based remaining life. However, every asset that was recently inspected for condition rating also has a condition-based estimate of remaining life. The condition-based remaining life values were used for scoring the likelihood of failure wherever these were available. Age-based remaining life was used if an asset had not had a recent condition inspection. Likelihood of failure was scored on a numeric 1 to 5 scale.

The risk rating for each asset was then determined by multiplying the criticality score by the likelihood score. This generates a value between 1 and 25. This value was then multiplied by 4 to generate a 1 to 100 risk score.

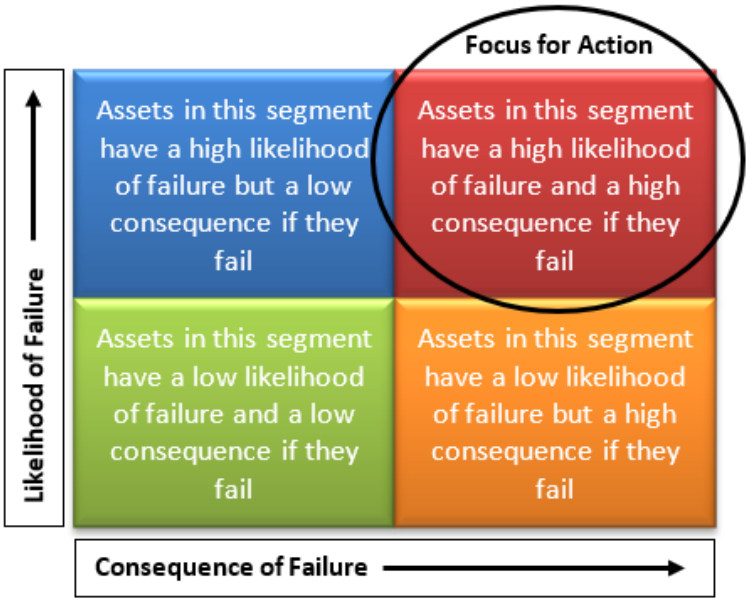
Criticality vs Likelihood	5	4	3	2	1
5	**100**	**80**	**60**	**40**	**20**
4	**80**	**64**	**48**	**32**	**16**
3	**60**	**48**	**36**	**24**	**12**
2	**40**	**32**	**24**	**16**	**8**
1	**20**	**16**	**12**	**8**	**4**

A risk rating was assigned to each asset based on its score, using the following scale.

Risk Score	Risk Rating
>75	Very High
46-75	High
21-45	Medium
11-20	Low
>10	Very Low

Criticality vs Likelihood	VH	H	M	L	VL
VH	VH	VH	H	M	M
H	VH	H	H	M	L
M	H	H	M	M	L
L	M	M	M	L	VL
VL	M	L	L	VL	VL

Results for the risk rating were graphed to show the risk profile of the assets and the overall risk exposure for the service. The risk ratings were also used for prioritization of projects that will reduce the risk score such as asset renewal projects that replace the asset and thereby reduce its likelihood to fail.



3.7 Asset Renewal Forecasts

Asset renewals were forecast over a 30-year period even though the required planning period for the financial strategy is only 10 years. This is to provide context for decision-making. Decisions made within the 10-year planning period are better informed when there is visibility of potential issues coming up in a longer-term view. The longer-term forecast provides an order of magnitude and understanding of what the average annual capital costs is likely to be over 30 years to maintain the current levels of service.

In the asset renewal forecast, it is assumed that asset components will be replaced when they reached the end of their useful lives based on age. Exceptions to this are recommendations on asset renewals and rehabilitations from inspection reports based on observed current condition. All recent condition inspection results and recommendations for remaining life of individual assets are included in the forecasts where available. Additional details on the renewal forecasts are noted below:

- The renewal costs are in $2019.
- Replacement costs were used for renewals except for the following assets that were assumed to not require replacement over the 30-year forecast period:
    - Gravel roads, and sealed road bases
    - Gravel biking paths
- Replacement costs for roads are for the surface of sealed roads only

4 Transportation

4.1 Service and asset overview

Transportation services provide for the safe and efficient movement of people and goods within the municipality and to and from adjacent communities. The 246 km roadway network has been developed to a standard that does not burden the residents and taxpayers of the municipality.

A map of Neebing's road network is shown in Figure 4.

[Placeholder: Neebing to provide A MAP OF THE ROAD NETWORK]

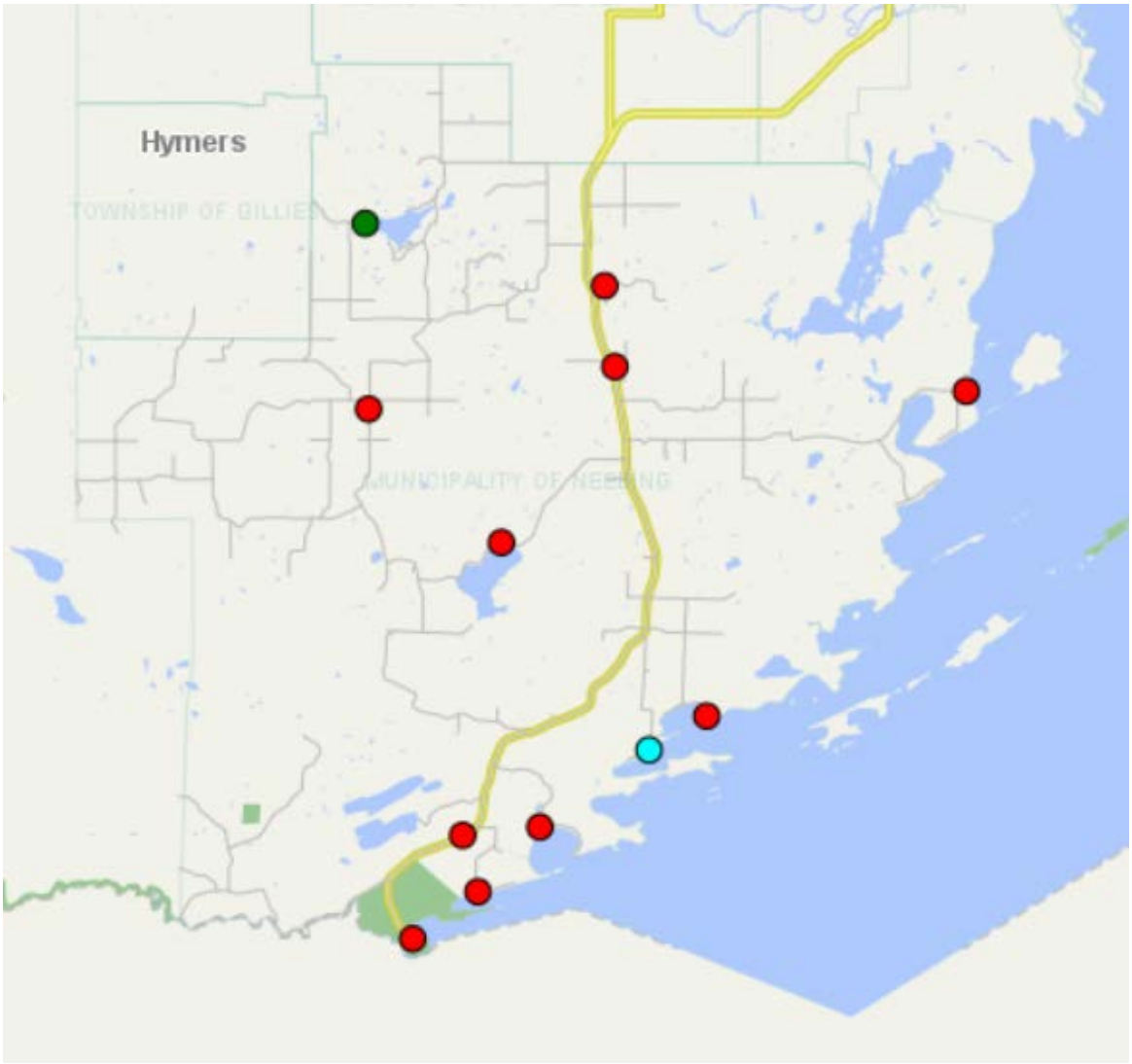


Figure 4: Neebing's Road Network

Traffic volumes on the roads are less than 200 vehicles per day on average. Typical road users include passenger, recreational, and emergency vehicles; pedestrians; and cyclists. The road network is used by trucks and equipment to operate and maintain the road, and occasionally by heavy transport vehicles (e.g. logging vehicles).

The Department of Public Works is responsible for operating, and maintaining the road network including:

- 13 bridge structures,
- 8 major culverts, and
- 1,311 other culverts (total of centerline and entrance culverts).

No data were available on signs, guardrail, or ditches

The following assets are also owned by the municipality for providing transportation services:

- 1 public works garage
- 1 sand and 1 salt storage shed
- Various equipment including a tractor, brusher, mower, broom, conveyor, excavator, grader, loader, backhoe, steamer, tack kettle, and radios.

4.2 State of the Infrastructure

4.2.1 Transportation - Roads

Neebing's road network is divided into 2 classifications as per their road maintenance policy. The classifications are based on traffic volumes and speed limits as shown in the table below.

Table 23: Road Network Classification

Road Class	Definition
Class 5	Class 5 Highways have been defined as "Roads that have an Annual Average Daily Traffic (AADT) volume of 50 to 149, and a speed limit of 60 kilometers per hour or less."
Class 6	Class 6 Highways have been defined as "Roads that have an Annual Average Daily Traffic (AADT) volume of 0 to 49, and a speed limit of 60 kilometres per hour or less." Class 6 Highways are further sub-divided into Class 6A, 6B and 6C Highways.

Table 24 and Figure 6 provide summaries of the road assets supporting Transportation Services. Average values are weighted by replacement costs.

It was assumed that gravel roads and the bases of sealed roads would be continuously maintained but not replaced over the 30-year forecast period. Therefore, current

replacement cost for all roads is reported in the summary table (Table 24), but the 30-year annual average replacement cost is only reported for sealed surfaces.

Table 24: Transportation Road Asset Summary

Asset Class	Quantity (m)	Average Component Age	Avg Expected Life	Avg Condition	Current Replacement Cost	30 Year Avg Annual Renewal Cost
Class 5 Highway – Sealed Surface	45,300	6	10	1	$14,931,100	$1,461,200
Class 5 Highway – Base		N/A	N/A		$23,258,400	N/A
Class 5 Highway - Gravel	16,700	N/A	N/A	2	$8,574,300	N/A
Class 6 Highway – Sealed Surface	2,800	6	10	1	$922,900	$ 92,300
Class 6 Highway – Base		N/A	N/A		$1,437,600	N/A
Class 6 – Highway Gravel	181,000	N/A	N/A	2	$95,539,200	N/A
Signs	not available	not available	not available	not available	not available	not available
Guiderail	not available	not available	not available	not available	not available	not available
Asset Class Total	**245,800 m**				**$144,663,500**	**$1,553,500**

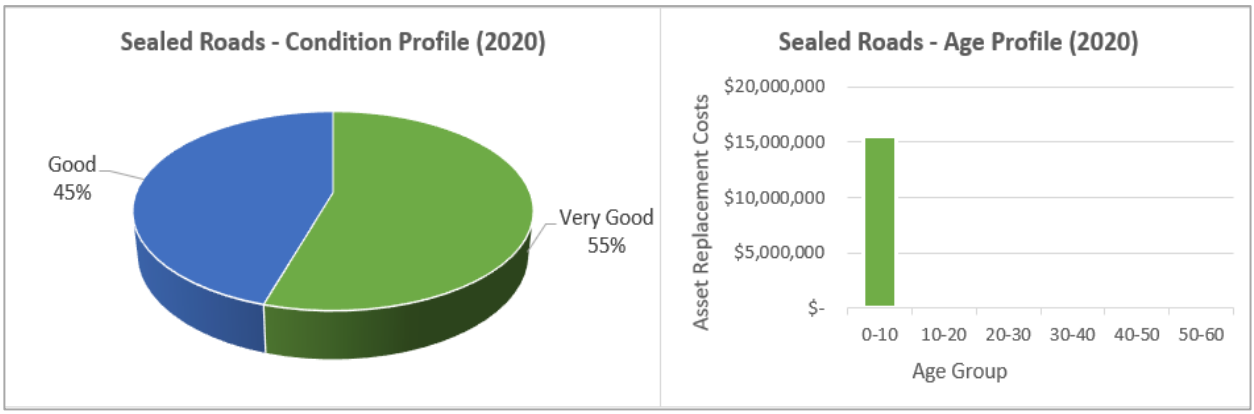
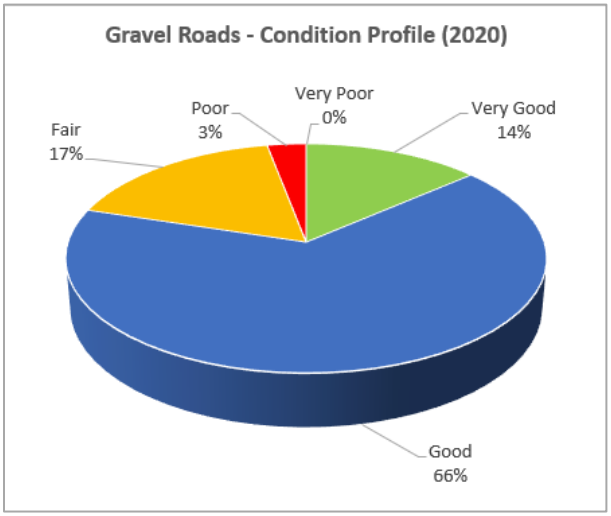


Figure 5: Condition and Age Profile of Road Assets – Sealed Surface

Reviewing the summary table and condition and age profiles for sealed surfaces:

- The age profile graph in Figure 5 shows that most sealed surface assets (by dollar value) fall into the 0 to 10-year age category. This represents both chip seal and asphalt roads.
- The condition profile graph for sealed roads shows that all these road assets are in good or very good condition.



Reviewing the summary table and condition and age profiles for gravel roads:

- The condition profile graph for gravel roads shows that 3% of the network are in poor and 17% is in fair condition. The balance of the network (80%) is in good or very good condition.
- No age profile is shown for gravel roads because they are maintained in serviceable condition through routine operations and maintenance regardless or age.

Figure 6: Condition and Age Profile of Road Assets – Gravel Roads

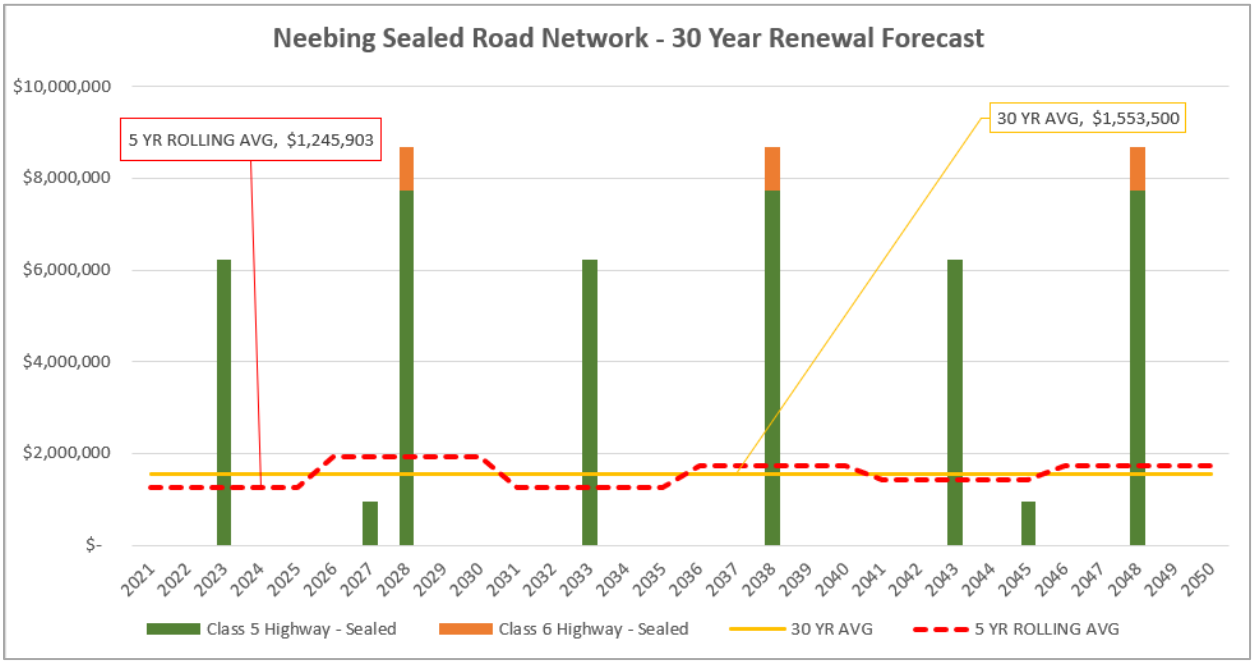


Figure 7: Renewal Forecast – Sealed Roads

Based on the data:

- There is approximately $730,000 worth of chip-seal surfacing programmed in the first year for two sections on Boundary Road East.
- Year 2 sees $960,000 of hot-mix paving requiring replacement on Boundary Road West.
- There is a significant increase in expenditure in year 3 for a more extensive sealing program at $7M. The same applies in 2028. The sealed surfaces have a service life of 10 years and the major sealing program repeats 3 times occurring in 2033, 2038, 2043, and 2048.
- Smaller areas of sealing and paving occur in 2031, 2040, and 2041. The table below shows the annual average renewal costs for the next 5, 10, and 30-year forecasting periods.

Note that Figure 7 forecast of sealed road renewals shows peak expenditures occurring in a single year relevant to the forecast lifespan of the road surface (as calculated from current asset data). It is expected however, that as road surfaces deteriorate and require renewal, projects will be prioritized and grouped into packages of work that can practically and reasonably be completed and financed in each fiscal year. The peak expenditures will therefore be scheduled over multiple years. The following table provides a summary of the annual average renewal cost for three planning periods.

Table 25: Annual Average Renewal Costs for Sealed Roads

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 1,245,900
10 Years (2021 - 2030)	$ 1,585,400
30 Years (2021 - 2050)	$ 1,553,500

4.2.2 Transportation – Drainage Assets

There are 1311 culverts and approximately 500 km of ditches providing drainage for Neebing's road network. No data was available on ditches. The quantity was estimated based on roadway lengths.

The culverts are categorized as:

- Centreline culverts running transversely under the roadway to provide efficient drainage and prevent washout of the road structure; and
- Entrance culverts running alongside the roadway providing at accesses and other intersections.

There are 669 centreline culverts and 642 entrance culverts.

Table 26 and Figure 8 provide summaries of the drainage assets supporting Transportation Services. The average values shown in the table are weighted by replacement costs.

Like the gravel road assets, ditches were assumed to be continuously maintained but not replaced over the 30-year forecast period. Therefore, they were not included in the renewal cost estimates in the tables and charts below.

Table 26: Road Drainage Asset Summary

Assets	Quantity		Average Age	Average Expected Life	Average Condition	Asset Value	30 YR Average Per Annum Renewals Cost
Centerline Culvert	7,527	m	22	70	2	$ 3,470,819	$ 37,850
Entrance Culvert	5,304	m	24	70	3	$ 599,980	$ 9,220
Asset Total	**12,831**	**m**	**23**	**70**	**2**	**$ 4,070,799**	**$ 47,070**

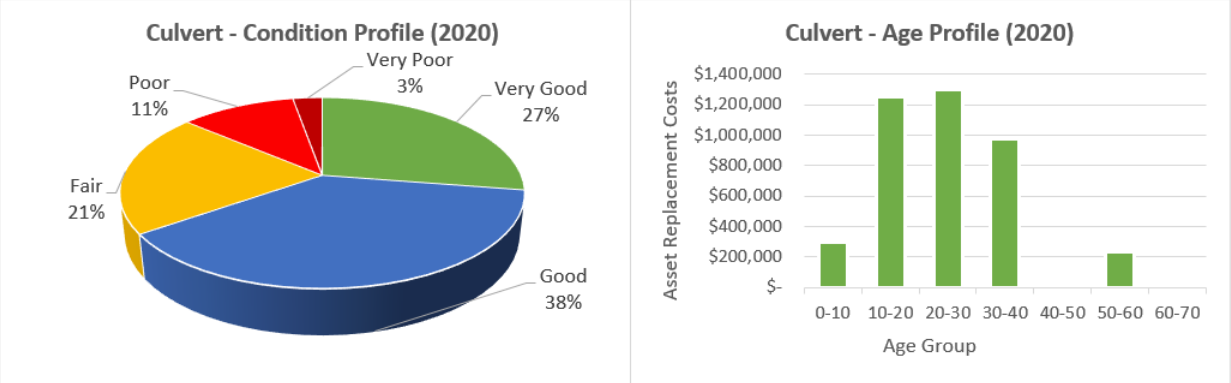


Figure 8: Condition and Age Profiles of Culverts

Reviewing the summary table and condition and age profiles:

- The centreline culverts are in good condition, and the entrance culverts are in fair condition.
- On average, the culverts are approximately one-third of the way through their useful lives. Most of the assets (by dollar value) fall into the 10 to 20, and 20 to 30-year age categories at just over $1.2M for each category. There is $1M worth of culverts in the 30 to 40-year age category, and some outliers in the 0 to 10 and 50 to 60-year age categories.
- There is $7000 worth of culverts in the 60 to 70-year age category. As the dollar value is so low, they have not been captured on the graph.

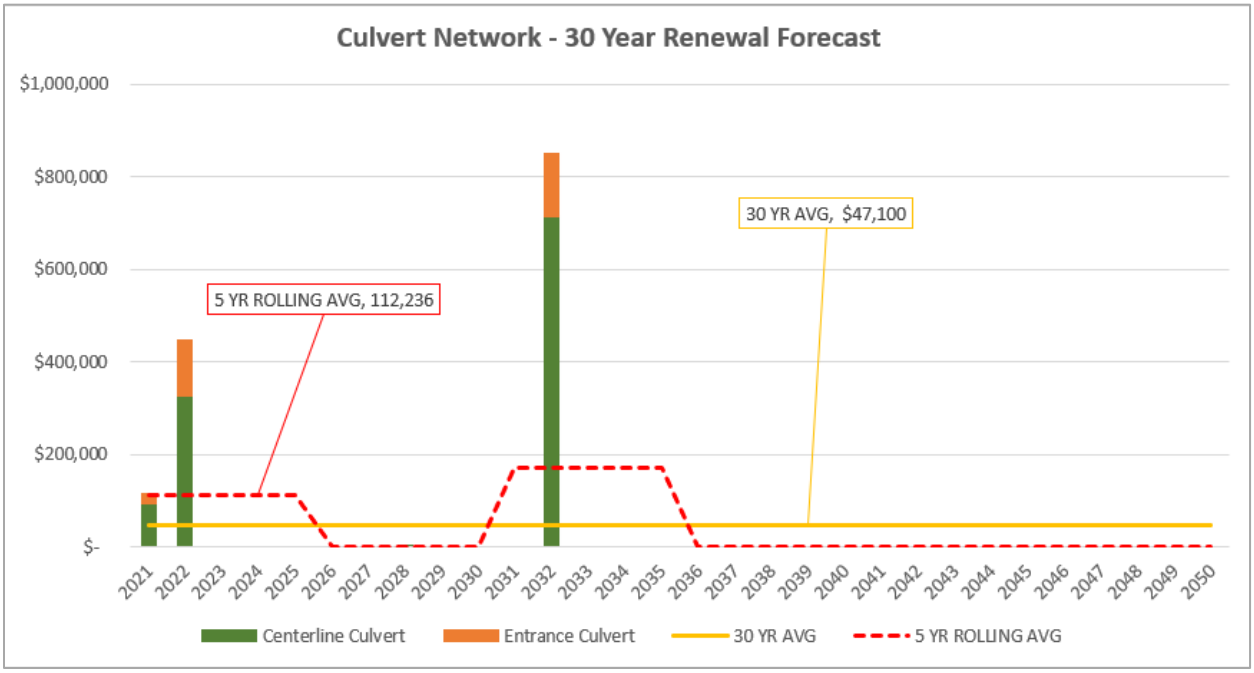


Figure 9: Road Culvert Renewal Forecast for Transportation Services

Based on the data, there is approximately $115,000 worth of culvert replacements due to occur in the first year. These represent the older culverts on the road network. Year 2 sees a more significant amount of culvert replacement program at $450,000. As most of the culverts are newer, the only other culvert renewal program is forecast to occur in 2032. The table below shows the annual average renewal costs for the next 5, 10, and 30-year forecasting periods.

Note that Figure 9 forecast of culvert renewals shows peak expenditures occurring in a single year relevant to the forecast lifespan of the culverts (as calculated from current asset data). It is expected however, that as culverts deteriorate and require renewal, projects will be prioritized and grouped into packages of work that can practically and reasonably be completed and financed in each fiscal year. The peak expenditures will therefore be scheduled over multiple years. The following table provides a summary of the annual average renewal cost for three planning periods.

Table 27: Annual Average Renewal Costs for Road Culverts

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 112,200
10 Years (2021 - 2030)	$ 56,300
30 Years (2021 - 2050)	$ 47,100

4.2.3 Transportation – Major Structures

There are 21 major structures in Neebing's road network – 13 bridges and 8 major culverts. The major culverts have a diameter greater than or equal to 3m, and are typically used to provide access under roads, or for smaller waterways where bridges are considered too big.

The bridge inventory consists of:

- 2 concrete slab bridges,
- 4 steel beam superstructures,
- 1 steel through-truss, and
- 6 wooden structures

All but 5 bridges are single span structures, and all but 2 have the standard W-Beam guiderail system installed as the barrier. The major culverts are made of steel and are either pipe culverts made of helical corrugated steel pipes (CSP) or arch culverts made from sections of corrugated metal plate.

Table 28 and Figure 10 provide summaries of the major structure components supporting Transportation Services. The numbers listed in the "quantity" column of the summary table below for bridges represent the area of the deck, the length of the girders or trusses in the superstructure, the number of abutments and bents in the substructure, and the length of the barriers or guardrails. The quantity of culverts is reported as total length in metres. Average values are weighted by replacement costs.

Table 28: Major Structures – Bridge and Major Culvert Asset Summary

Bridge Asset Groups	Quantity		Average Age	Average Expected Life	Average Condition	Current Replacement Cost	30 YR Average Per Annum Renewals Cost
Deck	1,213	sq.m	38	50	2	$ 3,140,000	$ 82,170
Substructure	34	ea	38	50	2	$ 2,260,000	$ 62,830
Superstructure	158	m	38	50	2	$ 1,260,000	$ 29,500
Barriers and Railings	493	m	38	50	2	$ 340,000	$ 8,830
Asset Total	**1,213**	**sq.m**	**38**	**50**	**2**	**$ 7,000,000**	**$ 183,330**

Major Culverts	Quantity		Average Age	Average Expected Life	Average Condition	Current Replacement Cost	30 YR Average Per Annum Renewals Cost
Major Culvert	156	m	23	50	2	$ 875,000	$ -
Asset Total	**156**	**m**	**23**	**50**	**2**	**$ 875,000**	**$ -**

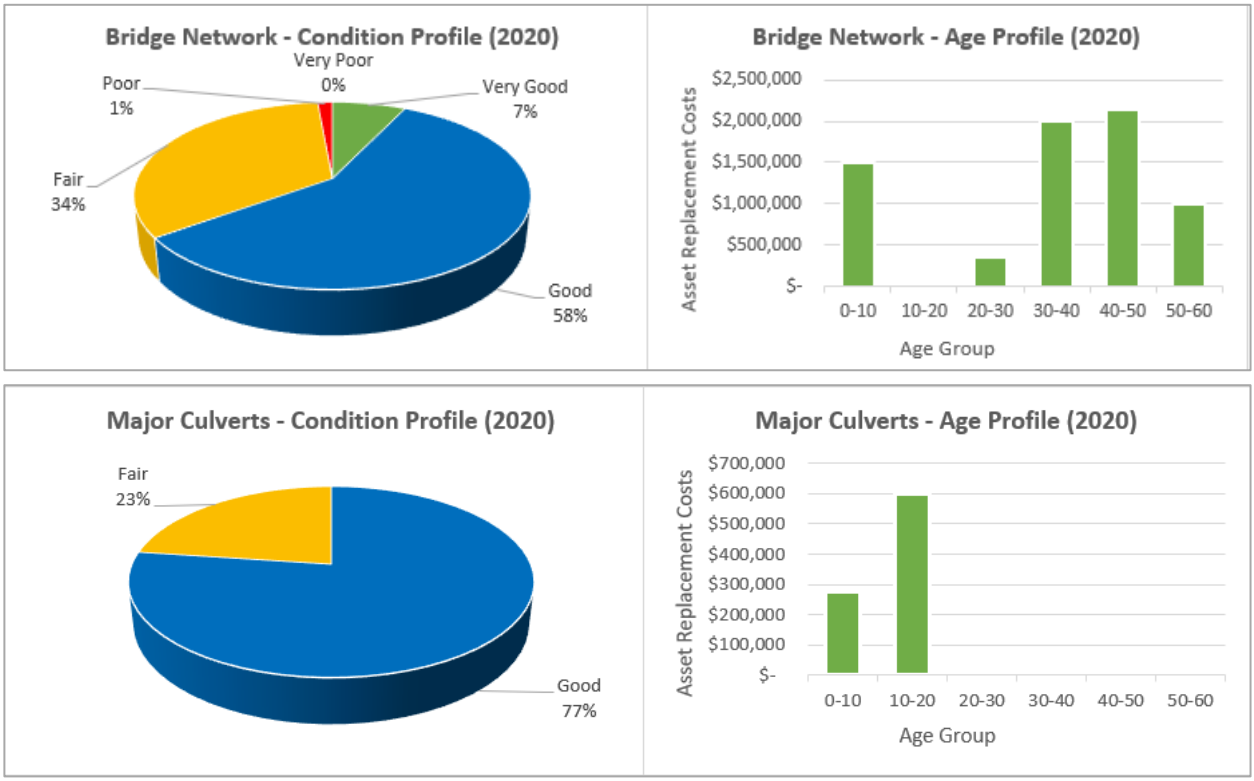


Figure 10: Condition and Age Profiles for Major Structures – Bridges and Major Culverts

Reviewing the asset summary and condition and age profiles:

- The average condition of all the bridges is fair, and the average condition of all the major culverts is good.
- The condition profile of the bridge network shows the condition of the bridges. The *Pardee Road (Over Friendly Creek)* bridge was rated as fair condition overall, but due to instability of some of the bridge members, the bridge was closed to traffic in 2019, and will remain closed until full replacement occurs. It is noted as a high-risk asset to be considered for replacement as soon as possible.
- On average, the bridges are approaching their expected useful lives with most of them falling in the 30 to 40, and 40 to 50-year age categories at approximately $2M in value for each category. The *Salo Road* bridge, and the two on *Pardee Road* are between 50 and 60 years old.
- The *Farm Road* bridge is noted to require replacement as soon as possible.
- The culverts are relatively new and not even halfway through their service lives. All culvert structures are less than 20 years old and have an expected useful life of 50 years. The age profile graph below shows most assets (by dollar value) fall into the 10 to 20-year age category.

The engineering inspection reports recommended maintenance, rehabilitation, and renewals of the major structures for the next five years. Table 29 lists the components recommended for renewal or rehabilitation. The list incudes the second bridge on Pardee Road and the barriers and rails on the Salo Road bridge.

Table 29: Bridge Components Recommended for Renewal or Rehabilitation within 5 years ($2019)

Structure	Cost	Recommended Activities
Pardee Road (Over Friendly Creek)	$500,000	Replace the structure
Cloud Lake Road	60,000	Consider replacing with structural culvert in 1 to 5 years
Boundary Drive - substructure	$25,000	Rehabilitate piers at waterline
Cloud River Road #1 - substructure	$5,000	Provide additional rock protection at east abutment
Cloud River Road #2 - substructure	$8,500	Provide additional rock protection at each abutment front slope
Farm Road - substructure	$5,500	Additional fill and rock protection at abutment and wingwall toes
Pardee Road over Crystal Creek – barriers and rails	$18,500	Replace barriers and rails
Pardee Road over Crystal Creek - substructure	$6,500	Rehabilitate piles and provide additional rock protection in front of abutments
Salo Road – barriers and rails	$5,500	Rehabilitate guiderail
Salo Road – barriers and rails	$21,000	Replace rotten posts and split galvanized steel collars
Walmsley Road Culvert at Pine Creek Tributary	$60,000	Replace culvert in 1 to 5 years due to deformation and damage at inlet
TOTAL	$715,500	

Figure 11 shows the renewal forecasts for the major structures from 2025 to 2039.

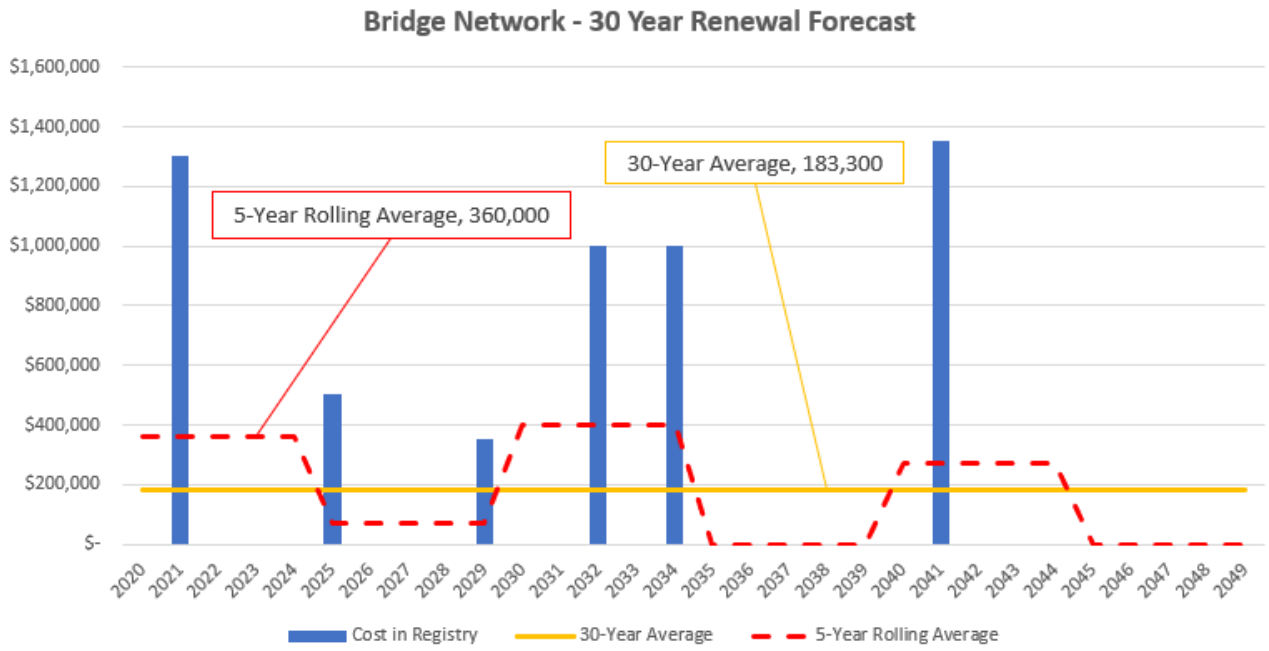


Figure 11: Major Structure Renewal Forecast for Transportation services

Reviewing the forecast:

- The most significant bridge replacements occur in years 2021 and 2041.
- One culvert is recommended for replacement due to damage and deformation.

The table below shows the annual average renewal costs for the next 5, 10, and 30-year forecasting periods.

Table 30: Major Structures Asset Summary

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 360,000
10 Years (2021 - 2030)	$ 215,000
30 Years (2021 - 2050)	$ 183,300

4.2.4 Transportation – Operations Facilities

The Transportation Services department is operated from the Public Works yard which includes the public works building, a salt storage barn, a sand storage shed, and a small shed. Gravel pits, fleet, and equipment are other assets that support transportation operations. Table 31 and Figure 12: Condition and Age Profiles for Transportation Facility

Assets summarize the facility assets used by Public Works to operate and maintain the roadway network. The numbers listed in the "quantity" column of the summary table below represents the area of each building in square metres, and the area in acres of the 2 gravel pits. The average age and average condition results are weighted by the replacement cost of the assets and their components. The Public Works Garage has an average age of 11. This is due to most of the components within the building being less than 10 years old, and the foundation and sewer system being in the 60-year age category.

Table 31: Transportation Operations Facilities Asset Summary

Buildings & Site Assets	Quantity		Average Age	Average Expected Life	Average Condition	Current Replacement Cost	30 YR Average Per Annum Renewals Cost
Public Works Garage	549	sq.m	11	29	1	$ 1,902,508	$ 46,740
Sand Storage Shed	712	sq.m	10	73	2	$ 749,318	$ 8,740
Salt Shed	58	sq.m	36	55	3	$ 195,104	$ 6,500
Shed	63	sq.m	10	35	4	$ 66,277	$ 2,210
Stanley Gravel Pit	9	acre	20	13	1	$ 13,128	$ 70
Sandhill Gravel Pit	16	acre	10	6	1	$ 30,344	$ 70
Asset Total	**1,382**	**sq.m**	**17**	**42**	**2**	**$ 2,956,679**	**$ 64,330**

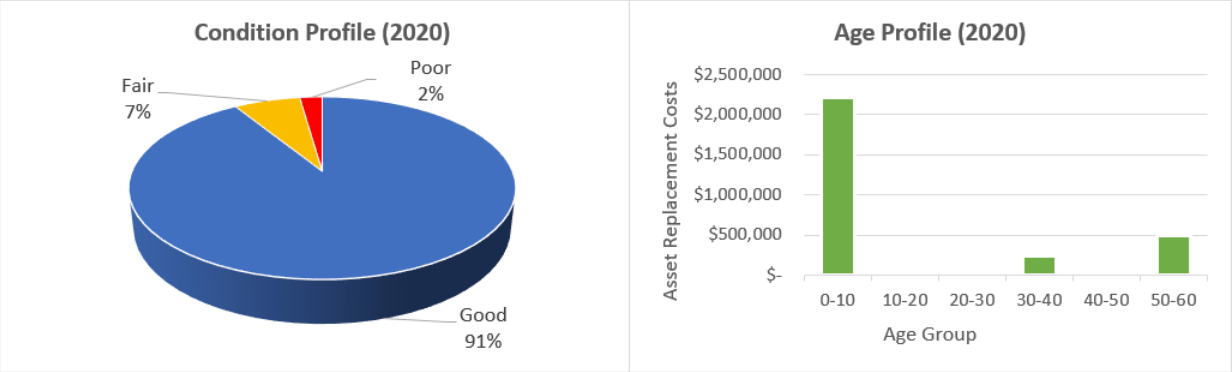


Figure 12: Condition and Age Profiles for Transportation Facility Assets

Reviewing the summary table and condition and age profiles:

- Most of the building and site assets summarized in Table 31 are comprised of several components. Therefore, although the average age for these assets range from 10 to 36 years, the age of individual components ranges from 4 to 51 years. The oldest components are the foundation and septic system for the old public works garage. The age profile graph in Figure 11 shows most asset components (by dollar value) fall into the 0 to 10-year age category.
- The public works garage and sand storage shed are in good condition. The salt shed and small shed are in fair and poor condition respectively

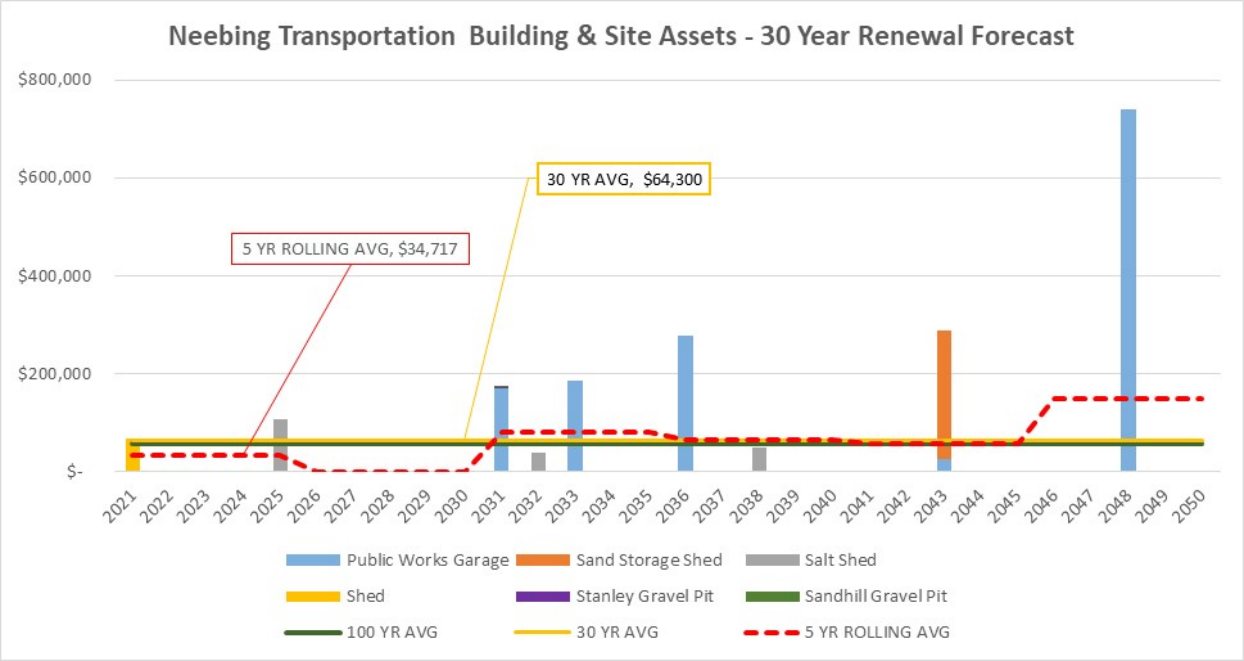


Figure 13: Building and Site Assets – 30 Year Renewal Forecast for Transportation services

Based on the available data:

- The small shed is due for immediate replacement based on age. The field inspection also noted it is in poor condition.
- The next renewals are the roof, sidings and asphalt floor in the salt shed.
- Renewals in years 2031, 2033, and 2036 consist of replacements to the HVAC, plumbing, and fuel tanks at the public works garage. The most significant renewals occur in 2048 which includes the exterior of the public works garage.

The table below shows the annual average renewal costs for the next 5, 10, and 30-year forecasting periods.

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 34,700
10 Years (2021 - 2030)	$ 17,400
30 Years (2021 - 2050)	$ 64,300

4.2.5 Transportation – Operations Fleet

The Transportation Services department owns and operates a fleet of 10 vehicles comprising of:

- 2 pick-up trucks,
- 4 plow trucks, and
- 4 trailers

Table 32 and Figure 12 summarize the fleet assets used by Public Works to operate and maintain the roadway network. The numbers listed in the "quantity" column of the summary table below represent the number of vehicles by classification. The age and condition results are averages weighted by replacement costs for the assets.

Table 32: Transportation Fleet Asset Summary

Assets	Quantity		Average Age	Average Expected Life	Average Condition	Asset Value	30 YR Average Per Annum Renewals Cost
Trailer	4	ea.	23	25	3	$ 203,280	$ 10,160
Vehicle - Heavy	4	ea.	11	20	3	$ 1,510,080	$ 75,500
Vehicle - Light	2	ea.	10	10	4	$ 174,240	$ 17,420
Asset Total	**10**	**ea.**	**15**	**20**	**3**	**$ 1,887,600**	**$ 103,080**

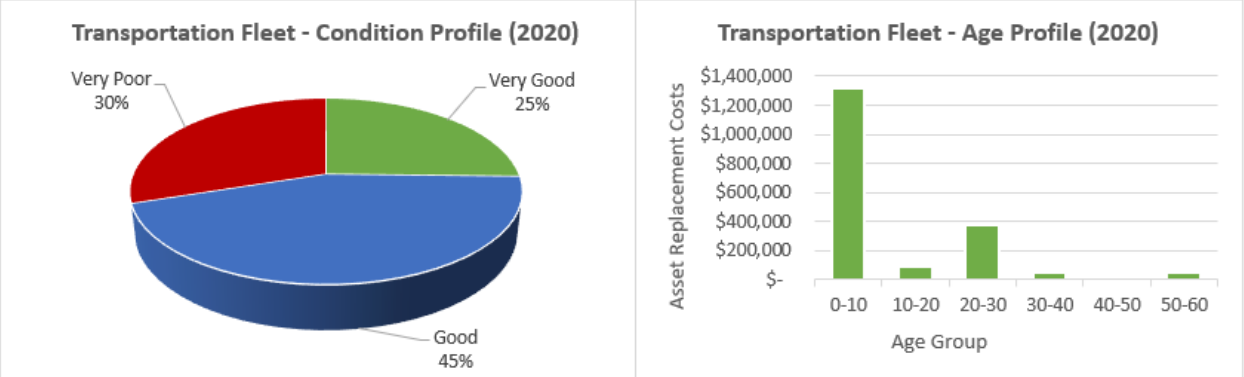


Figure 14: Condition and Age Profiles for Fleet Assets

Reviewing the summary table and condition and age profiles:

- On average, the trailers and heavy vehicles are in fair condition, and the light vehicles are in poor condition. It should be noted that the condition is based on vehicle age and not physical condition.
- The condition profile graph shows 25% of the vehicles being in very good condition, 45% of the vehicles being in good condition, and the remaining 30% in very poor condition. This is due to the light vehicles having a 10-year service life. The condition profile for the vehicles is based on vehicle age rather than by physical inspection data.

- The average age of the transportation fleet ranges from 0 to 60 years old, with the oldest asset being a trailer that is 51 years old (based on the assumption that the install date is correct). The age profile graph below shows most assets (by dollar value) fall into the 0 to 10-year age category.

Figure 15 presents the 30-year asset renewal forecast for the fleet assets.

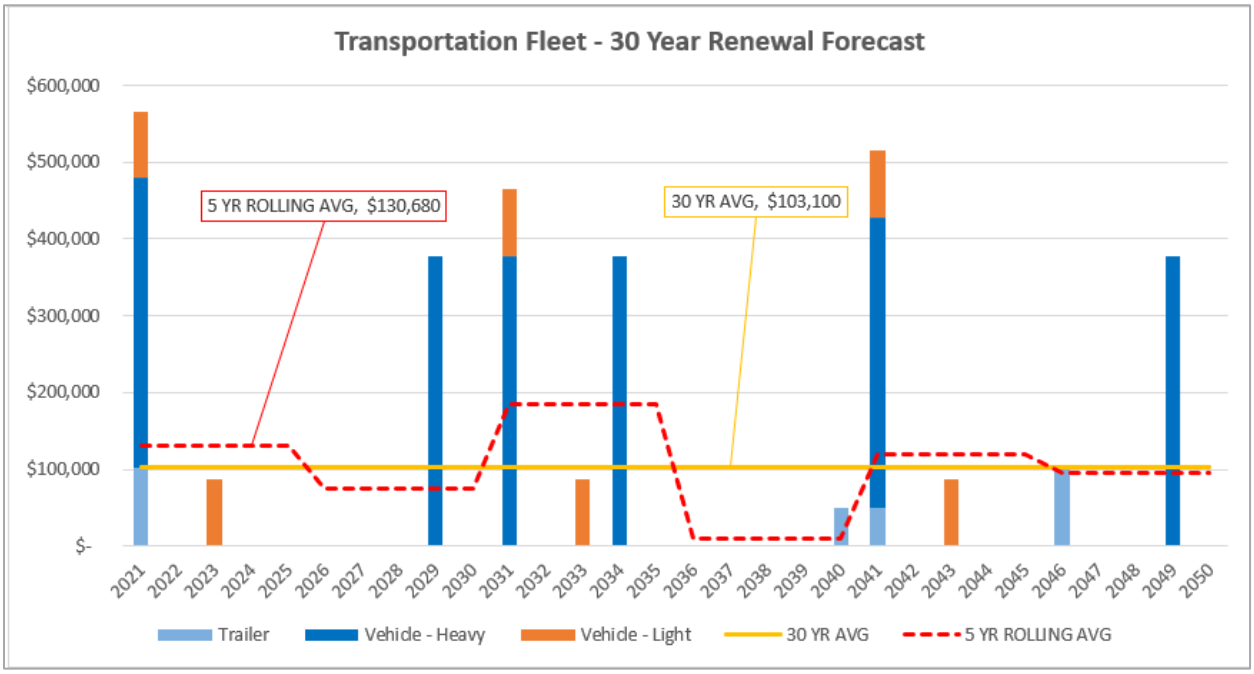


Figure 15: 30 Year Renewal Forecast for Transportation Fleet Assets

Reviewing the age-based condition data and estimated remaining life:

- There are 2 trailers, 2 heavy vehicles, and 1 light vehicle due for immediate replacement, with the next light vehicle due for replacement in 2023.
- The renewals in years 2029, 2031, 2033, and 2034 consist of replacements to light and heavy vehicles.

Note that Figure 15 forecast of transportation fleet renewals shows peak expenditures occurring in a single year relevant to the forecast lifespan of current fleet vehicles (as calculated from available asset data). It is expected however, that as fleet vehicles age, increase in mileage or run hours (usage), and require replacement, they will be prioritized, and planned purchases will be grouped into packages that can reasonably be financed in each fiscal year. The peak expenditures will therefore be scheduled over multiple years.

The following table provides a summary of the annual average renewal cost for three planning periods.

Table 33: 5, 10, and 30-year Average Annual Renewal Costs for Transportation Fleet Assets

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 130,700
10 Years (2021 - 2030)	$ 103,100
30 Years (2021 - 2050)	$ 103,100

4.2.6 Transportation – Operations Equipment

Alongside the fleet of vehicles, the Transportation Services department owns and operates a fleet of equipment comprising of a tractor, 2 mowers, broom, conveyor, excavator, grader, loader, backhoe, steamer, tack kettle, and 18 radios. Table 34 and Figure 16 summarize the equipment assets supporting Transportation Services. The numbers listed in the "quantity" column of the summary table below represents the number of units by equipment type. The age and condition results are averages weighted by replacement costs for the assets.

Table 34: Transportation Equipment Asset Summary

Assets	Quantity		Average Age	Average Expected Life	Average Condition	Asset Value	30 YR Average Per Annum Renewals Cost
Tractor	1	ea.	14	20	3	$ 203,280	$ 13,550
Broom	1	ea.	6	20	2	$ 435,600	$ 14,520
Mower	2	ea.	16	20	4	$ 87,120	$ 5,810
Grader	1	ea.	19	20	4	$ 435,600	$ 29,040
Loader	1	ea.	17	20	3	$ 435,600	$ 29,040
Backhoe	1	ea.	6	20	2	$ 435,600	$ 14,520
Conveyor	1	ea.	18	20	4	$ 181,500	$ 12,100
Excavator	1	ea.	12	20	2	$ 261,360	$ 17,420
Steamer	1	ea.	7	20	2	$ 21,780	$ 730
Tack Kettle	1	ea.	5	20	2	$ 29,040	$ 970
Radio	18	ea.	12	15	3	$ 7,187	$ 480
Asset Total	**29**	**ea.**	**12**	**20**	**3**	**$ 2,533,667**	**$ 138,180**

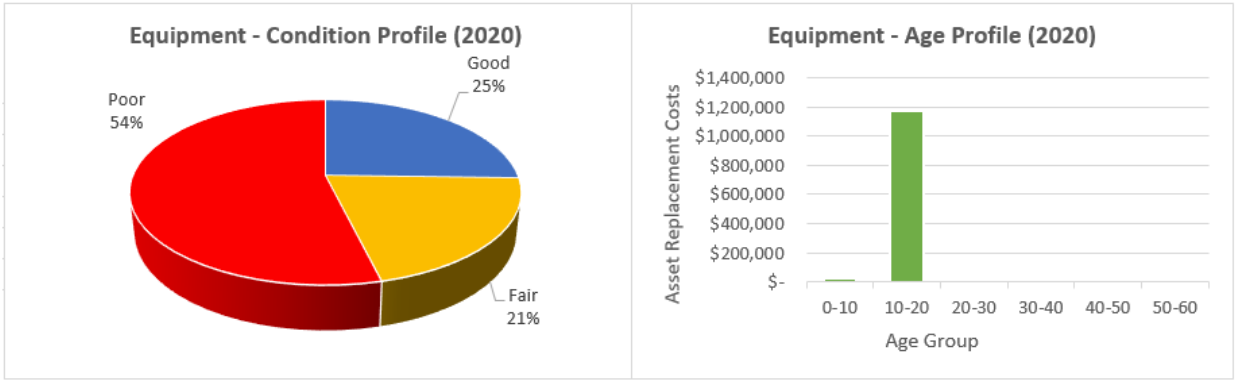


Figure 16: Condition and Age Profiles for Transportation Equipment Assets

Reviewing the summary table and condition and age profiles:

- On average, the equipment is in fair condition overall. The condition profile graph shows 25% of the equipment being in good condition, 21% of the equipment being in fair condition. However, most of the equipment 54% (by dollar value) is in poor condition. The condition profile for the equipment is based on age rather than by physical inspection data.
- For the state of infrastructure reporting, the average age of the transportation fleet ranges from 0 to 20 years old, with most assets (by dollar value) falling into the 10 to 20-year age category.

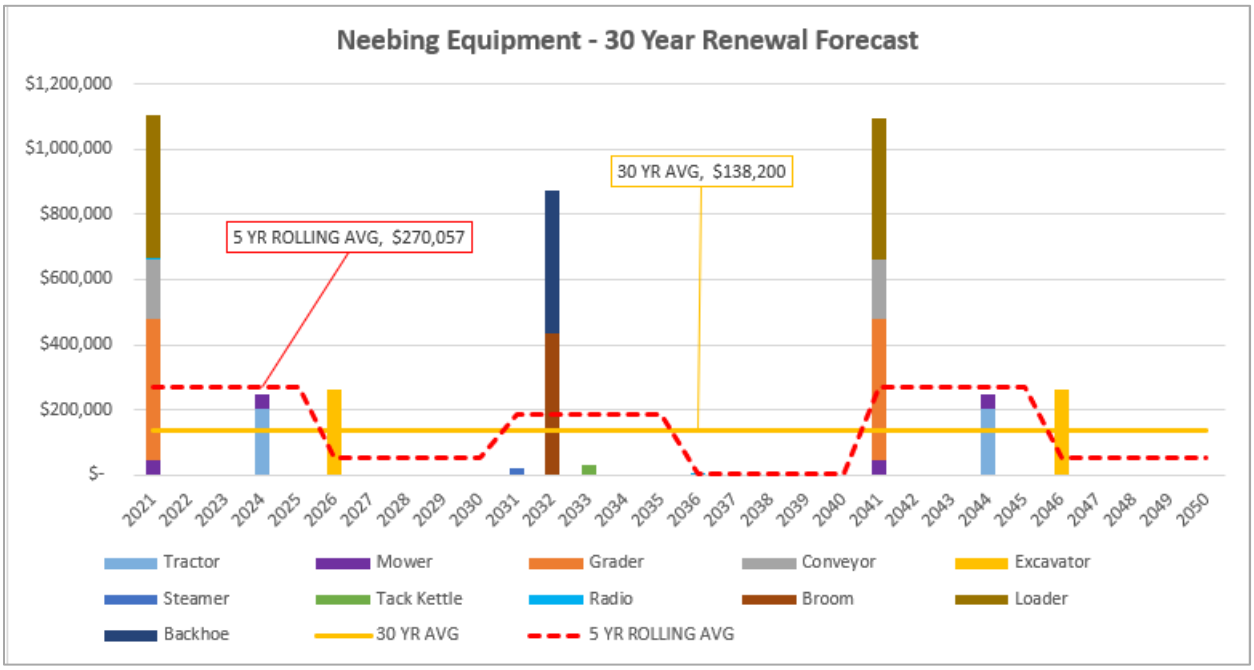


Figure 17: 30 Year Renewal Forecast for Transportation Equipment Assets

Based on the age-based condition data and estimated remaining life:

- The grader, loader, radios, conveyor, and the mower due for immediate replacement.
- 2024 sees the replacement of the tractor and the other mower, and 2026 sees the renewal of the excavator.

As the equipment has relatively short service lives, all assets are due for renewal at least twice in the 30-year forecast period.

Note that Figure 17 forecast of transportation equipment renewals shows peak expenditures occurring in a single year relevant to the forecast lifespan of the equipment assets (as calculated from current asset data). It is expected however, that as equipment items age, increase in hours (usage), and require replacement, they will be prioritized, and planned purchases will be grouped into packages that can reasonably be financed in each fiscal year. The peak expenditures will therefore be scheduled over multiple years.

The following table provides a summary of the annual average renewal cost for three planning periods.

Table 35: 5, 10, and 30 Year Annual Average Renewal Costs for Transportation Equipment Assets

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 270,100
10 Years (2021 - 2030)	$ 161,200
30 Years (2021 - 2050)	$ 138,200

4.3 Levels of Service

4.3.1 Levels of Service Required by Ontario

Table 36 summarizes the community levels of service required by the Ontario Regulations for Asset Management (O.Reg.558/17).

Table 36: Community Levels of Service required by Ontario Regulations (O.Reg.558/17).

Asset	O.Reg. Requirement	Neebing LOS
Roads	Description of road network in the municipality and its level of connectivity (may include maps)	Table 24: Transportation Road Asset Summary
	Description or images that illustrate the different levels of road class pavement condition	See Table 13: Road Condition Rating Criteria

Culverts and Bridges	Description of traffic supported by bridges (heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	See Section 4.1
	Description or images of the condition of bridges and how this would affect use of the bridges Description or images of the condition of culverts and how this would affect the use of the culverts	See Table 14: Bridge Condition Index and Equivalent Asset Management Plan Condition Ratings and Table 15: Culvert Condition Index and Equivalent Asset Management Plan Condition Ratings
Stormwater Management (Drainage) Assets	Description which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system	TBD

Table 37 presents the technical levels of service required by the Ontario Regulations for Asset Management (O.Reg.558/17).

Table 37: Technical Levels of Service required by Ontario Regulations for Asset Management

Asset	Technical Levels of Service	
Road Class	# lane km	% of land area (km^2)
Arterial Road	0	0
Collector Road	197	0.2%
Local Road	295	0.3%
Road Surface Type	Average Condition (PCI)	
Sealed	83 in 2017	
Gravel	72 in 2017	
Major Structures	Average Condition (BCI)	
Bridges	72 in 2019	
Culverts	74 in 2019	
Drainage Assets (Stormwater Management)	% resilient to 100 yr. storm	% resilient to 5 yr. storm
Properties		

4.4 Lifecycle Strategies

4.4.1 Current Lifecycle Activities

Neebing will provide maintenance on roads under its jurisdiction. Table 38 lists the routine maintenance and repair activities from Neebing's Road Maintenance Policy.

Table 38: Transportation asset maintenance activities

Activity	Description
i. "hardtop surface maintenance"	Includes frost heave repair; base repair; utility cut repair; hot and cold mix patching; shoulder maintenance; surface maintenance Including crack sealing, slurry sealing and spray patching; surface sweeping; surface flushing; and routine patrolling;
ii. "gravel surface maintenance"	Includes pothole and washboard repair, shoulder maintenance, grading, application of additional gravel where required, and dust control application;
iii. "Winter control",	includes snowplowing, combination plowing/ice control, ice control, winging back, snow removal, winter patrol, culvert steaming, and spring clean-up;
iv. "traffic operations"	Includes pavement markings, illumination, signals, signs, safety devices, etc.;
v. "roadside work"	vegetation management, including roadside mowing, weed control, tree planting and removal, tree trimming; removal of beaver dams (or other wildlife structures) as necessary to protect the Highway, guardrail and fence maintenance;
vi. "Structure work"	Includes washing and component repair for concrete and steel Culverts, bridges of all types, and their approaches;
vii. "stormwater management"	Includes roadside ditching; and Driveway Culvert maintenance.
Structural Maintenance	work required to maintain the physical structure of a Highway. It Includes such work as: repair after severe weather damage, component repair for concrete or steel Culverts. For the purposes of this policy, the term also Includes the mandatory asset inspections and the cost of engineering studies associated with Highways.

The frequencies of maintenance activities are presented in the Road Maintenance Policy.

Augmenting the detail in the Road Maintenance Policy, the following diagrams (Figure 18 to Figure 22) provide a general outline of current business practice (lifecycle strategy) for

sealed roads, gravel roads, bridges, culverts, and operational fleet. Lifecycle strategy diagrams have not yet been developed at a detailed level by road class, bridge type, culvert type, or vehicle type for fleet, and staff will continue this process.

[Note the lifecycle strategy diagrams provided by Neebing seem to differ from other details in policy and state of infrastructure – Neebing to resolve before next AMP update]

Roads - Arterial					
Summary	**Preventative Maintenance**	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI			Sweeping Snow Removal Ditch Cleaning/Veg Removal	Crack sealing Potholes Patching	?
New					Replace
R&R			Complete repairs and structural overlay treatment to prolong life of road. (typically would include a single layer surface treatment - mid to later life) Surface Life - 10 years	Reconstruct road including base to the most current design standards at that time. Consider if any drainage or shoulder improvements are required. Consider if widening is requires (double layer surface treatment)	Surface - 10
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**
Notes	**Unit rates are in square metres**				
	We only have one paved road and that will be replaced with gravel when the time comes.				

Figure 18: Current Lifecycle Strategy - Sealed Roads

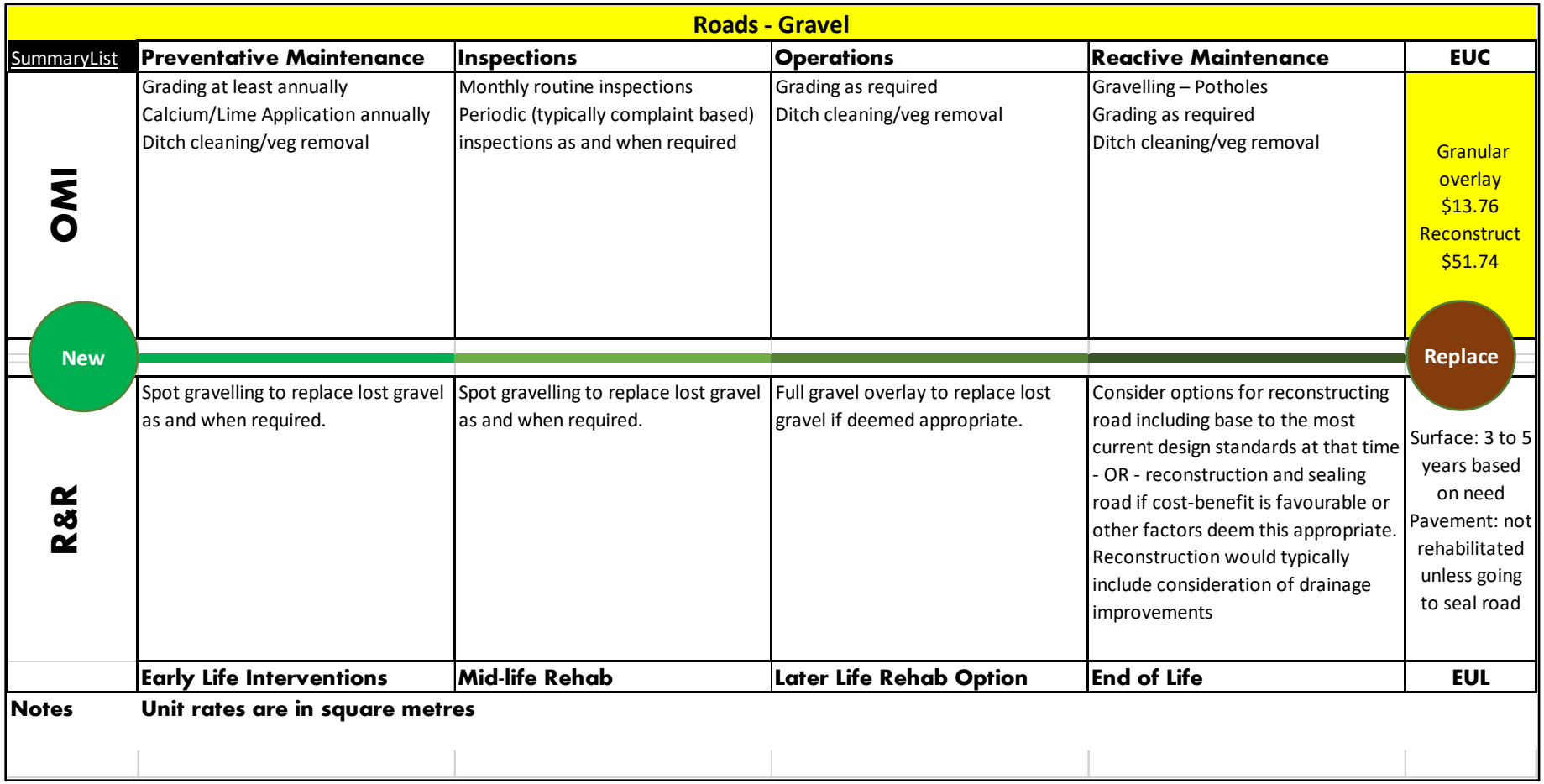


Figure 19: Current Lifecycle Strategy - Gravel Roads

Bridges					
	Preventative Maintenance	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI	Cleaning	Full structural condition inspection every 2 years (by Engineer) Visual inspections as part of routine road inspections Event based inspections (i.e. complaint response) as and when required.	Snow Removal Sweeping / cleaning	Bridge joint repairs Pothole repairs Painting as required Concrete repairs when needed Crack sealing (same as roads)	Various depending on bridge type and material
New					**Replace**
R&R	*Note: Most bridges have wooden substructure.*	Bearing repairs/replacement Deck Repairs/waterproofing	Bearing repairs/replacement Deck Repairs/waterproofing Deck replcement if needed Concrete or Pavement overlays Bridge Strengthening	At end of life replace complete bridge with new using modern materials and construction methods. Consider if size of bridge should be upgraded.	Typically 75 but varies depending on substructure and superstructure material
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**
Notes					

Figure 20: Current Lifecycle Strategy – Bridges

Culverts					
	Preventative Maintenance	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI	Cleaning	Visual inspections as part of routine road inspections Event based inspections (i.e. complaint response) as and when required.	Snow Removal Steam ice blockages Remove debris from beaver activity	Pothole repairs Concrete repairs when needed	Various depending on size and material
New					**Replace**
R&R	*Note: As steel culverts reach the end of their life, they are being replaced by plastic, if the required size is available in that material. Larger sized culverts are not available in plastic.*			At end of life replace complete culvert with new using modern materials and construction methods. Consider if size of culvert should be upgraded.	Typically 75 but varies depending on substructure and superstructure material
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**
Notes					

Figure 21: Current Lifecycle Strategy – Culverts

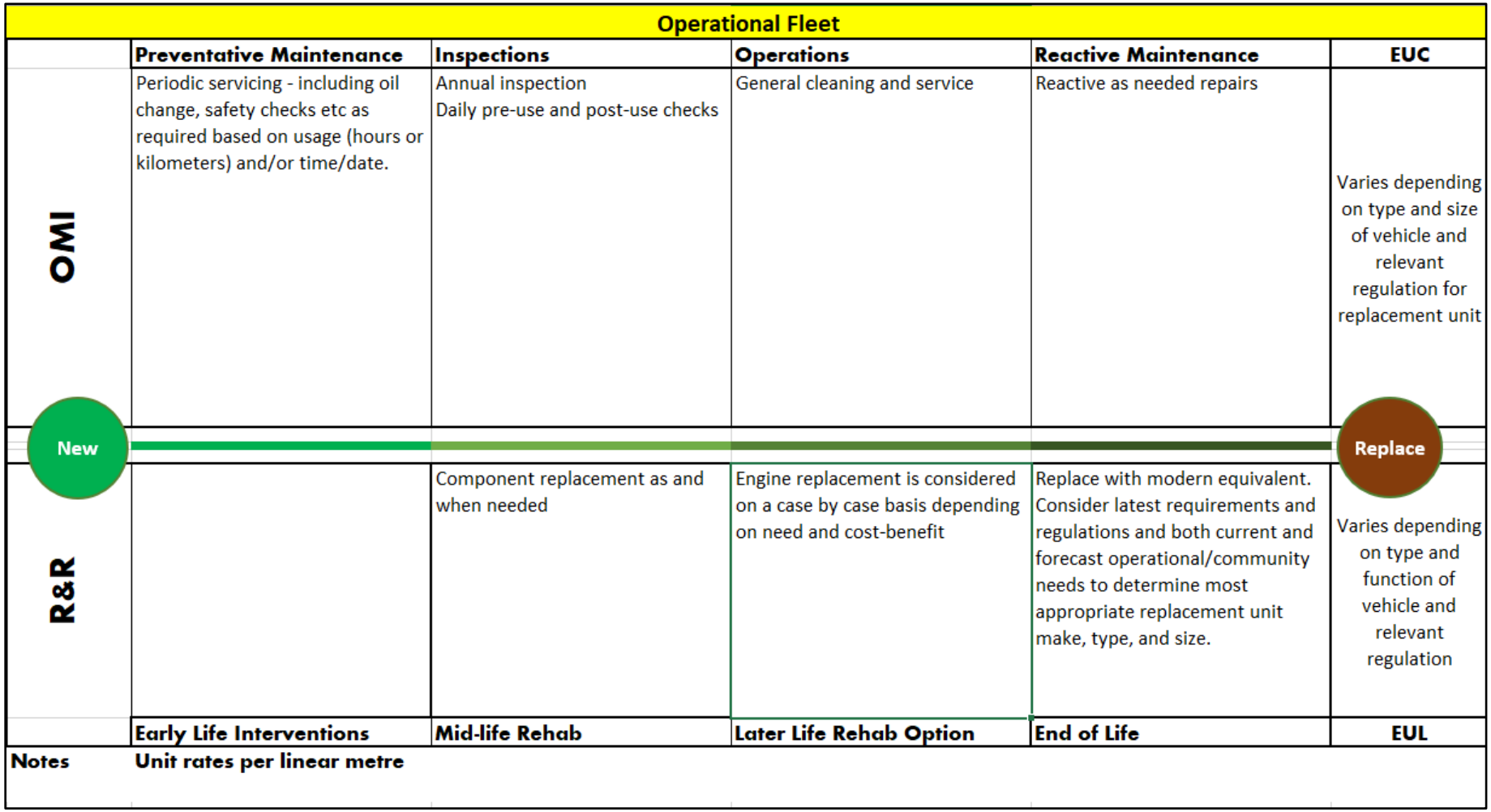


Figure 22: Current Lifecycle Strategy - Operational Fleet

4.4.2 Recommended Capital Projects for New Assets

The engineering bridge inspection report recommends $238,500 in new rail and barrier systems for 6 of the 13 bridges and all 8 of the major culverts. Descriptions of the recommended improvements and costs are provided in the bridge inspection report.

Structure	Cost	Recommended Activities
Cloud River Road #1 bridge	$20,000	Lower and extend steel beam guardrail
Cloud River Road #2	$14,500	Lower guardrail and provide new guardrail at approaches
Farm Road Bridge	$15,000	Guardrail repairs and extension at approaches
Pardee Road bridge over Crystal Creek	$18,000	Provide new guide rail at approaches and over bridge
Cloud Lake Road	$18,000	Install guiderail with signage
East Oliver Lake Road	$15,000	Install 3-cable railing system on bridge
Culverts at Larson Road, Wamsley Road (Pine Creek Tributary), Wamsley Road, Scoble Townline Road, and Klages Road	$75,000	Install 3-cable guide rail system at $15,000 each
Culverts at Blake Hall Rd, Sturgeon Bay Road #1, and Sturgeon Bay Road #2	$63,000	Install guardrail at $21,000 each

Note that Farm Road bridge will be replaced as soon as possible therefore guardrail repairs may not be needed.

These projects have not been included in the financial forecast as they are recommendations only and may be approved to be undertaken at a future date.

4.4.3 Impact of Future Demand on Activities

Neebing states in its 2017 Official Plan that "*The Municipality of Neebing is not responsible for the costs associated with the design and construction of new roads, the extension of existing roads or upgrading abandoned roads*." (Section 5.2.4)

Demand for Transportation Services over the 10-year planning period is not expected to change significantly. There is no expectation that any mitigation measures or new asset projects will be required for demand management or response to increasing demand.

4.5 Risk Management

Neebing does not, at this stage, have a comprehensive risk model implemented at the Corporate or Departmental level. However, an asset level assessment has been undertaken to identify the risk profile for Transportation assets based on an initial assessment of criticality and likelihood of failure.

The results are shown in the following graphs (Figure 23).

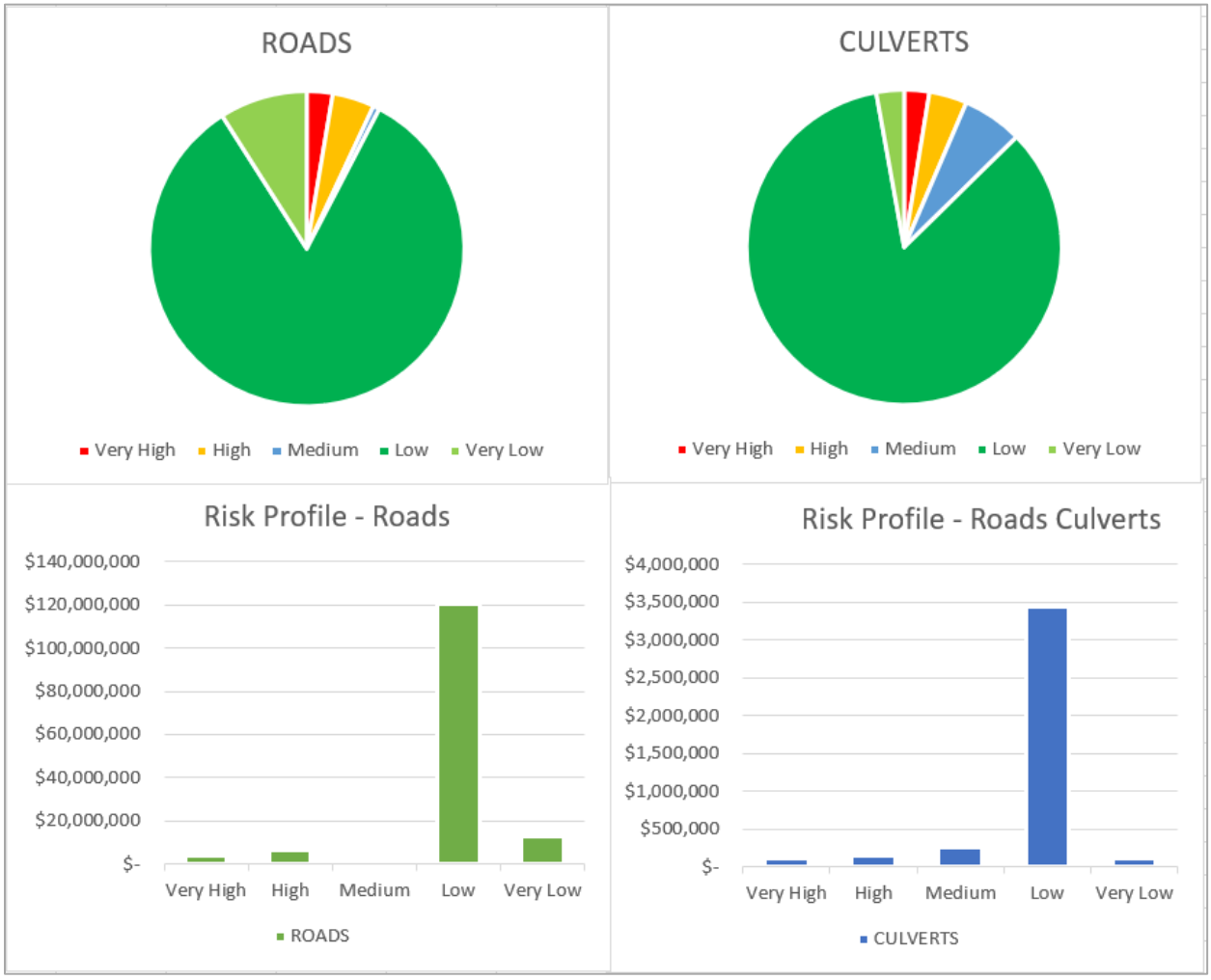


Figure 23: Current Risk Profile - Roads and Road Culverts

There are four roads that were assessed to be high-risk. These sections are;

Road Section	Class	Criticality	Likelihood of Failure
Boundary Drive East	Class 5 Highway - Sealed	5	3
Jarvis Bay Road East	Class 5 Highway - Sealed	5	3
Cloud Lake Road	Class 5 Highway - Gravel	5	4
Sturgeon Bay Road	Class 5 Highway - Sealed	5	3

There are 48 high-risk culverts. These are all located on class 5 and class 6 highways and have less than 2 years estimated remaining life (based on observed condition from field inspections).

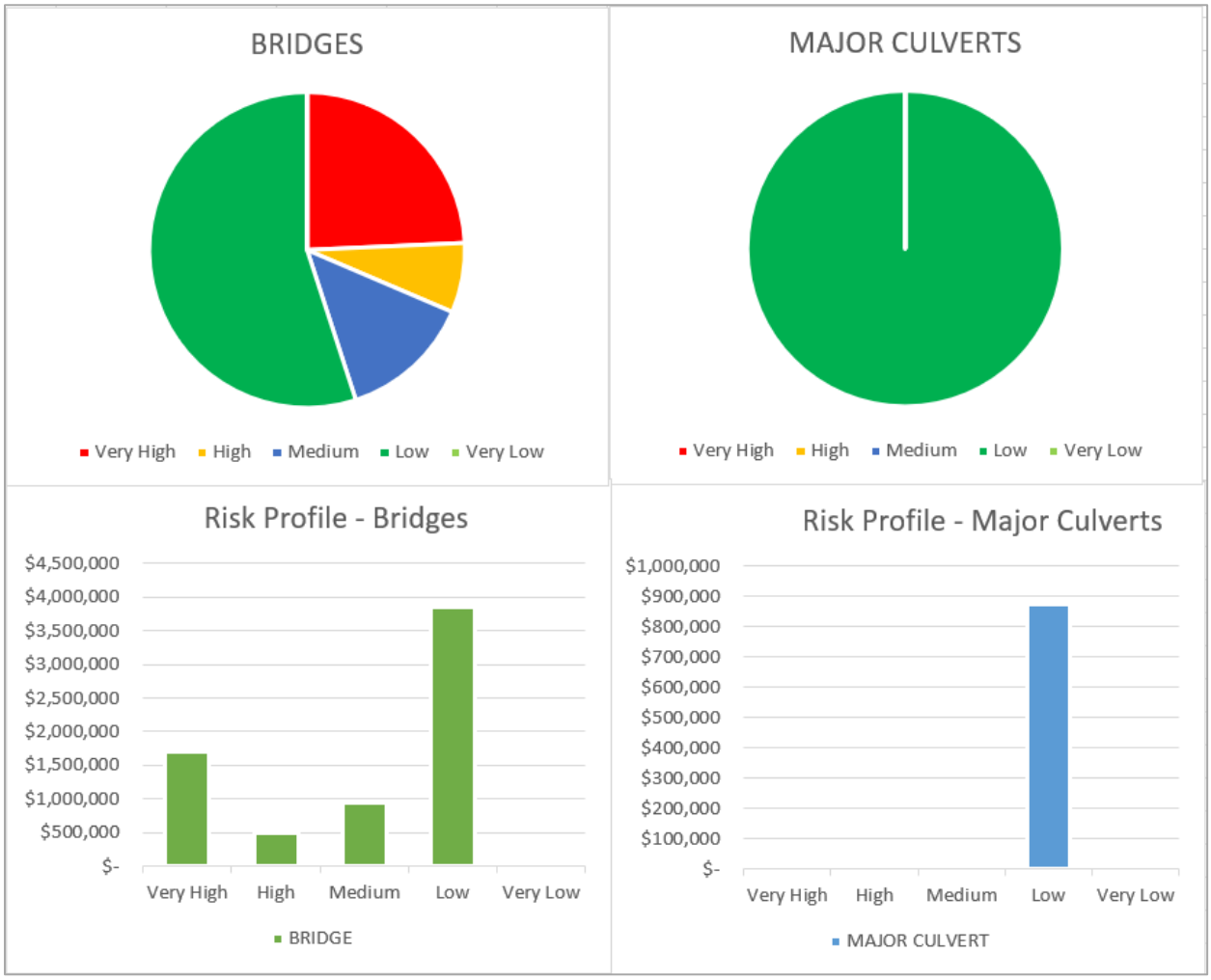


Figure 24: Current Risk Profile - Bridges and Major Culverts

There are six bridges that were assessed to be high-risk. These are;

Asset	ID	Criticality	Likelihood of Failure
Pardee Road (over Friendly Creek)	BR.09	High	Very High
Pardee Road (over Crystal Creek)	BR.08	High	Very High
Farm Road	BR.05	High	High
Cloud Lake Road	BR.16	Very High	Medium
East Oliver Lake Road	BR.17	High	Medium
Oinonen Road	BR.07	High	Medium

There are 48 high-risk culverts. These are all located on class 5 and class 6 highways and have less than 2 years estimated remaining life (based on observed condition from field inspections).

5 Community Services

5.1 Service and Asset Overview

The assets supporting Community Services are managed by Public Works and include 2 recreational facilities, a seasonal outdoor ice rink, a mountain bike trail, 10 public parks, and a cemetery. The buildings at the recreational facilities fall under the jurisdiction of Corporate Services and are reported in Section 8.

5.2 State of the Infrastructure

Table 39 provides a summary of the Community Services assets managed by Public Works. The results are averages for the assets and their components at each facility. Average values are weighted by replacement costs. The values listed in the "quantity" column of the summary table represent the number of assets at each park or recreational facility.

Table 39: Community Services Asset Summary

Parks and Cemetery	# of Assets		Average Age	Average Expected Life	Average Condition	Current Replacement Cost	30 YR Average Per Annum Renewals Cost
Cemetery	12	#	4	57	2	$ 112,122	$ 1,550
Alf Olsen Memorial Park	12	#	38	25	2	$ 98,791	$ 3,040
Blake Hall Park	5	#	4	25	2	$ 76,191	$ 3,070
Cottage Drive E Park	1	#	2	20	3	$ 69,173	$ 4,610
Cottage Drive W Park	1	#	2	20	3	$ 69,173	$ 4,610
Cloud Lake Park	4	#	19	33	2	$ 138,386	$ 6,950
Little Pigeon Bay Park	2	#	15	45	2	$ 70,487	$ 4,610
Margaret St. Park	5	#	4	32	1	$ 88,817	$ 4,730
Memory Road Park	2	#	21	20	5	$ 138,346	$ 9,220
Municipal Office Playground	9	#	4	28	2	$ 66,621	$ 3,250
West Oliver Lake Park	6	#	3	25	2	$ 75,535	$ 5,000
Asset Total	**59**	**#**	**11**	**30**	**2**	**$ 1,003,642**	**$ 50,640**

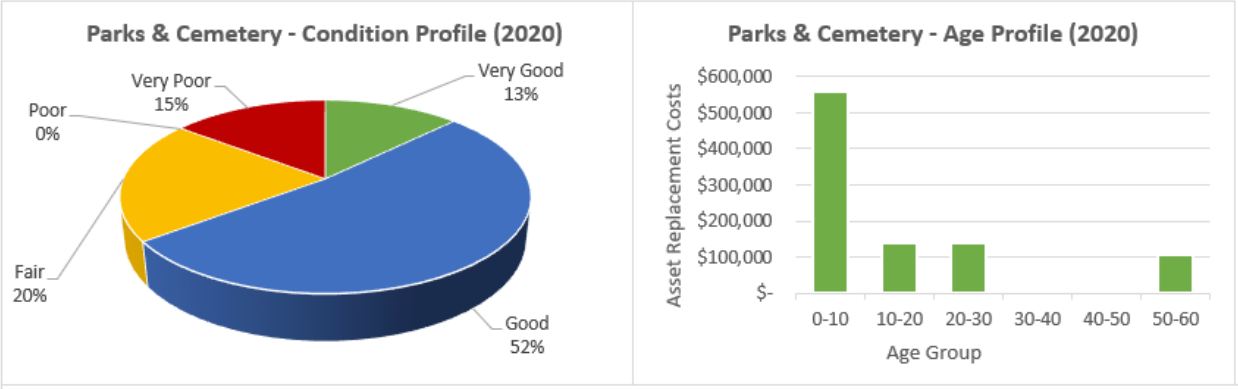


Figure 25: Condition and Age Profiles of Community Services Assets

Reviewing the summary table and age and condition profiles:

- The average condition in the summary table shows most assets to be in good condition. The condition states are based on actual condition ratings collected by WSP.
- The condition profile graph shows the condition of all parks and cemetery assets as a percentage by dollar value. The boat launch at Margaret Street is new and is in very good condition. The boat launches at Cottage Drive are in fair condition, and the boat launch at Memory Road is in very poor condition.
- The average age of the assets within the parks and cemetery range from 10 to 60 years old. However, the majority of assets (by value) are in the 0 to 10-year age group. The assets that are in the 50 to 60 age group are the shed at Cloud Lake Boat Launch and the baseball field at Alf Olsen Memorial Park.
- The baseball field, parking lot, and sign at the Alf Olsen Centre were constructed in 1965. Based on their estimated useful lives, most of the assets should have been replaced. The condition inspections conducted in 2019 state that all assets at the centre are in fair condition for their age except the parking lot and the sign which are both in poor condition, which is more aligned to their lifespans.
- Similarly, the shed at Cloud Lake was constructed in 1965 and based on the estimated lifespan, should have been replaced. The condition inspection rating for the shed is good, which means that the lifespan of 50 years might be conservative.
- The boat launches at Memory Road were acquired in 2000. This does not necessarily mean that they are 21 years old. They could have been constructed before that date. The condition inspections state that both launches are in very poor condition and washed away. The boat launches have a lifespan of 20 years,

so based on that, their lifespan and their respective condition state condition may be aligned.

- The boat launch and bench at Little Pigeon Park are 15 years old. The lifespan of the boat launch is 20 years, meaning that the boat launch should be in fair to poor condition due to having 5 years remaining life. The condition assessments conducted in 2019 state that the launch is in good condition. The bench has a lifespan of 70 years, and both age-based and physical condition results state that the bench is in very good condition.

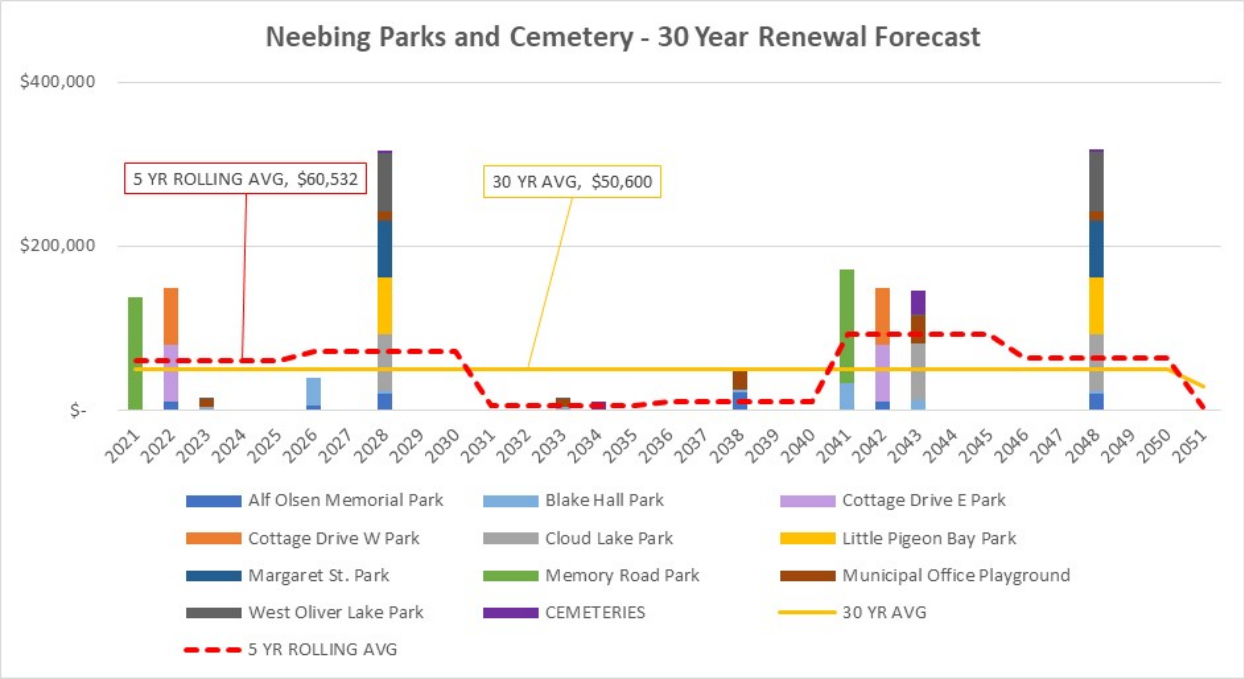


Figure 26: 30 Year Renewal Forecast for Community Services Assets

Figure 26 presents the 30-year forecast for the Community Services assets.

Based on the asset data, there are $140,000 worth of replacements due to occur in the first year. These are the boat launches at Memory Lake park as they are in very poor condition. Year 2 sees the renewal of the Cottage Drive boat launches and renewals to the baseball dugout at Alf Olsen park. The boat launches are due for replacement as they have partially washed away despite being reported to be in fair condition. Other substantial renewals occur in 2028, 2041, 2042, 2043, and 2048.

The table below shows the annual average renewal costs for the next 5, 10, and 30-year forecasting periods.

Table 40: 30-year Asset Renewal Forecast for Community Services

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 60,500

Time Period	Annual Average Renewal Cost
10 Years (2021 - 2030)	$ 65,900
30 Years (2021 - 2050)	$ 50,600

5.3 Levels of Service

5.3.1 User Group LOS Statements

The following tables (Table 41 to Table 44), summarize the user groups for the service. The tables describe current understanding of the level of service expectations for each user group and lists the relevant service criteria and performance measures identified by Neebing staff, to monitor delivery of the service level expectations.

As more information is available on measured performance results and cost of service options, Neebing will be in an appropriate position of knowledge about costs and consequences, to communicate these to stakeholders and undertake consultation with user groups to agree on the future desired levels of service to be funded. Until that time, the level of service information in the following tables is based on staff assessment of current services.

Table 41: Stakeholders who use Community Services - LOS Table

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Public	Well maintained and clean parks that are available by being in an accessible location and open for use.	Availability	Hours closed per annum
		Cleanliness	Number of visits to site by the cleanliness team
			Number of complaints
Families	Safe, well maintained, and clean sites having waste receptacles.	Cleanliness	Number of visits to site by the cleanliness team
			Number of complaints
		Maintenance	Number of work orders and service requests completed.
			Number of inspections and follow up maintenance activities completed.
		Safety	Completeness of records or incident reports and inspection forms.
			Number of playground inspections.
Community Groups	Suitably sized for group events.	Capacity	Maximum number of concurrent occupants/users of the site.
			Periodic review of user numbers during peak usage.

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
		Accessibility	Number of sites accessible to seniors
People with Disabilities	Facilities and sites are accessible.	Accessibility	Number of sites accessible to people with disabilities
Athletes	There are a sufficient number of sites and sports facilities in suitable locations.	Capacity	Annual number of users per site.
			Periodic review of user numbers during peak usage times.
		Location	Within acceptable distance to residential areas.
		Suitability	Customer survey results
Rink Users	Sites are available for use during winter months.	Availability	Number of times per year that the site is unavailable for use.
			Daily hours of operation.
Playground Users	Playgrounds are safe, well maintained, and clean, with facilities in suitable locations.	Availability	Number of times per year that the site or asset is unavailable for use.
		Cleanliness	Number of visits to site by the cleanliness team.
		Maintenance	Number of work orders and service requests completed.
			Number of inspections and follow up maintenance activities completed.
		Location	Within acceptable distance to residential areas.
		Suitability	Customer survey results.
School Groups	Facilities and sites are suitable for school group events. *(Con College pre-fire class is the only school group to use any facilities)*	Capacity	Annual number of users per site
			Periodic review of user numbers during peak usage times.
			Booking records detailing usage levels.
Cyclists	Routes are suitable and connected, safe, and well maintained.	Maintenance	Number of work orders and service requests completed.
			Number of inspections and follow up maintenance activities completed.
		Safety	Completeness of records or incident reports and inspection forms.
		Suitability	Customer survey results.
Cemetery Visitors	Sites are well maintained and clean, offering a peaceful atmosphere with pleasant aesthetics.	Cleanliness	Number of visits to site by the cleanliness team.
		Maintenance	Number of work orders and service requests completed.
			Number of inspections and follow up maintenance activities completed.
		Suitability	Customer survey results.

Table 42: Service Providers who use Community Services - LOS Table

Stakeholder Group – Service Providers		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Event Promoters	The site has availability for parking and sufficient capacity for desired crowd sizes.	Accessibility	Number of vehicle parking sites and distances to the site.
		Capacity	Maximum number of occupants for the site or facility.
Sports Organizations delivering Programs *(no formal sports activities currently operating in municipality)*	The site is available for use at convenient times, it is well maintained with sufficient parking and suitable amenities.	Accessibility	Number of vehicle parking sites and distances to the site.
		Availability	Number of times per year that the site or asset is unavailable for use.
			Daily hours of operation.
		Suitability	Customer survey results.

Table 43: Regulators for Community Services - LOS Table

Stakeholder Group – Regulators		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Ontario Environment & Parks	Compliance with applicable environmental protection regulations and laws.	Compliance	Number of environmental compliance notifications that have been resolved.
Ontario Health	Playground structures follow applicable Canadian Standards Association (CSA) standards.	Compliance	Number of playground sites and structures meeting applicable standards.

Table 44: Wider Community Interest in Community Services - LOS Table

Stakeholder Group – Wider Community		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Neebing Residents	Parks and Recreation sites and amenities are located near rural communities.	Location	Within acceptable distance to residential areas.
Neebing Tax Payers	Good stewardship and efficient use of taxpayer dollars	Good stewardship	Asset Management Plan.
			Condition profile of assets over time.
			Age profile of assets compared to expected life.

5.3.2 Key Performance Measures

Table 45 is a summary of the performance measures for each service criterion for all user groups. Neebing will monitor these measures over the next year to report current performance. Once current performance is known for each measure, a target performance will be defined and reported for the following year.

In the interim, the current performance reported in the 2017 Official Community Plan for the next 20 years states;

> **5.6 COMMUNITY FACILITIES AND SERVICES**
>
> 5.6.1 The existing services provided by the Municipality, its volunteers or its contracted agencies are considered adequate to meet the needs of the residents of the Municipality
>
> 5.6.2 The existing public school facilities servicing the Municipality meet the needs of the community regarding educational facilities

Table 45: Summary of LOS Performance Measures

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Accessibility	Number of sites accessible to people with disabilities		
Accessibility	Number of sites accessible to seniors		
Accessibility	Number of vehicle parking sites and distances to the site.		
Availability	Daily hours of operation.		
Availability	Hours closed per annum		
Availability	Number of times per year that the site or asset is unavailable for use.		
Capacity	Annual number of users per site		
Capacity	Booking records detailing usage levels.		
Capacity	Maximum number of concurrent occupants/users of the site.		
Capacity	Maximum number of occupants for the site or facility.		
Capacity	Periodic review of user numbers during peak usage times.		
Cleanliness	Number of complaints		
Cleanliness	Number of visits to site by the cleanliness team		

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Compliance	Number of environmental compliance notifications that have been resolved.		
Compliance	Number of playground sites and structures meeting applicable standards.		
Good stewardship	Age profile of assets compared to expected life.		
Good stewardship	Asset Management Plan.		
Good stewardship	Condition profile of assets over time.		
Location	Within acceptable distance to residential areas.		
Maintenance	Number of inspections and follow up maintenance activities completed.		
Maintenance	Number of work orders and service requests completed.		
Safety	Completeness of records or incident reports and inspection forms.		
Safety	Number of playground inspections.		
Suitability	Customer survey results		

5.4 Lifecycle Strategies

5.4.1 Current Lifecycle Activities

The following diagram outlines current business practice (lifecycle strategy) for parks with boat ramps. Lifecycle strategies have not yet been developed at a detailed asset level, and staff will continue this process.

5.4.2 Recommended Capital Projects for New Assets

No new asset projects have been identified at this time.

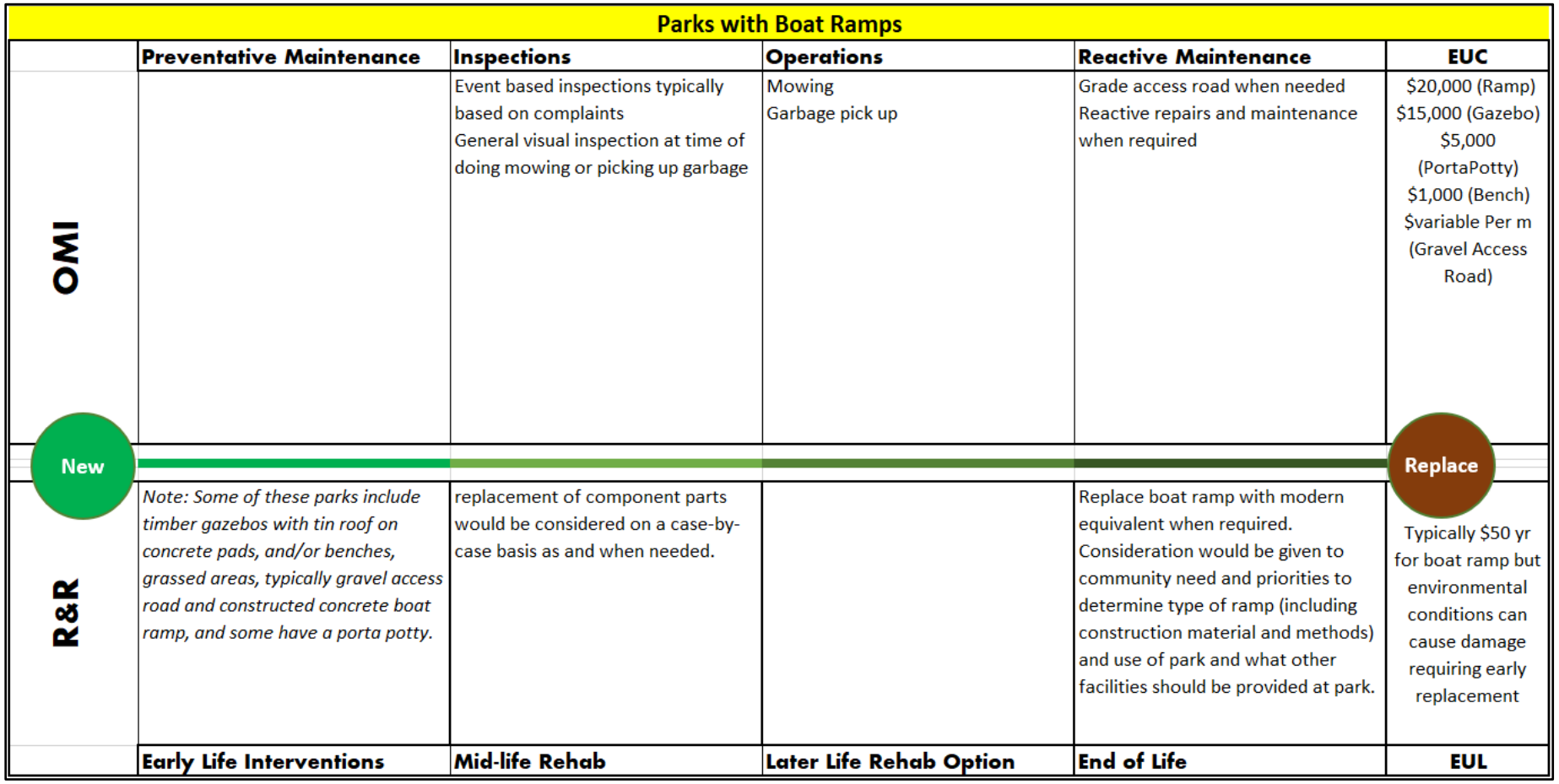


Figure 27: Current Lifecycle Strategy - Parks with Boat Ramps

5.4.3 Impact of Future Demand on Activities

Demand for Community Services over the 10-year planning period is not expected to change significantly. There is no expectation that any mitigation measures or new asset projects will be required for demand management or response to increasing demand.

5.5 Risk Management

Neebing does not, at this stage, have a comprehensive risk model implemented at the Corporate or Departmental level. However, an asset level assessment was undertaken by staff to identify the risk profile for Community Services assets, based on an initial assessment of criticality and likelihood of failure. The initial risk results are shown in the following graphs.

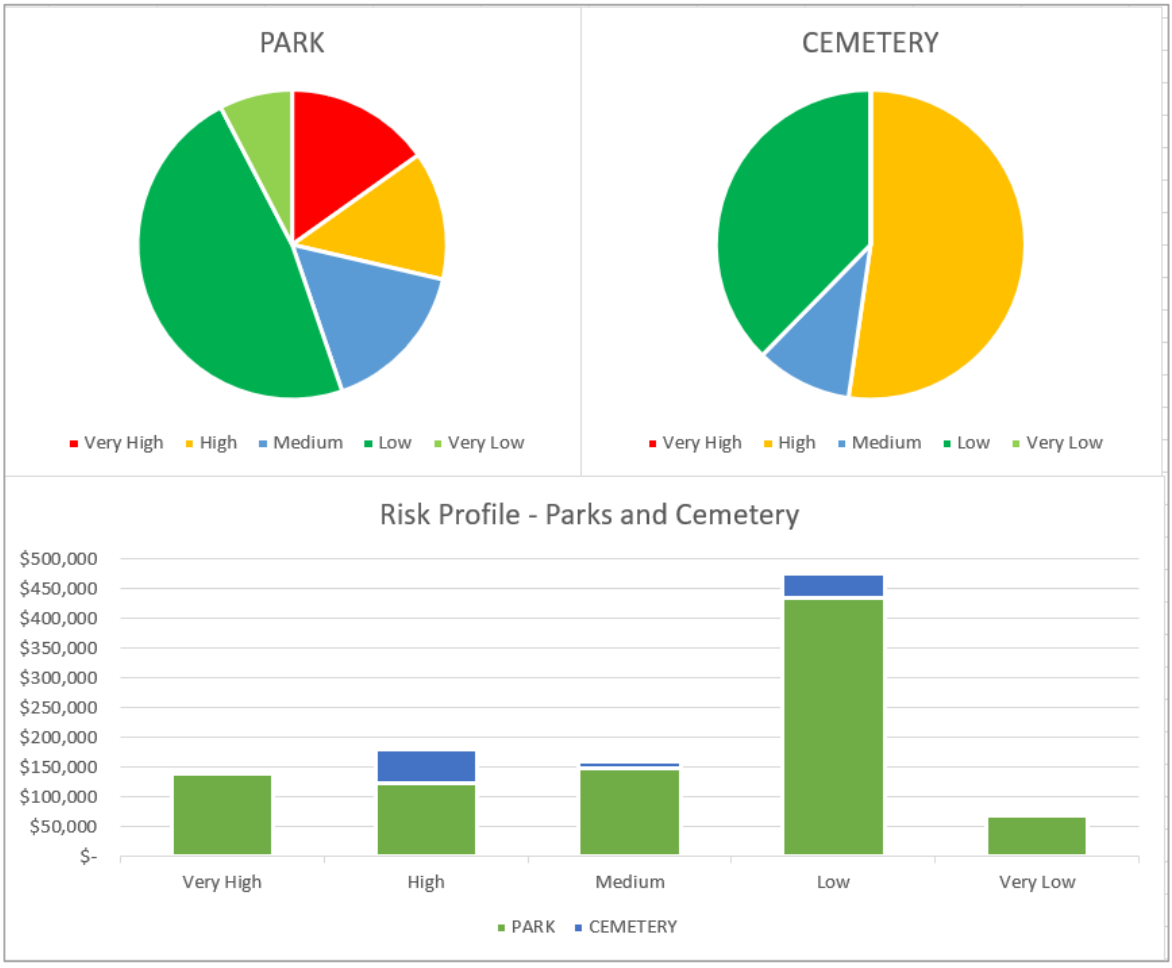


Figure 28: Current Risk Profile - Parks and Cemetery

The very high-risk park assets are the asphalt and boat launch assets in Memory Road Park that are at the end of their remaining life and in very poor condition.

6 Environmental Services

6.1 Service and Asset Overview

Environmental Services consist of solid waste disposal at two landfill sites, one located in Scoble Hamlet, and the other located on Sandhill Road just off Highway 61. Table 46 lists the types of waste accepted at the landfills.

Table 46: Types of Waste Accepted at Landfills

Sandhill Site	Scoble Site
• Household Waste (other than recyclable materials) • Demolition Waste/bulky items	• Household Waste (other than recyclable materials)

Neebing participates in as much recycling efforts as are available to the area. Locations within the landfill sites are clearly designated with appropriate signage for the placement of recyclable materials, organic waste (for composting) and wood waste (for burning).

There are no fees for the first 100 bags of residential waste. Tags can be purchased for additional bags. There are tipping fees for depositing larger items and/or truck or trailer loads of debris.

There is no electricity serving any portion of the Sandhill or Scoble landfill sites. The following buildings are located at each site:

- Landfill site attendants' shelter (heated with a Propane heater system);
- Shed for charitable donation tins; and
- Good Neighbour Shed

6.2 State of the Infrastructure

Table 47 provides a summary of the existing assets that are the responsibility of Environmental Services. Options and costs to extend the life of the Sandhill landfill (land purchase and expansion costs) are outlined in Section 6.4.2 and incorporated into the capital budget forecasts in Section 9. Strategies to extend the life of the Scoble Landfill and defer the need for capital investment are also outlined in Section 6.4.2

The state of infrastructure results in Table 47 are averages for existing assets at each facility (sheds, fences, signs, gates and barriers). The average values for the assets are weighted by asset replacement costs, and the values listed in the "quantity" column represent the number of assets at each landfill.

Table 47: Environmental Services Asset Summary

Facilities	Quantity of Assets		Average Age	Average Expected Life	Average Condition	Asset Value	30 YR Average Per Annum Renewals Cost
Scoble Landfill	5	#	22	41	2	$ 60,105	$ 2,010
Sandhill Landfill	6	#	39	46	2	$ 63,573	$ 1,750
Asset Total	**11**	**#**	**31**	**43**	**2**	**$ 123,678**	**$ 3,760**

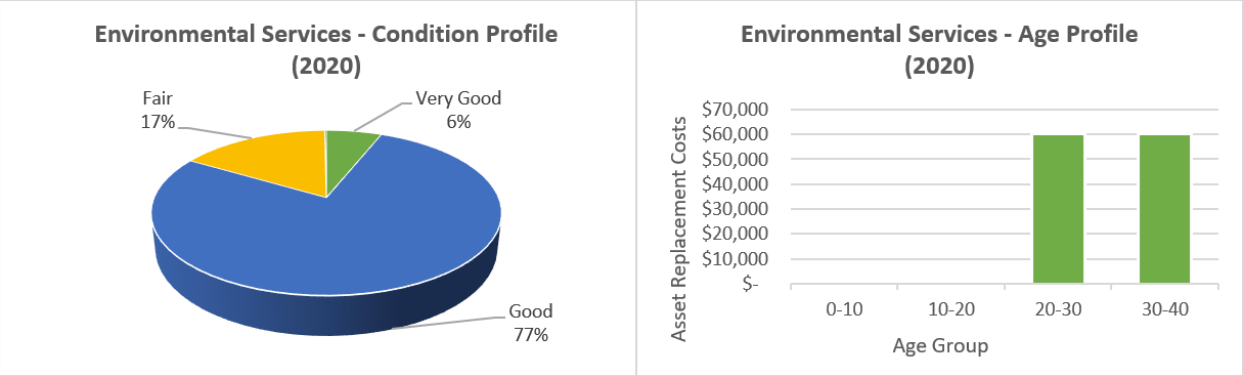


Figure 29: Condition and Age Profiles of Environmental Assets

Reviewing the summary table and condition and age profiles:

- The assets are approaching their expected useful lives. However, they remain in good condition. This can imply that the expected useful lives are conservative (or underestimated). However, for landfill assets the useful life is also relative to the overall life of the landfill site. Therefore, some assets could reach the end of their functional life when the landfill site is full or replaced when the landfill is expanded, even though they might still be in good physical condition.
- Most assets are in very good or good condition (6% and 77% respectively), and the remaining 17% of the assets are in fair condition. The chain link fence at the Scoble landfill is the only asset currently assessed as being in poor condition, and as the fence is only a short length (3m), it has an estimated replacement value of $200.
- The condition analysis is based on field assessments completed in 2019. Additional details are provided in the
- State of the Infrastructure (SOI) Section.

Figure 29 presents the 30-year forecast for the existing Environmental Services assets that are to be replaced at the end of their useful life. The options and capital costs for the expansion of the Sandhill landfill are outlined in Section 6.4.2 along with a proposed renewal strategy for the Scoble Landfill, to use various operational and educational measures to slow the fill rate of the existing cell and defer capital costs for expansion.

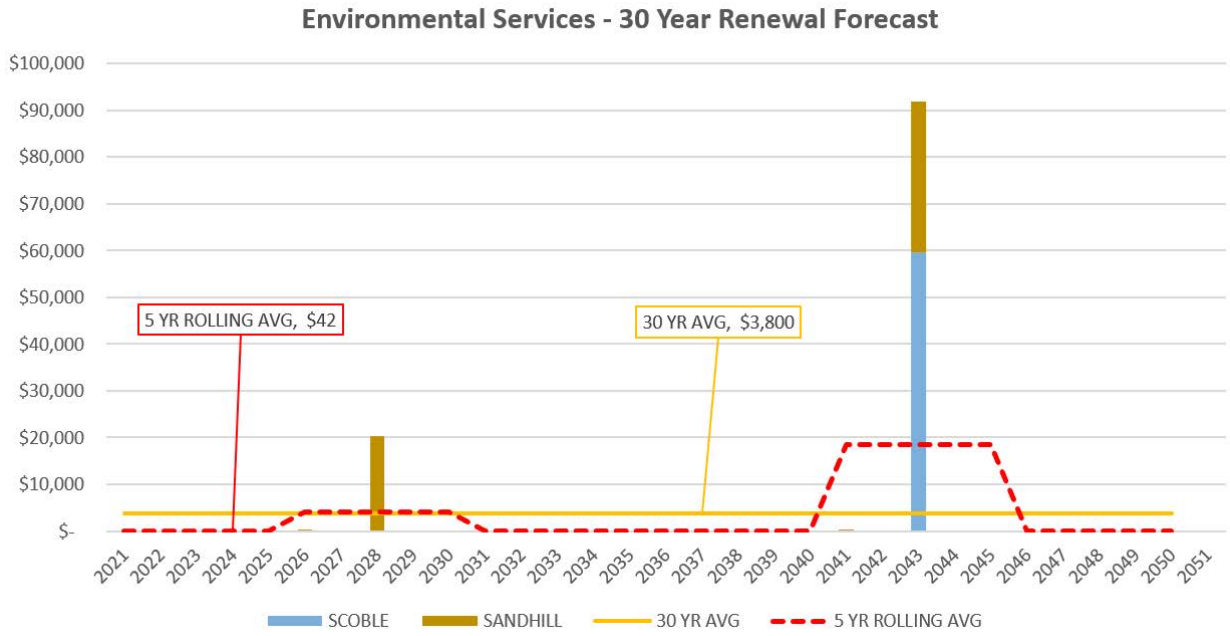


Figure 30: 30-year Asset Renewal Forecast for Environmental Services

The boundary fence at Scoble requires immediate replacement but is not shown on the graph due to the small replacement cost ($211) in relation to the total cost of the site ($60,104). Based on the data in the asset register and condition ratings, the graph shows that there are no significant renewals forecast for existing assets (sheds, fences, signs, gates and barriers) at either landfill until 2046. There are however, options being considered for expansion of the Sandhill site and operational changes at the Scoble site to extend the life of the sites. These are potential capital costs and future operational costs and are not included in the renewal forecast for existing assets.

The table below shows the average annual renewal costs for existing Environmental Services assets over the next 5, 10, and 30-year periods.

Table 48: 5, 10, and 30-year annual average renewal costs for the Environmental Services assets

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ -
10 Years (2021 - 2030)	$ 2,100
30 Years (2021 - 2050)	$ 3,800

6.3 Levels of Service

6.3.1 User Group LOS Statements

The following tables (Table 49 to

Table 52), summarize the user groups for the service. The tables describe current understanding of the level of service expectations for each user group and lists the relevant service criteria and performance measures identified by Neebing staff, to monitor delivery of the service level expectations.

As more information is available on measured performance results and cost of service options, Neebing will be in an appropriate position of knowledge about costs and consequences, to communicate these to stakeholders and undertake consultation with user groups to agree on the future desired levels of service to be funded. Until that time, the level of service information in the following tables is based on staff assessment of current services.

Table 49: Users of Environmental Services - LOS Table

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Public	There is a clean, safe, and environmentally responsible landfill facility within the region, that is open to the public, with knowledgeable staff, has competitive tipping rates, and is a "one stop drop"	Competitive Tipping Rates	Comparison of tipping fees with neighbouring facilities
			Cost of service versus revenue
		Usage	Volume of waste by type
			Percent recycled material to landfill material
		Safety	No. of incidents
			Near misses
		Customer service	No. of complaints
		Availability	Total hours open per annum
			Total days open per annum
		Smell/odour control	No. of complaints
		Response to spills/hazards	No. of incidents
			Compliance with response times
Contractors & Haulers	A safe and accessible facility that is readily available and has competitive tipping rates	Competitive Rates	Comparison of tipping fees with neighbouring facilities
			Cost of service versus revenue
		Usage	Volume of waste by type

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
	and takes a wide variety of materials.		Percent contractor material to landfill material
		Safety	No. of incidents
			Near misses
		Availability	Total hours open per annum
			Total days open per annum
Onsite Staff	Clean, safe workspace that has suitable lighting and temperature, availability of information and training	Safety	No. of incidents
			Near misses
			Safety inspections completed
		Training	Training Records
		Information	Accessibility of asset data
			Record of communicating asset and level of service performance results

Table 50: Service Providers who use Environmental Services - LOS Table

Stakeholder Group – Service Providers		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Contractors & Haulers	A safe and accessible facility that is readily available and has competitive tipping rates and takes a wide variety of materials.	Competitive Rates	Comparison of tipping fees with neighbouring facilities
			Cost of service versus revenue
		Usage	Volume of waste by type
			Percent contractor material to landfill material
		Safety	No. of incidents
			Near misses
		Availability	Total hours open per annum
			Total days open per annum

Table 51: Regulators of Environmental Services - LOS Table

Stakeholder Group – Regulators		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Ministry of Environment	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders

Stakeholder Group – Regulators		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
CFIA	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders
Worksafe ON	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders
Neebing Bylaw	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders
Transport Canada	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders
Federal GHG	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders
Technical Safety	Compliance with regulations, standards, and acts	Compliance	Reporting/Fines/Orders

Table 52: Wider Community interest in Environmental Services - LOS Table

Stakeholder Group – Wider Community		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Neebing Residents	There is a clean, safe, and environmentally responsible landfill facility within the region, that is open to the public, with knowledgeable staff, has competitive tipping rates, and is a "one stop drop"	Competitive Tipping Rates	Comparison of tipping fees with neighbouring facilities
			Cost of service versus revenue
		Usage	Volume of waste by type
			Percent recycled material to landfill material
		Safety	No. of incidents
			Near misses
		Customer service	No. of complaints
		Availability	Total hours open per annum
			Total days open per annum
		Smell/odour control	No. of complaints
		Response to spills/hazards	No. of incidents
			Compliance with response times
Neebing Tax Payers	An efficiently managed service that is financially and environmentally responsible	Financial Sustainability	Comparison of Costs to Revenue (User Fees)
		Responsible Governance	Compliance with legislation
			No. environmental incidents

Stakeholder Group – Wider Community		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
	and meets agreed service levels.		Annual results of service performance measures
		Risk Management	Comparison of current risk profile to previous risk profile

6.3.2 Key Performance Measures

Table 53 is a summary of the performance measures for each service criterion for all user groups. Neebing will monitor these measures over the next year to report current performance. Once current performance is known for each measure, a target performance will be defined and reported for the following year.

In the interim, the current performance reported in the 2017 Official Community Plan for the next 20 years states;

5.5 NON-HAZARDOUS SOLID AND LIQUID WASTE DISPOSAL

5.5.1 No additional solid waste disposal sites are anticipated over the life of this Plan. Existing waste disposal sites may require expansion. The Municipality will follow the requirements of Ontario Regulation 101/07 with respect to waste regulation screening processes where required.

5.5.5 The Municipality encourages recycling programs and waste diversion programs. The Municipality supports the reduction of waste from construction debris as a result of the demolition of buildings by promoting and encouraging the adaptive reuse of older and existing building stock.

Table 53: Summary of LOS Performance Measures

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Availability	Total days open per annum		
Competitive Rates	Comparison of tipping fees with neighbouring facilities		
Competitive Rates	Cost of service versus revenue		
Compliance	Reporting/Fines/Orders		
Customer service	No. of complaints		

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Financial Sustainability	Comparison of Costs to Revenue (User Fees)		
Information	Accessibility of asset data		
Information	Record of communicating asset and level of service performance results		
Response to spills/hazards	Compliance with response times		
Response to spills/hazards	No. of incidents		
Responsible Governance	Annual results of service performance measures		
Responsible Governance	Compliance with legislation		
Responsible Governance	No. environmental incidents		
Risk Management	Comparison of current risk profile to previous risk profile		
Safety	Near misses		
Safety	No. of incidents		
Safety	Safety inspections completed		
Smell/odour control	No. of complaints		
Training	Training Records		
Usage	Percent contractor material to landfill material		
Usage	Percent recycled material to landfill material		
Usage	Volume of waste by type		

6.4 Lifecycle Strategies

6.4.1 Current Lifecycle Activities

The following diagram (Figure 30) provides the form for recording current business practices (lifecycle strategies) for Environmental Services assets. Lifecycle strategies have not yet been developed at a detailed asset level, and staff will continue this process and provide details for the next update of the AMP.

Lifecycle sheets received from Neebing to be inserted.

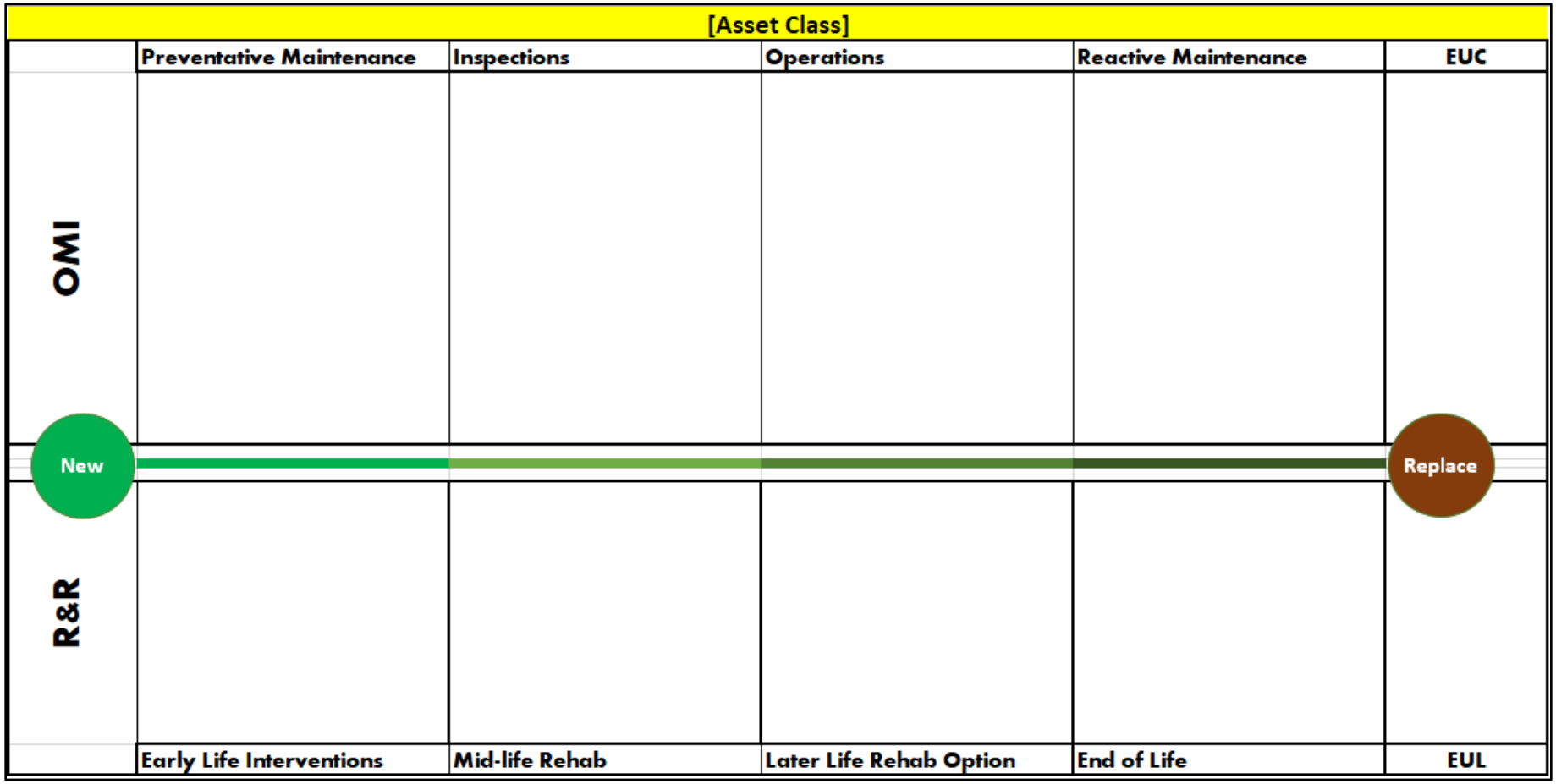


Figure 31: Current Lifecycle Strategy - Environmental Service Assets

6.4.2 Recommended Capital Projects for New Assets

Neebing reports in its 2017 Official Plan that no additional solid waste disposal sites are anticipated over the 20-year life of the plan. However, existing waste disposal sites may require expansion. In 2018, Neebing was looking into the purchase (or other acquisition) of appropriate "bins" for various recycled items, in order to prevent the unsightly "piles" that exist on site at present.

KGS Group[4] identified the work required and estimated costs in 2017 to expand the Scoble Landfill site to allow for continued use.

- The Option 1 expansion (0.73 ha total area) would add approximately 21,225 m3 of capacity and would increase the landfill life by an estimated 8 years (closure late 2025) at an estimated expansion cost of $278,460 (excluding taxes). This cost estimate assumes no engineered controls, structures, or facilities are necessary, which is subject to approval by District MOECC. Closure and post closure costs are not included.
- The Option 2 expansion (1.62 ha total area) would add approximately 80,680 m3 of capacity and would increase the landfill life by an estimated 33 years (closure late 2050) at an estimated expansion cost of $387,420 (excluding taxes). This cost estimate assumes no engineered controls, structures, or facilities are necessary, which is subject to approval by District MOECC. Closure and post closure costs are not included.
- Both expansion options would require the acquisition of adjacent crown land for use as a buffer area and contaminant attenuation zone.

KGS Group also estimated that the Sandhill landfill would reach the end of its useful life in April 2029[5]. Recommended options to extend its useful life included:

- Increased participation in community waste reduction programs to divert materials from the landfill;
- Better compaction of waste placed on site by a contractor on a scheduled basis using a landfill compactor; and
- Limit waste to only domestic waste.

[4] Scoble Landfill Proposal Expansion. Final Report by KGS Group 17-3230-001, Feb 2018.
[5] Sandhill Landfill Topographic Survey and Capacity Estimate. Letter from KGS Group, Consulting Engineers, File No. 17-3230-001, Feb 2018.

6.4.3 Impact of Future Demand on Activities

Demand for Environmental Services over the 10-year planning period is not expected to change significantly. There is no expectation that any mitigation measures or new asset projects will be required for demand management or response to increasing demand.

6.5 Risk Management

Neebing does not, at this stage, have a comprehensive risk model implemented at the Corporate or Departmental level. However, an asset level assessment was undertaken by staff to identify the risk profile for Environmental Services assets, based on an initial assessment of criticality and likelihood of failure. The initial risk results are shown in the following graphs (Figure 31).

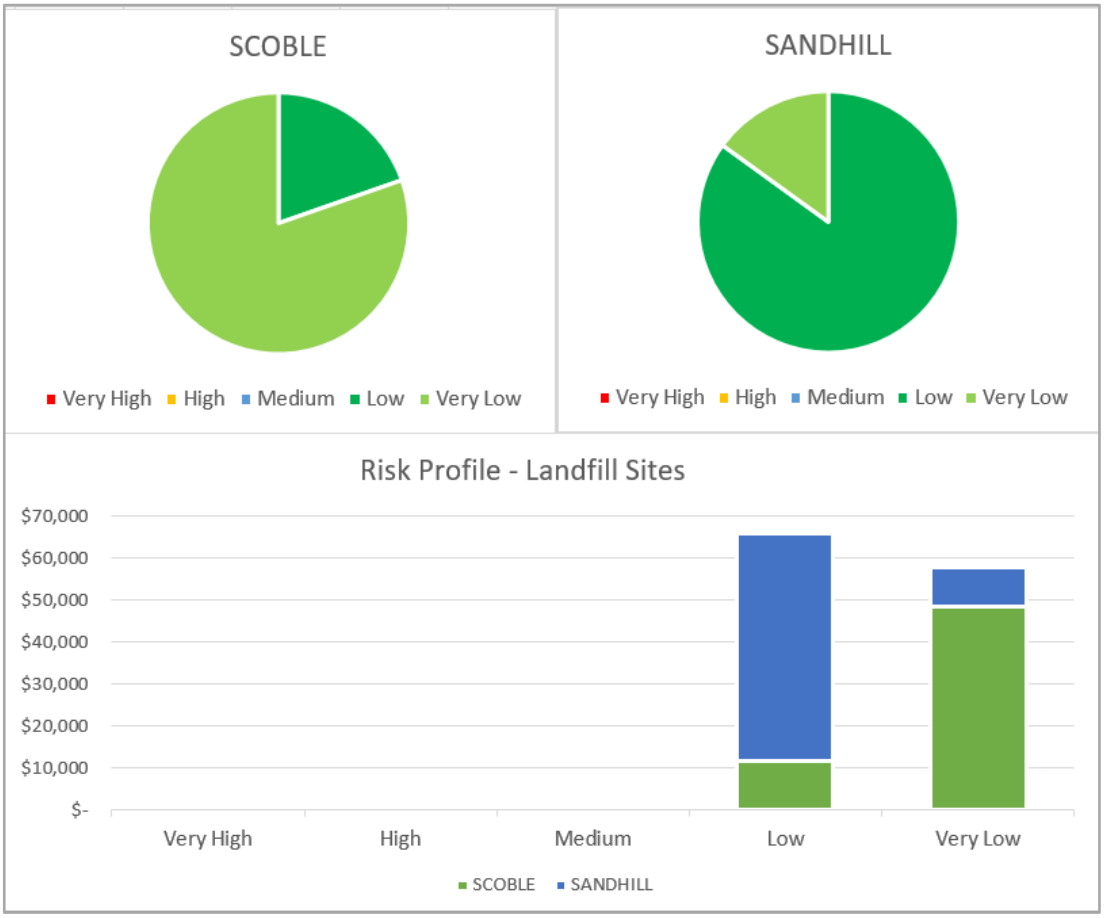


Figure 32: Risk Profile - Environmental Services Existing Assets

Note that the risk profile is a summary of the risk ratings for individual existing assets at the current sites (shed, fence, gate, sign, barrier). It is not an overall rating for each site.

The relative importance of each site to the community and the likelihood of the existing sites becoming full and no longer operable without expansion have been considered in a separate study. Section 6.4.2 provide details regarding these issues.

7 Emergency Services

7.1 Overview of Services and Supporting Assets

Emergency Services in the Municipality of Neebing are provided to residents through 6 firehalls with fire trucks and medical response vehicles in partnership with a dedicated volunteer fire service staff.

At present, the Service's facilities are housed in several small, utilitarian fire halls spread around the municipality. This arrangement has certain advantages for Neebing, which has no town centre and a small population spread out over a large geographic area. NES is an entirely volunteer-run service and the decentralized nature of the existing fire halls allows volunteers in different parts of the Municipality to access apparatus and equipment closer to emergency sites than may be possible with a single fire hall.

However, the existing fire halls are mostly non-purpose built and lack many of the facilities that a modern fire service needs to operate, including training space and appropriate facilities for managing, storing and maintaining gear and apparatus. Some of the halls lack basic services such as washrooms.

7.2 State of the Infrastructure

Table 54 and Figure 32 summarize the assets that are the responsibility of Emergency Services. The numbers listed in the "quantity" column of the summary table represent the area of each building in square metres. For vehicles and equipment, the value represents the number of assets. The age and condition results are averages weighted by replacement costs for the assets and their components.

Table 54: Emergency Services Asset Summary

Fire Protection	Quantity		Average Age	Average Expected Life	Average Condition	Current Replacement Cost	30 YR Average Per Annum Renewals Cost
Fire Hall #1	295	sq.m	37	39	2	$ 1,020,687	$ 21,400
Fire Hall #2	208	sq.m	10	33	2	$ 580,728	$ 9,970
Fire Hall #3B	305	sq.m	31	34	3	$ 752,321	$ 17,740
Fire Hall #4	138	sq.m	28	38	2	$ 394,553	$ 3,270
Fire Hall #5	250	sq.m	35	41	2	$ 787,494	$ 7,280
Fire Hall #6	250	sq.m	21	57	2	$ 680,844	$ 7,590
Equipment	124	#	4	11	2	$ 590,644	$ 43,340
Fleet	12	#	20	23	3	$ 2,618,791	$ 165,180
Asset Total	**1,446**	**sq.m**	**23**	**32**	**3**	**$ 7,426,062**	**$ 275,770**

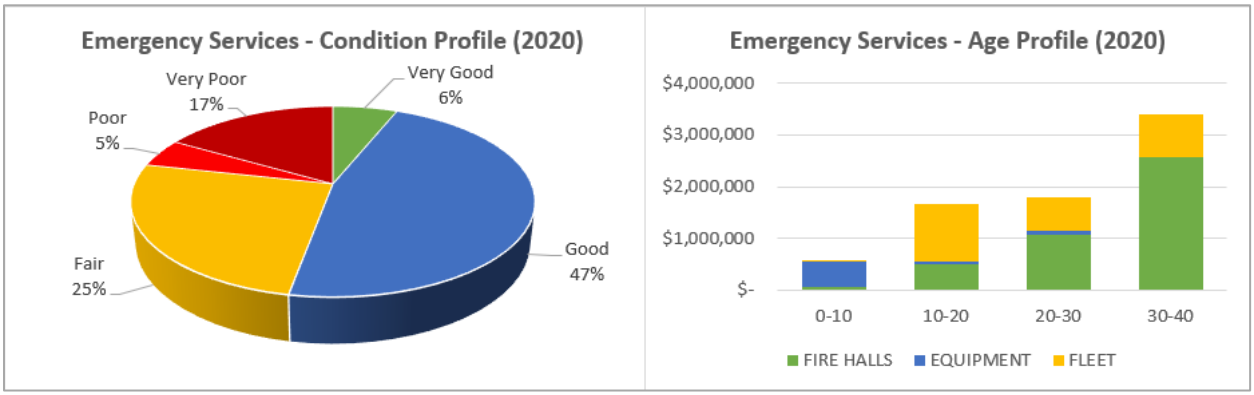


Figure 33: Condition and Age Profiles for Emergency Assets

Reviewing the summary table and condition and age profiles:

- On average, the assets are over two-thirds of the way through their useful lives. The oldest building is Fire Hall #1 which was built in 1983. Most of the buildings (by replacement value) fall into the 30 to 40-year age category. The age of the fleet assets ranges from 10 to 40 years, with most of the vehicles (by dollar value) falling into the 10 to 20-year age category. All the equipment (bunker gear, radios, and breathing apparatus) are shown in the asset register as less than 10 years old. However, the 22 16psi breathing apparatus (BA) units purchased in 2019 were used equipment and the current asset register does not indicate this. These units are estimated as more than 11 years old. The correct age and reduced lifespan of these units will be updated in the asset register as an improvement task.
- The average condition for all emergency services assets is 3, which equates to “Fair”. The condition profile graph shows the percentage of the assets by dollar value in each condition state. The following assets are in poor or very poor condition:

Asset Group	Poor Condition (4)	Very Poor Condition (5)
Equipment	• Jaws of Life	• 18 sets of Bunker Gear
Fire Halls	• Fire Hall #1 - Site Asphalt • Fire Hall #3B – Interior Drywall • Fire Hall #3B – PVC Plumbing • Fire Hall #3B – Septic System • Fire Hall #3B – Electrical	• Fire Hall #3B – Concrete Foundation • Fire Hall #3B - HVAC
Fleet	• T-103.1 Tanker	• P-102.1 Rapid Attack • P-141.1 Pumper • P-151.1 Pumper

- The condition states for all assets (except fleet) are based on actual condition ratings collected by WSP. The fleet condition was assessed by WSP from photos, age information and reviewed with Neebing.
- New bunker gear has already been purchased to replace the 18 sets of bunker gear that have expired. However, the expired gear has not been disposed and are kept as spares. The asset register will be updated to exclude the expired bunker gear from the forecast of asset renewals.

Figure 33 presents the 30-year renewal forecast for existing assets supporting Emergency Services.

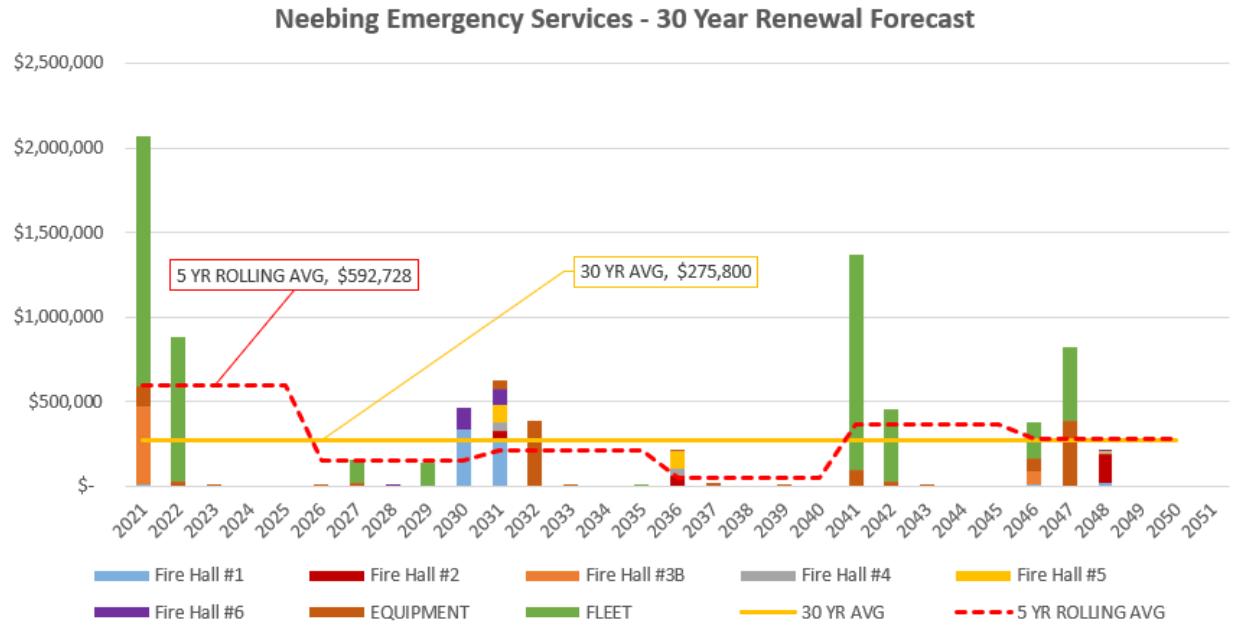


Figure 34: 30-year Asset Renewal Forecast for Emergency Services Assets

Looking at the data, there are over $2M worth of asset renewals due to occur in the first year. These renewals include the replacement of several vehicles, and the replacement of the “jaws of life” fire rescue equipment.

Due to the foundations and HVAC system of Fire Hall 3B being in very poor condition, and the interiors, electrical, and other assets being in poor condition, the Fire Hall is due for replacement. However, the Hall area has very little population and members, and the response area is covered by a nearby firehall, so it is not essential for current level of response. Therefore, although the renewal works are forecast, Neebing does not currently have plans to implement these works.

Year 2 of the renewal forecast sees another substantial vehicle renewal at $800,000. However, staff note that;

- P-141.1 Pumper is scheduled to be decommissioned June 2020
- P-151.1 Pumper is not planned to be replacement until 2030, and it is intended to keep it as a reserve truck to replace the P-141.1 Pumper (note forecast based on age and condition includes this unit in year 2 replacements)
- P-102.1 Rapid Attack is scheduled for replacement in 2022, and it is noted that the same unit is no longer manufactured. Therefore, new technologies and products will be researched to determine an appropriate replacement for rapid attack vehicles
- T-103.1 Tanker is not planned to be replacement until 2027 (note forecast based on age and condition includes this unit in year 2 replacements)

Other significant renewals are due to occur in the years 2031, 2031, 2032, 2041, 2042, 2046, and 2047. The renewals include various repairs to fire halls, and vehicle and equipment replacements.

Neebing staff will review and edit the asset register records to improve renewal forecasts for the next plan update. In the interim, the forecast for this plan is based on the current asset data. Note also, the forecast set out in Figure 33, shows peak expenditures occurring in a single year relevant to the forecast lifespan of the assets (as calculated from current asset data), and condition inspection results. It is expected however, that as equipment items age, increase in hours (usage), and require replacement, they will be prioritized, and planned purchases will be grouped into packages that can reasonably be financed in each fiscal year. The peak expenditures will therefore be scheduled over multiple years.

The table below, shows the average annual renewal costs for the current forecast, estimated over the next 5, 10, and 30-year period.

Table 55: 5, 10, and 30-year Average Renewal Costs for Emergency Services Assets ($2019)

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 592,700
10 Years (2021 - 2030)	$ 373,900
30 Years (2021 - 2050)	$ 275,800

7.3 Levels of Service

7.3.1 User Group LOS Statements

The following tables (Table 56 to Table 59), summarize the user groups for the service. The tables describe current understanding of the level of service expectations for each user group and lists the relevant service criteria and performance measures identified by Neebing staff, to monitor delivery of the service level expectations.

As more information is available on measured performance results and cost of service options, Neebing will be in an appropriate position of knowledge about costs and consequences, to communicate these to stakeholders and undertake consultation with user groups to agree on the future desired levels of service to be funded. Until that time, the level of service information in the following tables is based on staff assessment of current services.

Table 56: Users of Emergency Services - LOS Table

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Emergency Services Workers	Safe, comfortable work environment	Safe	Monthly Safety Inspections
			Incident Reports
		Comfort	Staff Complaint
			Compliance with Ontario Government Guidelines
Neebing public	Reliable, efficient services	Accessible	Complaints
		Efficient	Timeframe from call to service arrival is within acceptable range
		Reliable	Vehicle components, including lifts and water delivery components, in working order

Table 57: Service Providers who use Emergency Services - LOS Table

Stakeholder Group – Service Providers		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Fire Department	Secure, well maintained, suitable for purpose	Maintained	Measure preventative and corrective maintenance schedule compliance - reported out monthly

Stakeholder Group – Service Providers		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
		Suitable	Customer survey to rate suitability, affordability, availability
Emergency Services	Provision of a well-maintained and reliable fleet of vehicle and equipment	Reliability	Age profile of assets compared to expected life
			Number of breakdowns while in service
			Condition of vehicle
			Vehicle suitable for service required

Table 58: Regulators for Emergency Services - LOS Table

Stakeholder Group – Regulators		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Ontario Transportation	An asset that meets, or exceeds, legislative guidelines, standards and regulations	Compliance	Annual reports to Ontario Transportation
			Number of reported events and resolution status
Ontario Office of the Fire Marshall	An asset that meets, or exceeds, legislative guidelines, standards and regulations	Compliance	Annual reports to OFM
			Number of reported events and resolution status

Table 59: Wider Community interest in Emergency Services - LOS Table

Stakeholder Group – Wider Community		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Tax Payers	Good stewardship, efficient use of taxpayer dollars	Good stewardship	Asset Management Plan
			Scheduled works percent of completion
			Condition profile of assets over time
			Age profile of assets compared to expected life

7.3.2 Key Performance Measures

Table 60 is a summary of the performance measures for each service criterion for all user groups. Neebing will monitor these measures over the next year to report current performance. Once current performance is known for each measure, a target performance will be defined and reported for the following year.

Table 60: Summary of LOS Performance Measures

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Accessible	Complaints		
Comfort	Compliance with Ontario Government Guidelines		
Comfort	Staff Complaint		
Compliance	Annual reports to OFM		
Compliance	Annual reports to Ontario Transportation		
Compliance	Number of reported events and resolution status		
Efficient	Timeframe from call to service arrival is within acceptable range		
Good stewardship	Age profile of assets compared to expected life		
Good stewardship	Asset Management Plan		
Good stewardship	Condition profile of assets over time		
Good stewardship	Scheduled works percent of completion		
Maintained	Measure preventative and corrective maintenance schedule compliance - reported out monthly		
Reliability	Age profile of assets compared to expected life		
Reliability	Condition of vehicle		
Reliability	Number of breakdowns while in service		
Reliability	Vehicle suitable for service required		
Reliable	Vehicle components, including lifts and water delivery components, in working order		
Safe	Incident Reports		
Safe	Monthly Safety Inspections		
Suitable	Customer survey to rate suitability, affordability, availability		

7.4 Lifecycle Strategies

7.4.1 Current Lifecycle Activities

The following diagram) outlines current business practice (lifecycle strategy) for parks with boat ramps. Lifecycle strategies have not yet been developed at a detailed asset level, and staff will continue this process.

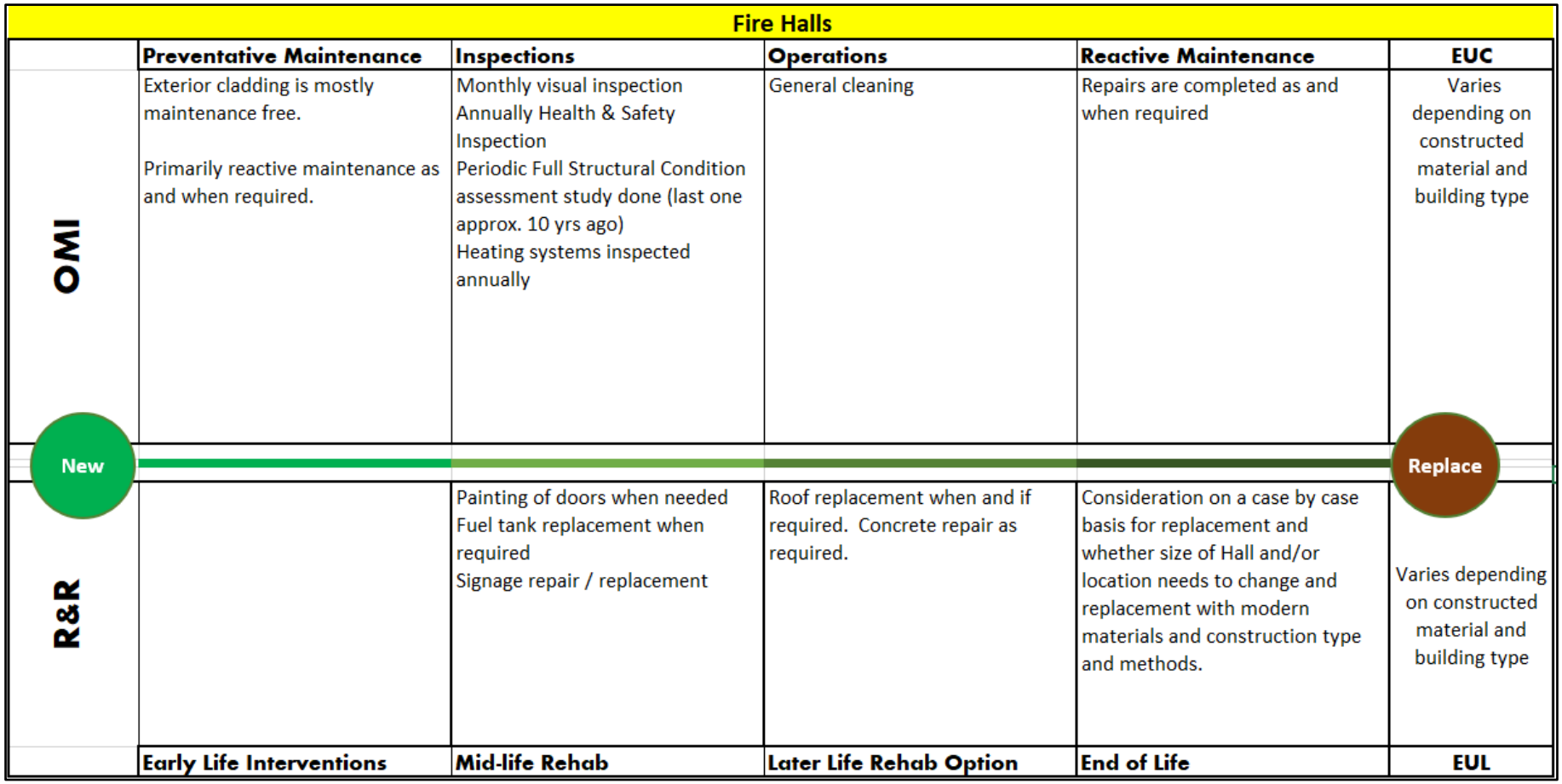


Figure 35: Current Lifecycle Strategy - Fire Halls

Fire Fleet					
	Preventative Maintenance	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI	Annual servicing - including oil change, safety checks etc	Annual inspection Routine Monthly checks - with check list After call-out checks Standards may dictate that certain equipment may need regular testing.	General cleaning and sevice	Reactive as needed repairs	Varies depending on type and size of vehicle and relevant regulation for replacement unit
New					Replace
R&R		Component replacement as and when needed	Engine replacement is considered on a case by case basis depending on need and cost-benefit	Replace with modern equivalent. Consider latest requirements and regulations and both current and forecast community needs to determine most appropriate replacement machine type and size.	Varies depending on type and function of vehicle and relevant regulation
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**

Figure 36: Current Lifecycle Strategy - Fire Fleet

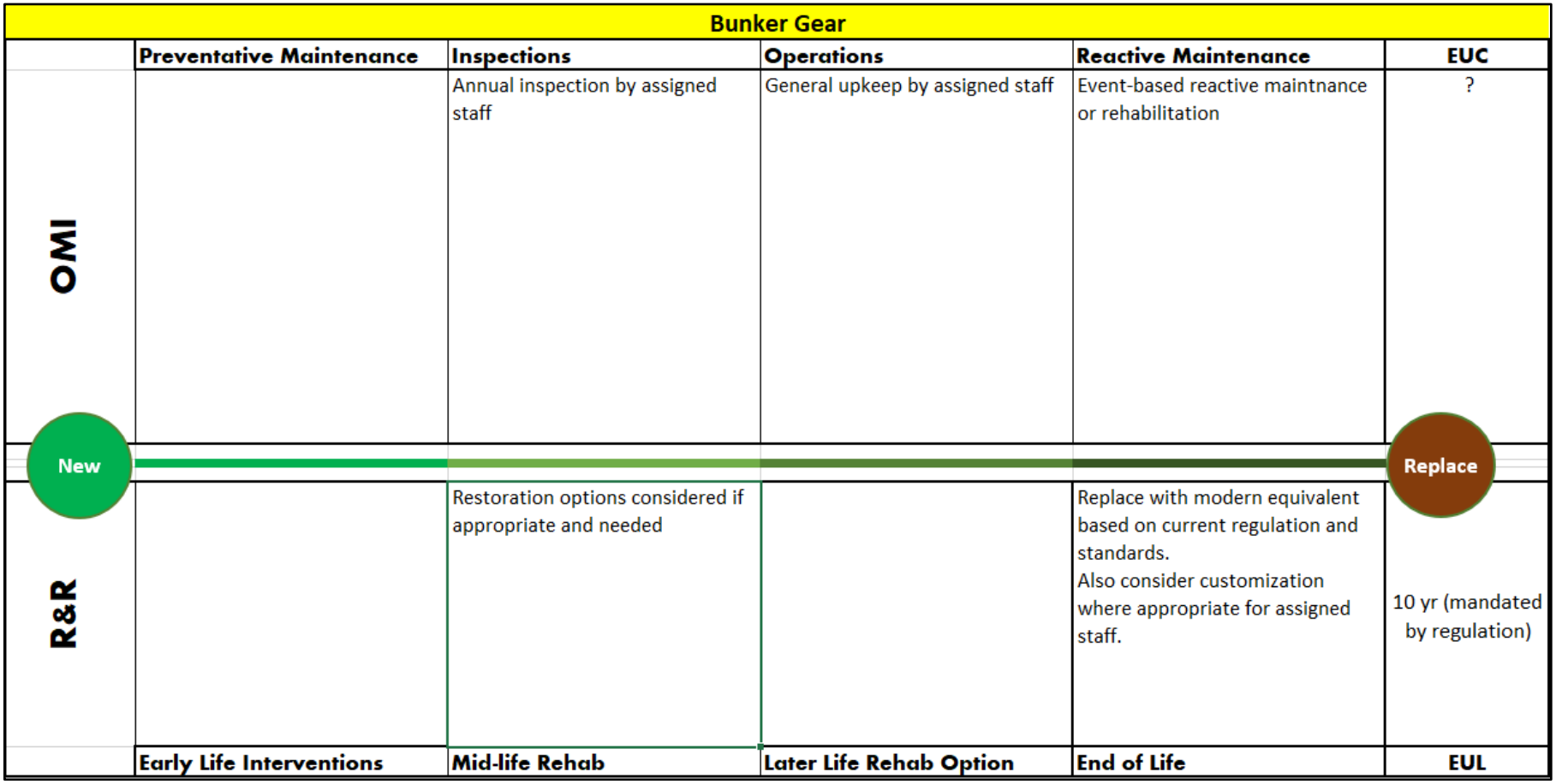


Figure 37: Current Lifecycle Strategy - Bunker Gear

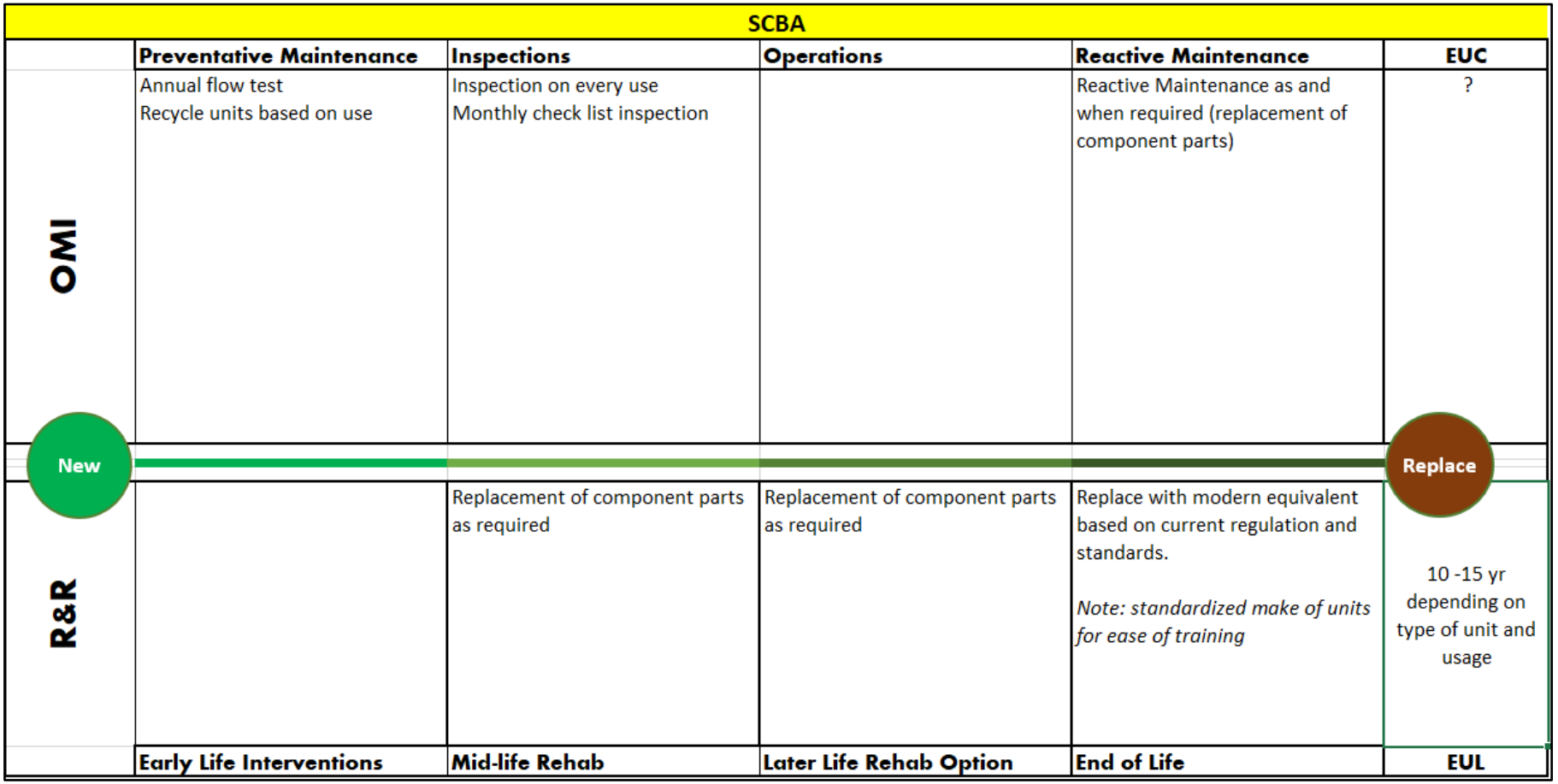


Figure 38: Current Lifecycle Strategy – SCBA Gear

Fire Radios and Pagers					
	Preventative Maintenance	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI	Primarily reactive maintenance as and when required.		General upkeep by assigned staff	Components are replaced on an as required basis, new batteries and accessories are provided as required.	
New					**Replace**
R&R		Newer models / accessories with current technology are often purchased to replace / complement old equipment / add to functionality.		Keep technology current by replacing older units with new when they no longer function. If a new system / technology / standard is required, a large scale full replacement may be required.	
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**

Figure 39: Current Lifecycle Strategy - Fire Radios and Pagers

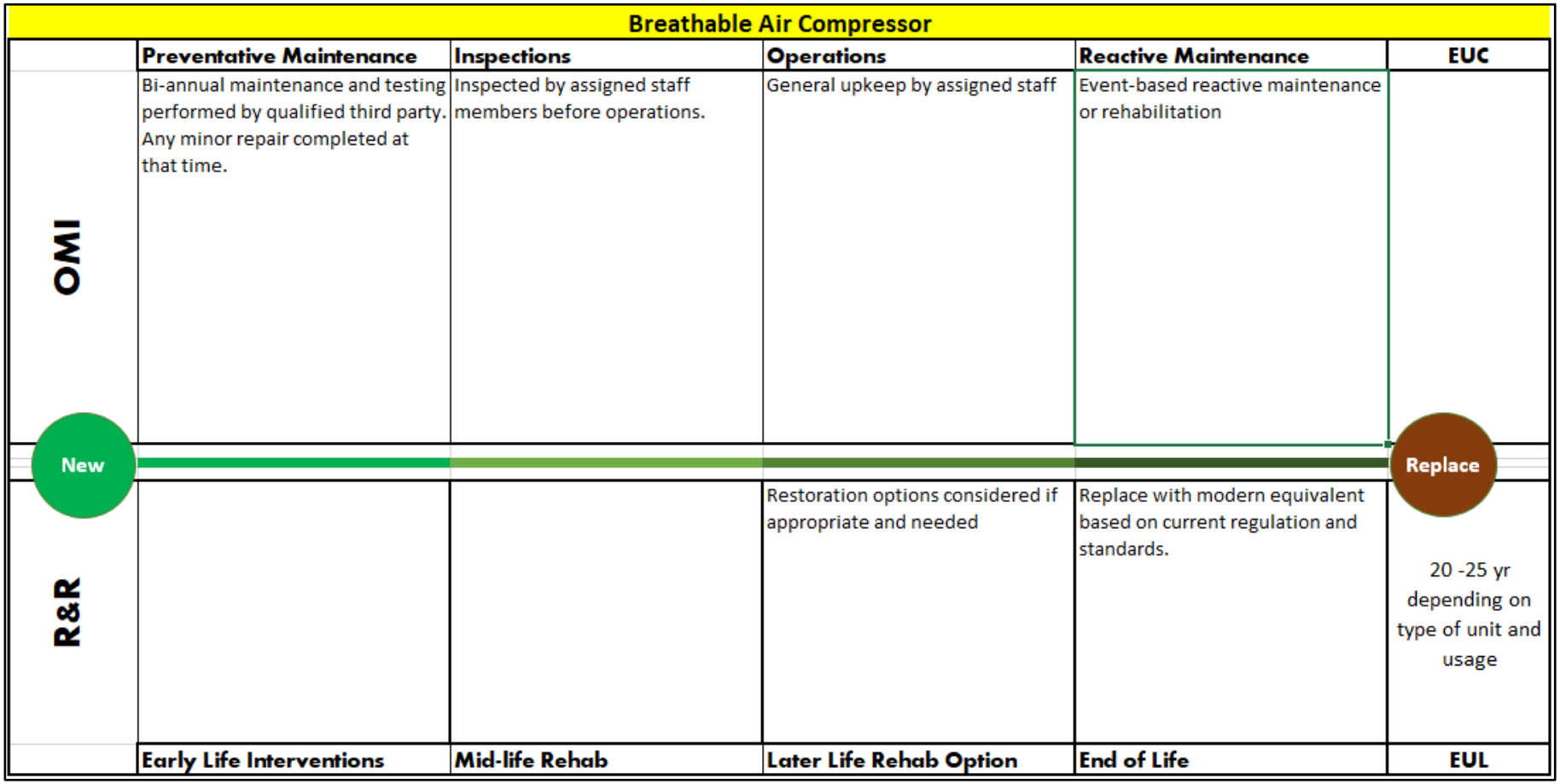


Figure 40: Current Lifecycle Strategy - Breathable Air Compressor

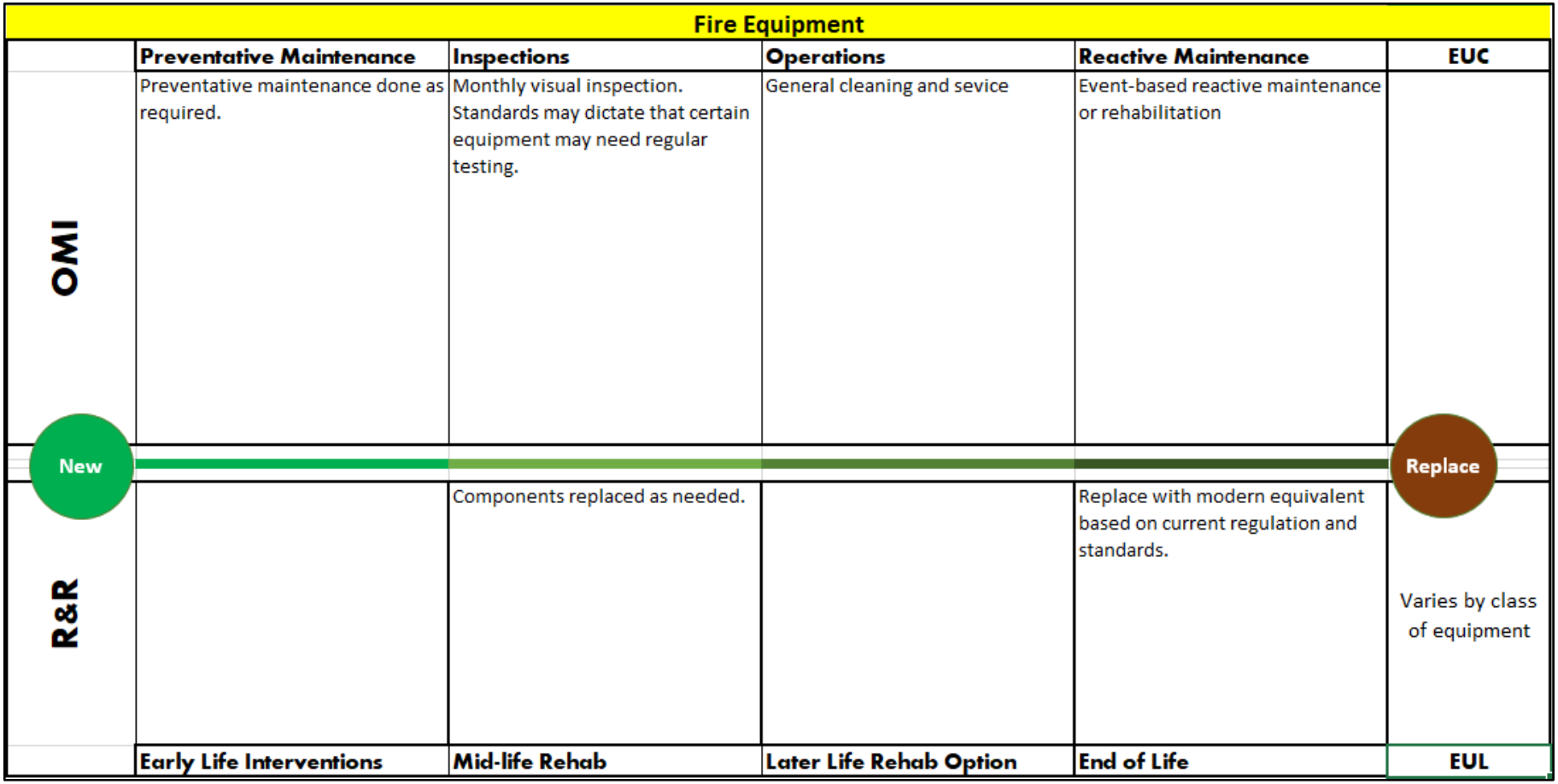


Figure 41: Current Lifecycle Strategy – Fire Equipment

7.4.2 Recommended Capital Projects for New Assets

A study was completed to consider consolidating many of the Emergency Services' operations into a single building. An option for a new fire hall also looked to address the deficiencies in the existing facilities including training space and appropriate facilities for managing, storing and maintaining gear and apparatus. However, there is no provision to raise the necessary capital to design and construct a hall with all the required and desired features. Therefore, unless there is senior government funding, a new base fire hall is unlikely to be proceed at this time.

Neebing has acquired a 53 ha site which it plans to use for its new base station and other community infrastructure over time. It has also undertaken a schematic design of the project. The estimated cost of the new base station in 2017, including additional site work, was $4.5 million. This was a Class C estimate with a range of ± 15 percent.

7.4.3 Impact of Future Demand on Activities

Demand for Emergency Services over the 10-year planning period is not expected to change significantly. There is no expectation that any mitigation measures or new asset projects will be required for demand management or response to increasing demand.

7.5 Risk Management

Neebing does not, at this stage, have a comprehensive risk model implemented at the Corporate or Departmental level. However, an asset level assessment was undertaken by staff to identify the risk profile for Emergency Services assets, based on an initial assessment of criticality and likelihood of failure. The initial risk results are shown in the following graphs (Figure 41)

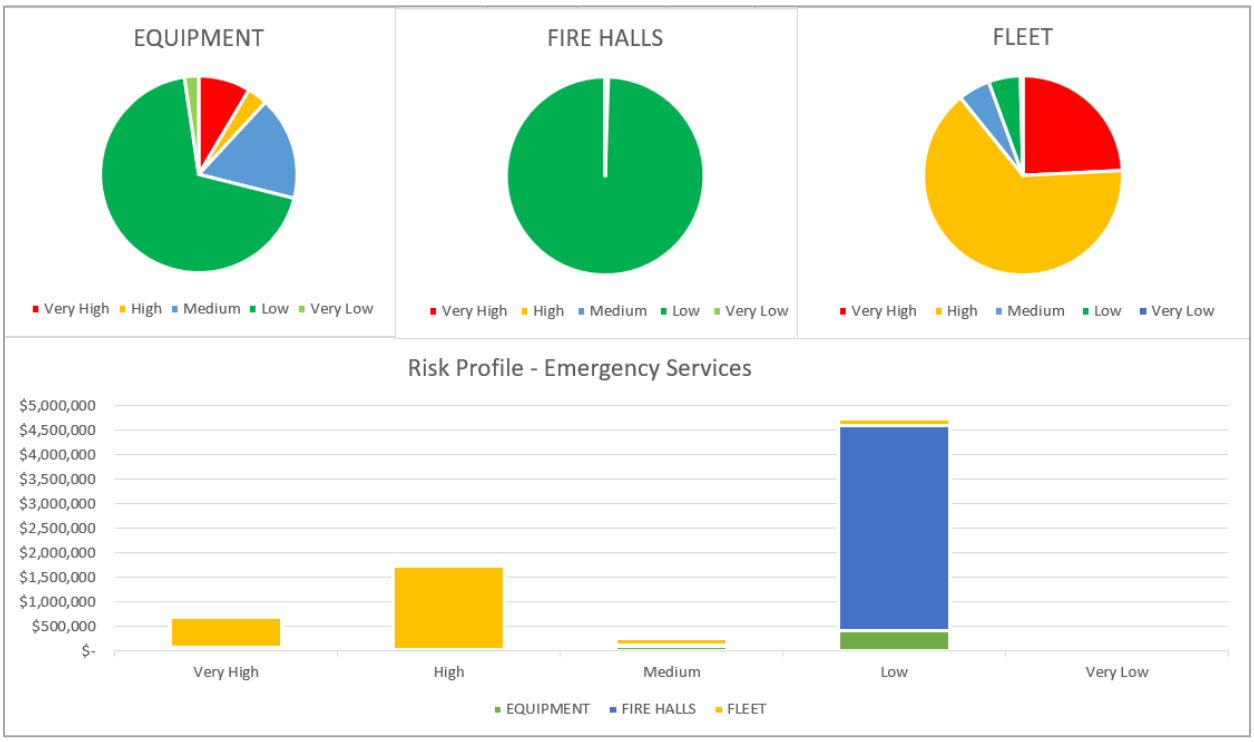


Figure 42: Current Risk Profile - Emergency Services Assets

The very high-risk equipment assets are the 18 sets of bunker gear that are already more than 10 years old and overdue for replacement. However, staff have subsequently noted these are sets of older gear that have been replaced but are kept in use (primarily as spares). The records in the asset register will be updated to reflect the status of these 'spare' assets and they will be removed from future renewal forecasts.

The very high-risk fleet assets are the P-102.1 Rapid Attack and the P-151.1 Pumper that score both a very high criticality to being able to provide fire services and a very high likelihood of failure because the Rapid Attack vehicle is 25 years old and the Pumper is 35 years old. However, subsequent to the initial assessment of criticality, staff have advised that the P-151.1 Pumper is now third in line for response and therefore not critical to overall operation of the department. Staff also noted that P-151.1 Pumper is not currently scheduled to be disposed or replaced, despite its age, because it will be used a back-up and training unit. It is planned to retire P-102.1 Rapid Attack when it is time to purchase a new RAV (rapid attack vehicle).

8 Corporate Services

8.1 Introduction

The Corporate Services department is responsible for managing the municipal buildings including the new and old municipal halls, the public works buildings, and 2 storage sheds.

8.2 State of the Infrastructure

Table 61 provides a summary of the assets managed by Corporate Services. The numbers listed in the "quantity" column represent the area of each building in square metres. For sheds and sea cans, the number represents the quantity. The results are averages for the assets and their components at each facility. Average values are weighted by replacement costs.

Table 61: Corporate Services Asset Summary

Facilities	Quantity		Average Age	Average Expected Life	Average Condition	Current Replacement Cost	30 YR Average Per Annum Renewals Cost
Blake Hall Municipal Hall	298	sq.m	76	40	2	$ 814,095	$ 6,800
Municipal Office	650	sq.m	19	46	2	$ 1,992,093	$ 8,940
Old Municipal Office	153	sq.m	51	51	2	$ 528,544	$ 9,350
Shed	13	sq.m	23	70	3	$ 14,349	$ 480
SeaCan	1	#	23	75	2	$ 10,000	$ -
Hardware	3	#	1	3	1	$ 13,876	$ 1,390
Building Total	**1,115**	**sq.m**	**32**	**45**	**2**	**$ 3,372,957**	**$ 26,960**

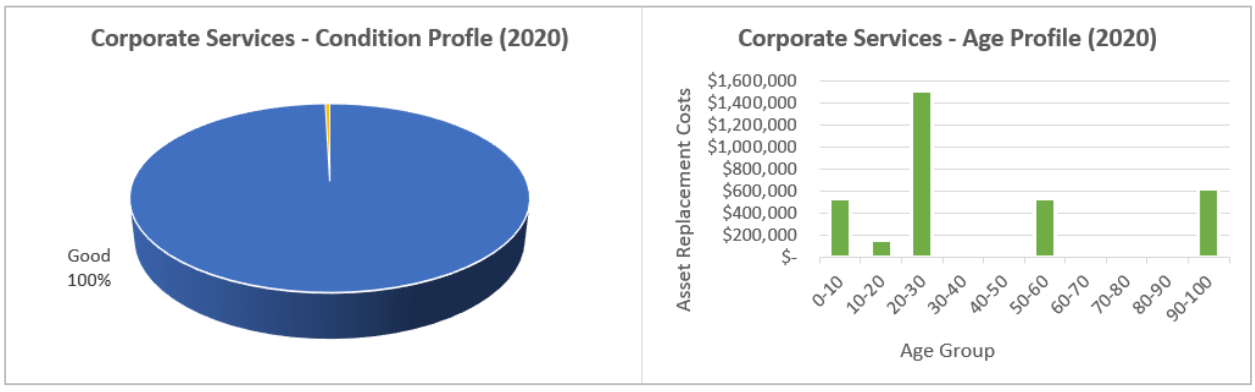


Figure 43: Condition and Age Profiles of Corporate Services Assets

Reviewing the summary table and age and condition profiles:

- Based on the inspections conducted by WSP in 2019, the overall condition results show that most assets are in good condition, except the sea can which is in very good condition, and the shed which in fair condition.
- The condition profile graph mirrors the summary table. Even though Blake Hall is an old building, it has been well maintained and remains in good condition. On further investigation into the dataset, there is less than 1% of the building assets (by dollar value) in very poor condition. The condition states are based on actual condition ratings collected by WSP.
- The 3 building assets summarized in Table 61 are comprised of several components. Therefore, although the average age for these assets range from 40 to 51 years, the age of individual components ranges from 4 to 97 years. The oldest components are at Blake Hall which was built in 1924, and include the plumbing, electrical, exterior, foundation, septic system, and parking lot.
- The age profile graph in Figure 42 shows the range of age of asset components and that the majority (by replacement value) fall into the 20 to 30-year age category.
- Approximately $600,000 worth of building assets are in the 90 to 100-year age category, and $500,000 worth of building assets fall into the 0 to 10-year and 50 to 60-year age categories.

Figure 30 presents the 30-year forecast for the Corporate Services assets.

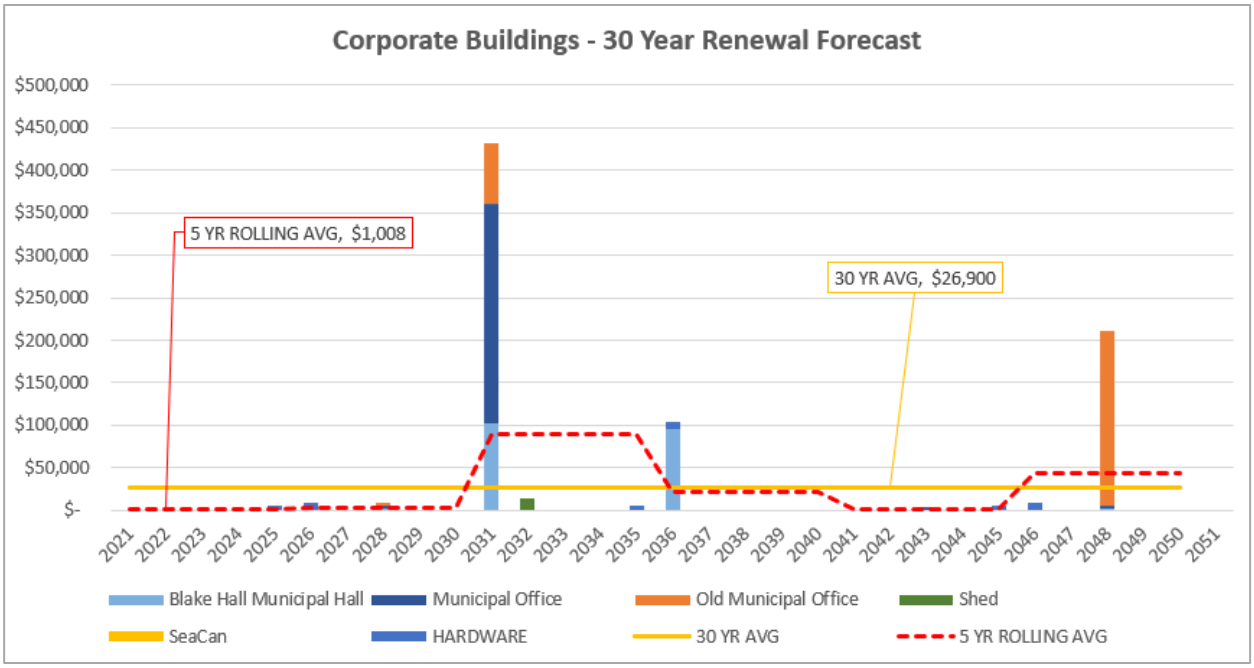


Figure 44: 30-year Asset Renewal Forecast for Corporate Services

Looking at the data, there are several small renewals due to occur in years 2025, 2026, and 2028. These are IT replacements. The graph shows that there are no significant asset renewals forecast until 2031, which includes the renewal of interior finishes, HVAC systems, and plumbing to all buildings. Further along the renewal forecast period, there are renewals to the roof of the municipal hall due to occur in 2036, and the renewal of the exterior of the old municipal hall in 2048.

The table below shows the average annual renewal costs over the next 5, 10, and 30-year period.

Time Period	Annual Average Renewal Cost
5 Years (2021 - 2025)	$ 1,000
10 Years (2021 - 2030)	$ 2,300
30 Years (2021 - 2050)	$ 26,900

8.3 Levels of Service

8.3.1 User Group LOS Statements

The following tables (Table 62 to Table 65), summarize the user groups for the service. The tables describe current understanding of the level of service expectations for each user group and lists the relevant service criteria and performance measures identified by Neebing staff, to monitor delivery of the service level expectations.

As more information is available on measured performance results and cost of service options, Neebing will be in an appropriate position of knowledge about costs and consequences, to communicate these to stakeholders and undertake consultation with user groups to agree on the future desired levels of service to be funded. Until that time, the level of service information in the following tables is based on staff assessment of current services.

Table 62: Users of Corporate Services - LOS Table

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Staff	Safe, comfortable work environment	Safe	Monthly Safety Inspections
			Incident Reports
		Comfort	Staff Complaint
			Compliance with Ontario Government Guidelines
			Customer survey of requirements
Non-Profit Organizations	Affordable, available venue suitable for needs	Affordable	Complaints
			User Fee Survey

Stakeholder Group – Users		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
		Available	Record of closures during normal business hours
		Suitable	Customer survey to rate suitability, affordability, availability
Event Promoters	Capacity and technology / functionality to suit events	Suitable	Customer survey to rate suitability, affordability, availability
Disabled	Venue easily accessed	Accessible	Complaints
Seniors +60	Venue easily accessed and affordable	Accessible	Complaints
		Affordable	Complaints

Table 63: Service Providers who use Corporate Services - LOS Table

Stakeholder Group – Service Providers		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Other internal Neebing Services	Secure, well maintained, suitable for purpose	Maintained	Measure preventative and corrective maintenance schedule compliance - reported out monthly
		Suitable	Customer survey to rate suitability, affordability, availability

Table 64: Regulator for Corporate Services - LOS table

Stakeholder Group – Regulators		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Internal Service Providers	Meets requirements for service	Suitable	Customer survey to rate suitability, affordability, availability
Electrical Codes	Assets comply with codes and are inspected as required	Compliance	Certify work as needed
Plumbing and Gas Codes	Assets comply with codes and are inspected as required	Compliance	Certify work as needed
Mechanical & Equipment Regulations	Assets comply with codes and are inspected as required	Compliance	Cranes, Fire Alarm panels, emergency gen, elevators, boilers etc. - Annual and semi-annual inspection/certification/compliance as required by regulations

Stakeholder Group – Regulators		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Fire Codes	Assets comply with codes and are inspected as required	Compliance	Annual fire code audit
CEC Building Codes	Assets comply with codes and are inspected as required	Compliance	5yr condition assessment

Table 65: Wider Community interest in Corporate Services - LOS table

Stakeholder Group – Wider Community		Key Performance Indicators	
Stakeholder	**LOS statement**	**Service Criteria**	**Measure**
Tax Payers	Good stewardship, efficient use of taxpayer dollars	Good stewardship	Service Report Card (Future)
			Asset Management Plan
			Inform decisions with whole-life costs, options, and consequences (cost risk benefit)
First Nations	Consider culture in location, service, design & aesthetics		Indigenous and Rural relations (department) advice

8.3.2 Key Performance Measures

Table 66 is a summary of the performance measures for each service criteria for all user groups. Neebing will monitor these measures over the next year to report current performance. Once current performance is known for each measure, a target performance will be defined and reported for the following year.

Table 66: Summary of LOS Performance Measures

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Accessible	Complaints		
Affordable	User Fee Survey		
Available	Record of closures during normal business hours		
Comfort	Compliance with Ontario Government Guidelines		
Comfort	Customer survey of requirements		
Comfort	Staff Complaint		
Compliance	5yr condition assessment		

Service Criteria	KPI Measure	Target	Current Performance (Last Measured Result)
Compliance	Annual fire code audit		
Compliance	Certify work as needed		
Compliance	Cranes, Fire Alarm panels, emergency gen, elevators, boilers etc. - Annual and semi-annual inspection/certification/compliance as required by regulations		
Good stewardship	Asset Management Plan		
Good stewardship	Indigenous and Rural relations (department) advice		
Good stewardship	Inform decisions with whole-life costs, options, and consequences (cost risk benefit)		
Good stewardship	Service Report Card (Future)		
Maintained	Measure preventative and corrective maintenance schedule compliance - reported out monthly		
Safe	Incident Reports		
Safe	Monthly Safety Inspections		
Suitable	Customer survey to rate suitability, affordability, availability		

8.4 Lifecycle Strategies

8.4.1 Current Lifecycle Activities

The following diagrams (Figure 44 and Figure 45) outlines current business practice (lifecycle strategy) for Environmental Services. Lifecycle strategies have not yet been developed at a detailed asset level, and staff will continue this process.

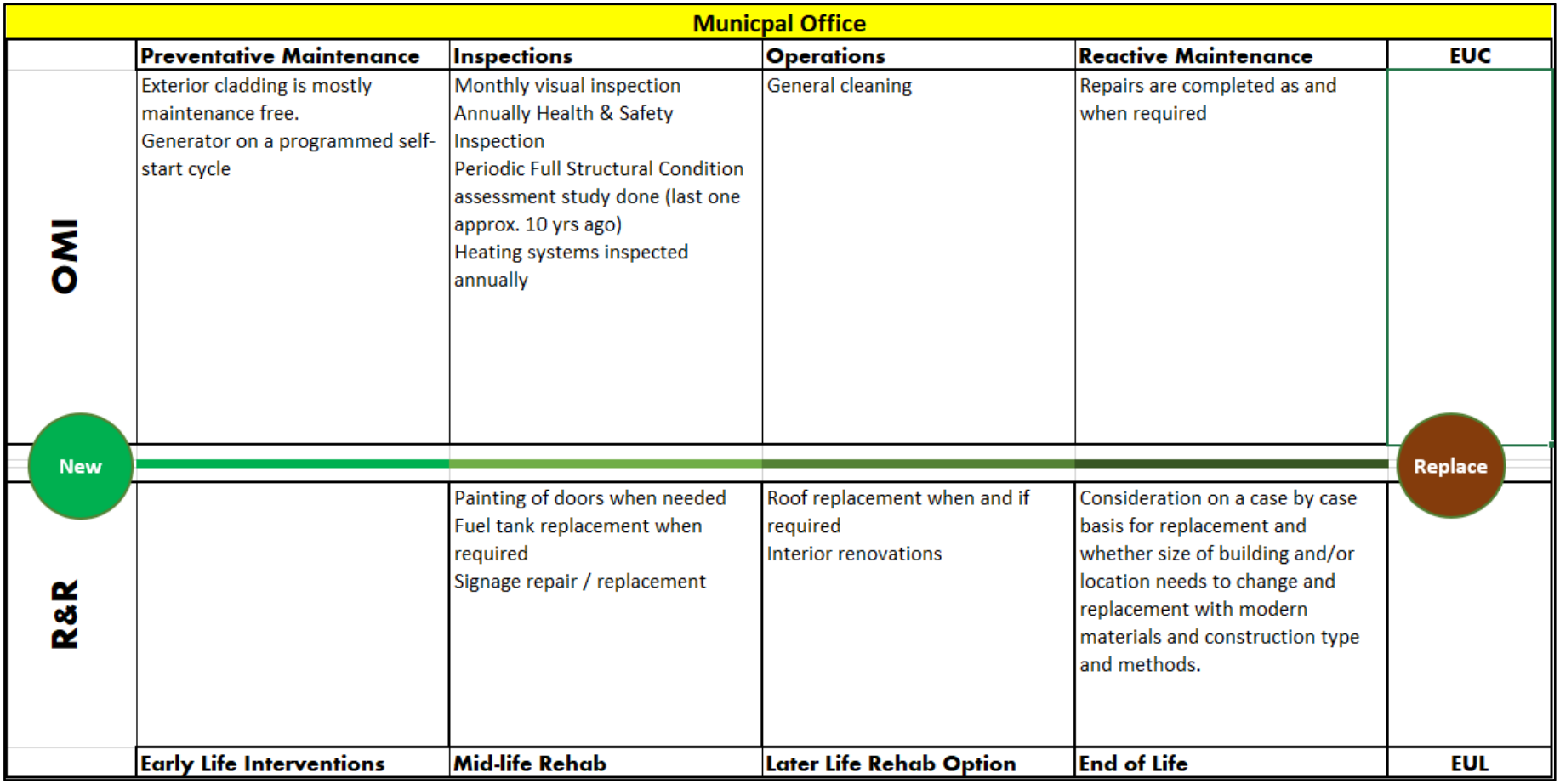


Figure 45: Current Lifecycle Strategy - Municipal Office

Public Workshop and Garage					
	Preventative Maintenance	**Inspections**	**Operations**	**Reactive Maintenance**	**EUC**
OMI	Exterior cladding for main buildings is mostly maintenance free (brick/steel) except for sand dome. Primarily reactive maintenance as and when required.	Monthly visual health & safety inspection includes the whole site as well as the buildings Annual Health & Safety Inspection Heating systems inspected annually	General cleaning	Repairs are completed as and when required	
New					**Replace**
R&R	*Note: Site includes garage, sand dome, salt shed, old municipal office used as storage building, paved apron outside garage, rest of hardstand area is gravel, roof over 2 above ground fuel tanks and fuel pumps*	Painting of doors when needed Painting, repairs, and/or replacement of fuel tanks if and when required Signage repair / replacement Component repairs, replacement, or rehabilitation when appropriate	Roof replacement when and if required Interior renovations may be considered if warranted later in life	Consideration on a case by case basis for replacement and whether size of building and/or location needs to change and replacement with modern materials and construction type and methods.	
	Early Life Interventions	**Mid-life Rehab**	**Later Life Rehab Option**	**End of Life**	**EUL**

Figure 46: Current Lifecycle Strategy - Public Workshop and Garage

8.4.2 Recommended Capital Projects for New Assets

No new asset projects identified at this time.

8.4.3 Impact of Future Demand on Activities

Demand for Corporate Services over the 10-year planning period is not expected to change significantly. There is no expectation that any mitigation measures or new asset projects will be required for demand management or response to increasing demand.

8.5 Risk Management

Neebing does not, at this stage, have a comprehensive risk model implemented at the Corporate or Departmental level. However, an asset level assessment was undertaken by staff to identify the risk profile for Corporate Services assets, based on an initial assessment of criticality and likelihood of failure. The initial risk results are shown in the following graphs (Figure 46)

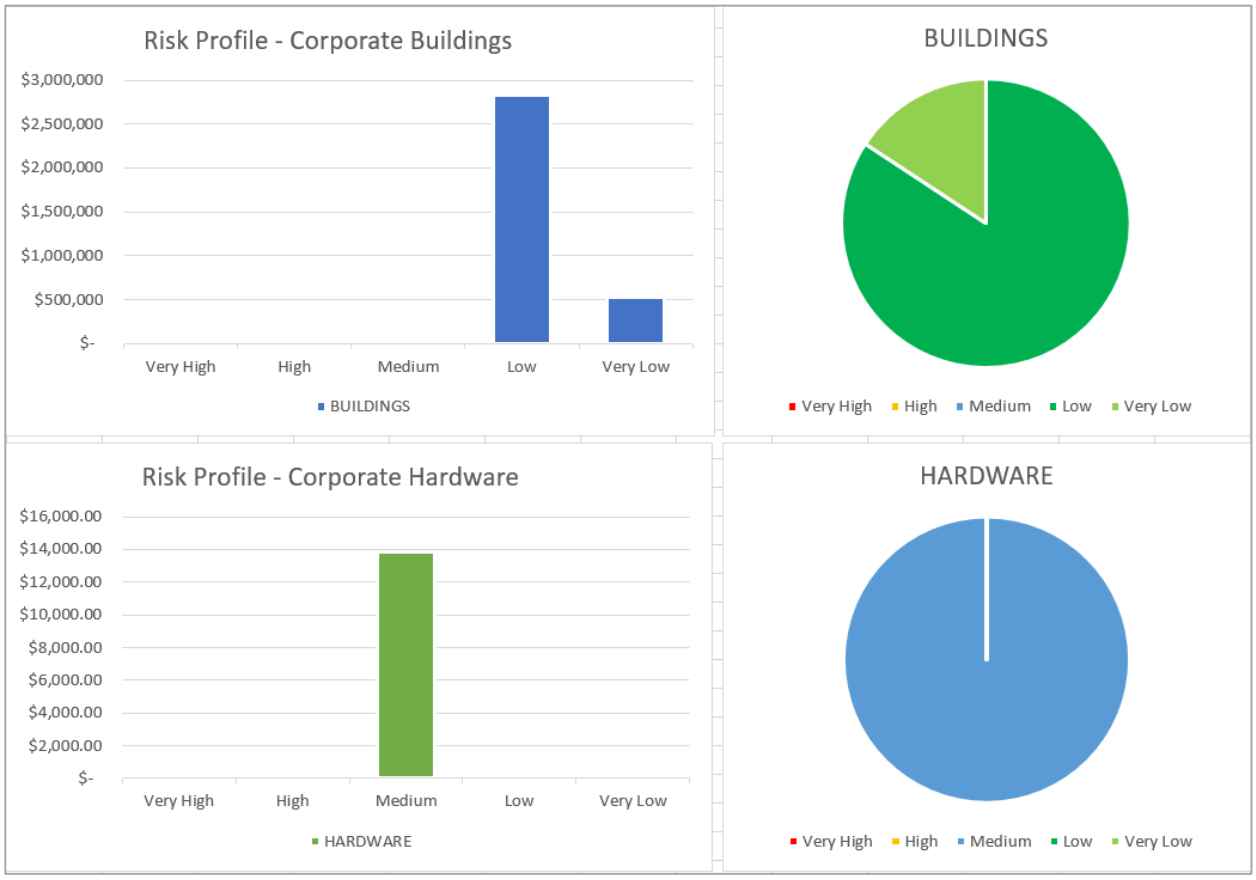


Figure 47: Current Risk Profile - Corporate Services Assets

The corporate services building assets (Blake Hall, Municipal Office, Old Municipal Office, Public Works Shed and Sea can) are currently low risk and have 10 years or more remaining life. The hardware assets (computer server at municipal office and security cameras) are medium risk and have 7 to 8 years remaining life.

9 Lifecycle Costs to Maintain Current Levels of Service

9.1 Portfolio Lifecycle Costs

The Municipality has a portfolio of infrastructure that support municipal services. When aggregated, the total replacement cost of the portfolio was found to exceed $47.1M. Table 67 summarizes the municipalities asset portfolio value in terms of replacement cost and average annual investment required over the next 30 years

Table 67: Total Current Replacement Cost and Average Annual Investment (30 Years)

Asset Type	Current Replacement Cost	30 Year average per annum renewals cost
Transportation		
Class 5 Highway – Sealed	$14,931,100	$1,461,200
Class 6 Highway Sealed	$922,900	$92,300
Culverts	$4,070,800	$47,070
Bridges	$7,000,000	$183,300
Major Culverts	$875,000	0 requiring replacement
Public Works Buildings	$2,956,680	$64,330
Fleet	$1,887,600	$103,080
Equipment	$2,533,670	$138,180
Community Services	$1,003,640	$50,640
Environmental Services	$123,680	$3,760
Emergency Services	$7,426,060	$275,770
Corporate Services	$3,372,960	$26,960
Total	$47,104,090	$2,446,590

Several key points are noteworthy about the portfolio:

- The Transportation service area represents almost 75% of the municipality's infrastructure portfolio by value and requires approximately 85% of required investment over the next 30 years.
- Within the Transportation services portfolio, road pavements represent approximately 42% of the portfolio.
- Despite being the largest portfolio, the reserve fund associated with roads is by far the smallest in relative terms, being less than 0.4% of the require investment over the next 30 years. Other services areas have reserve funds ranging from 1.2% (Corporate Services) - 641% (Environmental Services)

- Overall, the estimated average annual investment required for the portfolio is $2,446,600. This exceeds current capital spending by the municipality. Average capital expenditure between 2016, and 2019, inclusive was $749,300, which represents a shortfall of over $1.7M annually. This is discussed in more detail in Section 9.3.

The following figure summarizes the portfolio lifecycle costs, with 5 and 30 year average investment levels for the portfolio.

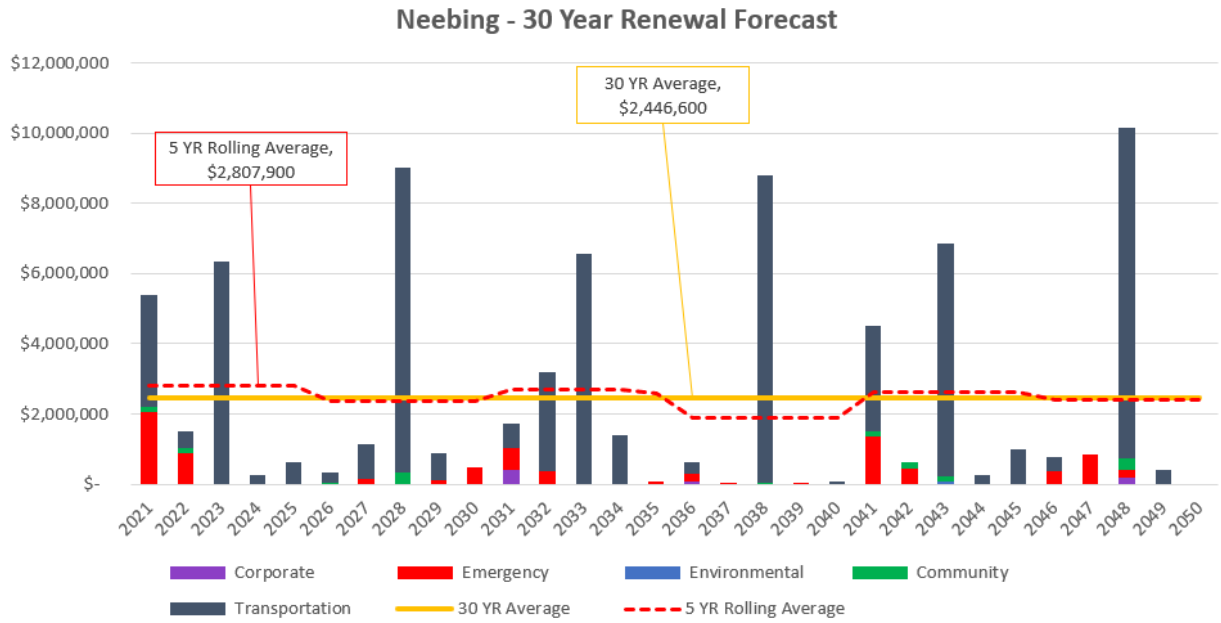


Figure 48: 30-year Asset Renewal Forecast for the Infrastructure Portfolio

There are several key points that are illustrated by the figure.

- Lifecycle costing is very dependant on the expected useful lives of the assets. In reality, some fail early, others outlast the expected life. In addition, renewal coordination may trigger renewal timings that stray from when the asset is at the end of life. As a result, municipalities tend to smooth investments to a consistent level of investment. For this reason, the average level of investment is a better reflection of the expected level of investment, despite the large peaks shown in the figure. The peaks are where a large number (or value) of assets are anticipated to require renewal.
- Reserve funds can also help the municipality accommodate these large variations in required investment
- Some long-lived assets, like culverts and bridges, do not come up for renewal over the next 30 years, and are underrepresented in the figure. An analysis period over a longer time horizon, e.g. 50-100 years, would be required to capture these investments. As a consequence, the current estimates may underestimate the long-term investment requirements.

- Inspections of long-lived assets are important to better anticipate when renewal timings should be scheduled.

The following section summarizes the available funding sources that the municipality uses for revenues that support operations, and capital investment.

9.2 Funding Sources

The following summarizes the funding sources of the municipality.

Table 68: Summary of Neebing Funding Sources

Revenue Source	2016	2017	2018	2019
Revenue Taxation	$2,429,873	$2,634,044	$2,684,675	$2,712,692
Government transfers, operating	$800,158	$943,824	$868,406	$1,226,904
Government transfers, capital	$121,779	$122,899	$0	$0
User Fees and Service Charges	$64,734	$61,970	$43,561	$62,387
Investment Income	$14,803	$16,715	$41,434	$62,893
Other municipalities	$16,670	$26,348	$13,292	$14,890
Other revenues	$176,808	$99,303	$79,103	$111,016
Total	**$3,624,825**	**$3,905,103**	**$3,730,471**	**$4,190,782**

Several observations are important to note about the municipality's revenues:

- Revenues have been rising for most sources, though the majority of increases are sourced through tax levy revenues.
- Excluding taxation and transfers, cost recovery on municipal services is low, with most service areas having less than 10% within a service area. Overall, non-taxation and transfer service revenues are equivalent to about 5% of the municipal service operational budget.
- The Municipality created a universal "User Fee By-law" in 2016. By virtue of the annual budget approval, all landfill tipping fees received are placed into the Reserve Fund for the landfill sites. The Reserve Fund may be used at either site, although the tipping fees apply only at the Sandhill Landfill at this time (2018).

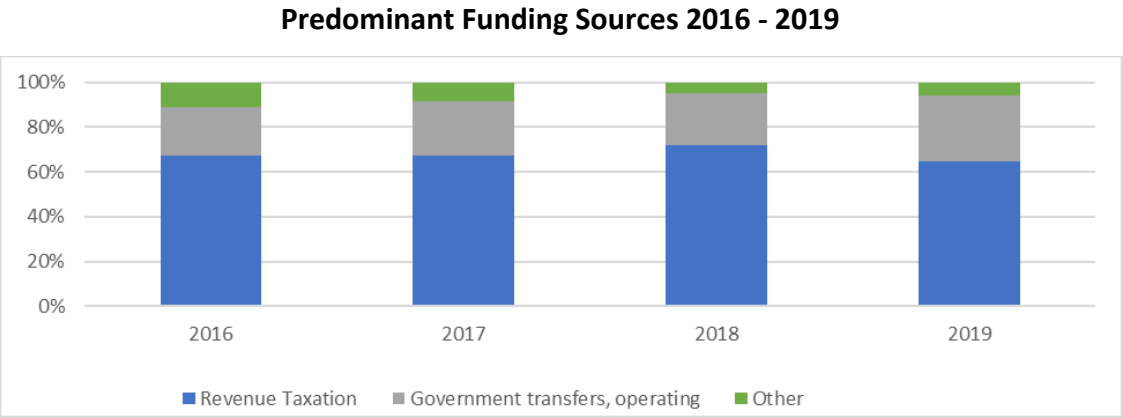


Figure 49: Predominant Funding Sources, Municipality of Neebing, 2016-2019

- Taxation levy revenue supports the majority of funding for operational and capital budgets for all service areas and represents 85%-95% of operational budgets and capital investment overall. Residential tax levies represent 98% of the municipal tax levy revenues, and 2/3 of overall revenues. As a result, funding for additional investment to address capital investment shortfalls, is likely to result in higher taxation levels, and in particular, through higher residential taxes

Figure 49 summarizes current operational and capital expenditures of Neebing between 2016-2019. Several observational are important to note.

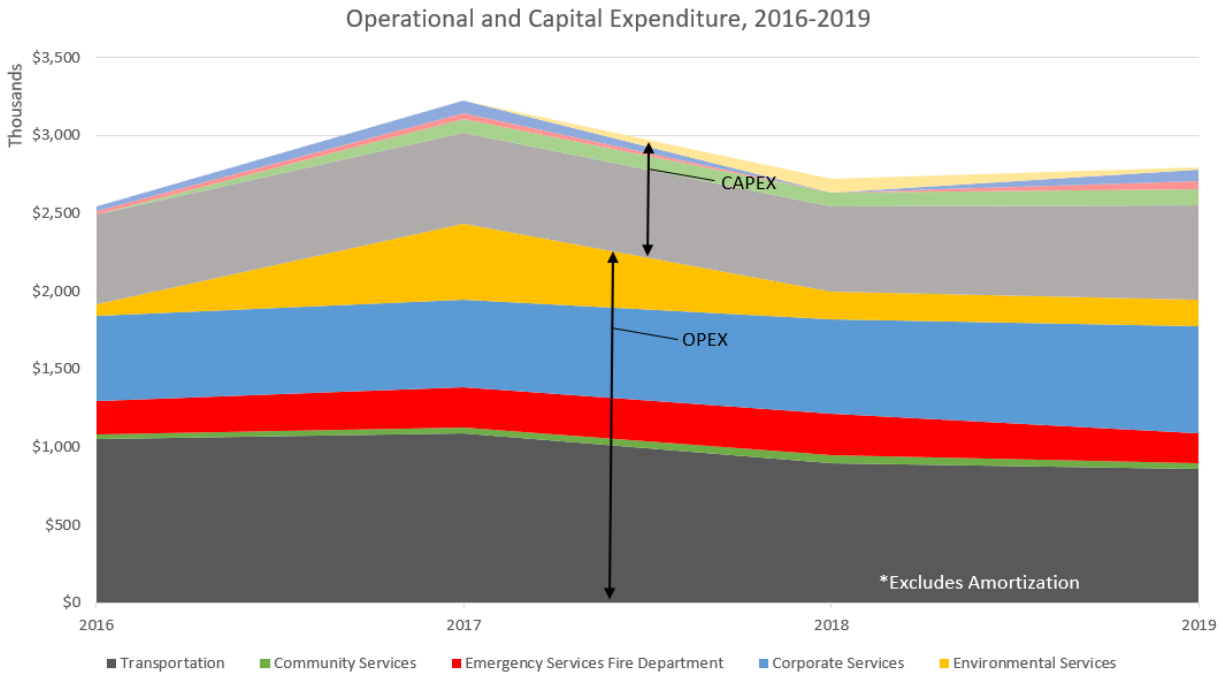


Figure 50: Municipality of Neebing, Operational and Capital Expenditure, 2016-2019

- The operational budget is relatively stable, with less then a 2% downward trend over the period. The average budget was $2.07M, excluding amortization.

- The capital budget has shown a growth trend, averaging $750k over the period, and an average growth rate of 7.8% annually.

The Municipality also has several reserve funds that it maintains for operational and capital investment purposes. These funds are summarized in Table 69.

Table 69: Summary of Neebing Reserve Funds

Reserve Funding	2019	2018	2017
Non-Infrastructure Reserve Funds			
For OMB hearings and planning	$77,646	$76,489	$75,724
For sick leave gratuity	$63,980	$63,027	$62,397
For taxation rate stabilization	$58,132	$57,260	$42,332
For cannabis implementation	$15,151	$10,000	$0
For deferred capital projects	$30,208	$204	$202
For medical bursary	$21,637	$21,315	$21,102
For Municipal Modernization Program	$389,400	$0	$0
For forest fire fighting	$237,764	$250,006	$250,000
For election material	$8,809	$6,707	$15,111
Infrastructure Investment Reserves			
For fire department	$919,297	$905,597	$869,016
For recreational purposes	$191,906	$189,046	$254,533
For building department	$4,003	$3,944	$3,904
For information technology	$5,311	$12,128	$9,037
For landfill closure and post-closure liability	$730,397	$715,673	$766,692
For roads department	$237,352	$223,964	$295,176
Total Infrastructure Investment Reserves	**$2,088,266**	**$2,050,352**	**$2,198,358**
Total Reserves	**$2,990,994**	**$2,535,360**	**$2,665,226**

Several points are noteworthy about Neebing's reserve funds:

- Large reserves are held to support investment in Emergency Service vehicles and equipment. There is an anticipated vehicle purchase in the near term.
- Large reserves are also held for landfill closure and post-closure liability. This fund is directly supported by all tipping fees received by the Municipality.
- The reserve fund levels are disproportionate to the anticipated 30-year investment expected for each service area. This is illustrated in the Table below.

Table 70: Summary of Neebing Reserve Funds

Reserves Fund: AARC	2019	Total Investment Next 30 Years*	Ratio
Infrastructure Investment Reserves			
For fire department (Emergency Services)	$919,297	$8.3M	11%
For recreational purposes (Community Services)	$191,906	$1.5M	13%
For building department (Corporate Services)	$4,003		
For information technology (Corporate Services)	$5,311	$0.8M	1.2%
For landfill closure and post-closure liability (Environmental Services)	$730,397	$0.1M	641%
For roads department (Transportation)	$237,352	$62.7M	0.38%
Total Reserves: 30 Year Portfolio Investment	**$2,088,266**	**$73.4M**	**2.9%**

**** - Based on AARC (Annual Average Renewal Cost)***

- Transportation reserve funding is disproportionally low, even though it is the largest investment required for the portfolio.
- Environmental Services reserves are large and are meant to also support landfill expansion projects in the future, not renewal of existing assets alone. Estimates for expansion range between $278,460-$387,420, depending on the chosen scale of the expansion and excluding closure and post-closure costs. These reserves may also support closure operational and capital costs in the future for the existing landfill site.
- Reserve funds vary between municipality and depend on municipal fiscal health, infrastructure portfolio characteristics and age, debt financing policy and current levels, and other factors. They also vary over time as large expenditures are supported over time. Currently, total reserves have been rising relative to annual operating and capital expenditure combined (from 56% in 2017 to 67% in 2019). Capital reserves have averaged 268% of annual capital expenditure over the last three years and have averaged 87.3% of the estimated AARC for the portfolio over this period.
- Reserve levels assessed overall relative to investment requirements obscures the disparity of reserves by service area. Transportation reserve funds are very low given their high investment requirements. Refocussing allocations to better balance reserve funds merits consideration.

9.3 Financial Shortfall

An analysis was completed to make comparisons between the anticipated lifecycle costs for Neebing's infrastructure portfolio, and recent investments made based on recent capital programs. Financial statements for the Municipality, Tangible Capital

Asset (TCA) Continuity Schedules, and municipal budgets were reviewed to complete the comparison. The following Tables summarize the findings by service area.

9.3.1 Transportation Services

The following table summarizes the estimates for annual average renewal costs for transportation infrastructure over three time-horizons. This is the largest asset portfolio for the Municipality.

Table 71: Transportation Services Capital Investment Requirements

Transportation Services	Annual Average Renewal Cost (AARC)						
Time Period	Roads	Culverts	Bridges	Facilities	Fleet	Equipment	Total
5 Years (2021-25)	$1,245,900	$112,200	$360,000	$34,700	$130,700	$270,100	$2,153,600
10 Years (2021-30)	$1,585,400	$56,300	$215,000	$17,400	$103,100	$161,200	$2,138,400
30 Years (2021-50)	$1,553,500	$47,100	$183,300	$64,300	$103,100	$138,200	$2,089,500

Over the next 30 years, nearly $2.1M is required annually ($62.7M over 30 years) for Neebing's transportation assets. Over the next 10 years, slightly more than this level of investment is required, given the condition and age of the existing portfolio. The following table compares these figures to the current average capital budget for Transportation, highlights the shortfall, and provides current reserves, as well as anticipated increases in the residential tax levy required to close the shortfall.

Table 72: Budget comparison to long term investment requirements, reserves and levy impacts

Average Budget 2016-2019	Shortfall	Current 2019 Reserves	Proportion of 30 Year Budget	Extra Residential Levy Rate Required	Levy Increase
$579,885	-$1,573,715	$237,352	0.38%	0.0052090	62.2%
	-$1,558,515			0.0051587	61.6%
	-$1,509,615			0.0049968	59.7%

The transportation services budget is by far the largest, most underfunded, and has the least reserves by portfolio investment requirements within the Municipality. The residential tax levy would require a 60-62% increase to make up for this shortfall, if all other factors remained the same.

9.3.2 Community Services

The following table summarizes annual average renewal costs for community services infrastructure, including parks, recreation facilities and cemeteries.

Table 73: Community Services Capital Investment Requirements

Community Services		
Time Period	**AARC**	**Total Investment over the period**
5 Years (2021-25)	$60,500	$302,500
10 Years (2021-30)	$65,900	$659,000
30 Years (2021-50)	$50,600	$1,518,000

Over the next 30 years, nearly $1.52M is required for Neebing's community assets, and this is consistent with investment requirements over the next 5-10 years given the condition and age of the existing portfolio. The following table compares these figures to the current average capital budget for Community Services, highlights the surplus, provides current reserves, as well as potential reductions in the residential tax levy possible given the surplus.

Table 74: Budget comparison to long term investment requirements, reserves and levy impacts

Average Budget 2016-2019	Surplus	Current 2019 Reserves	Proportion of 30 Year Budget	Possible Residential Levy Reduction	Levy Decrease
$69,909	$9,409	$191,906	12.64%	-0.0000311	-0.4%
	$4,009			-0.0000133	-0.2%
	$19,309			-0.0000639	-0.8%

The Community Services budget appears to be close to the estimated near-term average requirements. Reserves are also healthy, with funding available that is equivalent to the required investment for the next three years.

9.3.3 Environmental Services

The following table summarizes the annual average renewal costs for environmental services infrastructure at the two landfill sites over three time horizons. This does not account for future capacity investment for landfill, nor the cost of closure liabilities.

Table 75: Environmental Services Capital Investment Requirements

Environmental Services		
Time Period	**AARC**	**Total Investment over the period**
5 Years (2021-25)	$0	$0
10 Years (2021-30)	$2,100	$21,000
30 Years (2021-50)	$3,800	$114,000

Over the next 30 years, $114,000 is required for Neebing's environmental assets, and above investment requirements over the next 5-10 years given the condition and age of the existing portfolio. The following table compares these figures to the current

average capital budget for Environmental Services, highlights the surplus, provides current reserves, as well as potential reductions in the residential tax levy possible given the surplus.

Table 76: Budget comparison to long term investment requirements, reserves and levy impacts

Average Budget 2016-2019	Surplus	Current 2019 Reserves	Proportion of 30 Year Budget	Possible Residential Levy Reduction	Levy Decrease
$24,259	$24,259	$730,397	640.7%	-0.0000803	-1.0%
	$22,159			-0.0000733	-0.9%
	$20,459			-0.0000677	-0.8%

The Environmental services budget appears to much higher than the estimated long-term average requirements for assets at both landfill sites. Reserves are also very healthy, with funding available not just for existing asset renewal, but also capacity increases and closure liabilities. Despite the surpluses, their impact on reducing the current levy is small, near 1%.

9.3.4 Emergency Services

The following table summarizes the annual average renewal costs for emergency services infrastructure (excluding policing) for the Municipality.

Table 77: Emergency Services Capital Investment Requirements

Emergency Services		
Time Period	**AARC**	**Total Investment over the period**
5 Years (2021-25)	$592,700	$2,963,500
10 Years (2021-30)	$373,900	$3,739,000
30 Years (2021-50)	$275,800	$8,274,000

Over the next 30 years, $8.3M is required for Neebing's emergency services assets. Investment in the next 10 years are relatively high when compared with the long-term average given the condition and age of the existing portfolio. The following table compares these figures to the current average capital budget for Emergency Services, highlights the Shortfall, provides current reserves, as well as anticipated increases in the residential tax levy required to close the shortfall.

Table 78: Budget comparison to long term investment requirements, reserves and levy impacts

Average Budget 2016-2019	Shortfall	Current 2019 Reserves	Proportion of 30 Year Budget	Extra Residential Levy Required	Levy Increase
$28,663	-$564,037	$919,297	11.1%	0.0018670	22.3%
	-$345,237			0.0011427	13.6%
	-$247,137			0.0008180	9.8%

The Emergency services budget remains below the estimated long-term average requirements for these assets. Reserves are equivalent to approximately three years of the long-term annual average investment requirement. A 10-22% increases in the tax levy could close the budget shortfall.

9.3.5 Corporate Services

The following table summarizes annual average renewal costs for Corporate services infrastructure, including facilities and IT infrastructure.

Table 79: Corporate Services Capital Investment Requirements

Corporate Services		
Time Period	**AARC**	**Total Investment over the period**
5 Years (2021-25)	$1,000	$5,000
10 Years (2021-30)	$2,300	$23,000
30 Years (2021-50)	$26,900	$807,000

Over the next 30 years, $807,000k is required for Neebing's Corporate assets, and this is much higher than investment requirements over the next 5-10 years given the condition and age of the existing portfolio. The following table compares these figures to the current average capital budget for Corporate Services, highlights the surplus, provides current reserves, as well as potential reductions in the residential tax levy possible given the surplus.

Table 80: Budget comparison to long term investment requirements, reserves and levy impacts

Average Budget 2016-2019	Surplus	Current 2019 Reserves	Proportion of 30 Year Budget	Possible Residential Levy Reduction	Levy Decrease
$46,584	$45,584	$9,315	1.2%	-0.0001509	-1.8%
	$44,284			-0.0001466	-1.8%
	$19,684			-0.0000652	-0.8%

The Corporate Services budget appears to be substantially higher than the estimated long-term average requirements. Reserves are relatively low, with funding available that is equivalent to less than half of one year of required investment.

9.3.6 Overall – The Portfolio as a Whole

The following table summarizes the estimates for annual average renewal costs for all infrastructure combined over three time-horizons.

Table 81: Overall Capital Investment Requirements for the Portfolio

Infrastructure Portfolio		
Time Period	**AARC**	**Total Investment over the period**
5 Years (2021-25)	$2,807,800	$14,039,000
10 Years (2021-30)	$2,582,600	$25,826,000
30 Years (2021-50)	$2,446,600	$73,398,000

Over the next 30 years, nearly $2.45M is required annually ($73.4M over 30 years) for Neebing's infrastructure assets. Over the next 5-10 years, more than this level of investment is required, given the condition and age of the existing portfolio. The following table compares these figures to the current average capital budget for all assets combined, highlights the shortfall, and provides current reserves, as well as anticipated increases in the residential tax levy required to close the shortfall.

Table 82: Budget comparison to long term investment requirements, reserves and levy impacts

Average Budget 2016-2019	Shortfall	Current 2019 Reserves	Proportion of 30 Year Budget	Extra Residential Levy Rate Required	Levy Increase
$749,300	-$2,058,500	$2,088,266	2.8%	0.0068136	81.4%
	-$1,833,300			0.0060682	72.5%
	-$1,697,300			0.0056180	67.1%

The capital budget is underfunded, with the large transportation infrastructure dominant in its impact on the budget shortfall overall. Taken collectively, capital reserves are 2.9% of portfolio investment requirements over the long term within the Municipality. The residential tax levy would require a 67-81% increase to make up for this shortfall, if all other factors remained the same.

9.3.7 Closing the Gap

Most municipalities have a budget shortfall when they initially evaluate current investment levels relative to the portfolio's long-term requirement. Communities across Canada are challenged with their own shortfalls. Closing the gap can be accomplished by both reducing the need for investment, as well as investing more to bridge the gap. Several considerations may be possible in the Municipality's service areas. These are discussed below:

- **Extending service lives of assets through better maintenance** – The investment forecast assumes a service life for each asset in the Municipality's register. With targeted preventative maintenance, and operational practices that preserve the asset, service lives can be extended and thus reduce the need for investment over the long term. For example, given the predominance of sealed roads in the overall

required lifecycle cost, increasing service lives beyond 10 years would have a large impact on reducing long term investment requirements.

- **Earlier interventions with lower lifecycles costs** – Some assets like pavements, fleet and buildings have several interventions that can be done early in an asset lifecycle that are relatively low cost and lengthen service lives. Failing to do early interventions and replacing assets when they fail is the most expensive way to invest in infrastructure.
- **Accept reduced service levels** – serviceability lengthens if the acceptable quality of service diminishes. Accepting lower levels of road pavement quality, older fittings and furnishings in buildings, less availability of facilities, lower reliability of service or less consistency of service are all factors that may be acceptable to the public as a trade-off to lower levels of investment (and taxation).
- **Fewer services** – Eliminating services saves on operating as well as capital investment requirements. Closing a recreational facility or reducing other services may be options for some service areas.
- **Alternative revenues** – such as higher tipping fees for solid waste, development cost charges and recreational user fees are ways to increase revenues, other than higher taxes.
- **Disposals or road closures –** In some jurisdictions, road or bridge closures, where there are acceptable alternative routes and land access, is another way to reduce investment requirements.

Under investment, or not closing the gap, reduces alternatives open to the municipality over time. For example, chronic underspend may obligate future residents to accept lower service quality or require them to pay for more expensive interventions in the future. Discussing alternatives now, allows communities to choose the alternative that best serves their needs, and aligns with their ability to fund their community aspirations.

As a municipality, we need to implement measures to reduce the 2.5M per year average capital investment to maintain affordable taxes (avoid dramatic rise in taxes). Extending the assets longevity through better maintenance, reducing service levels or reducing services, are steps we can take to fund the assets that we have currently, and keep future costs affordable.

9.4 Investment Prioritization

9.4.1 Investing in Renewal

Consideration of high-risk assets is one important aspect of investment prioritization for renewals. Risk tolerance in the municipality must be balanced with service expectations and available funding. The risk of service failure changes as investment and service levels change in relative terms over time. Strategic alignment (as discussed in Section 2.6) and service priorities (e.g. availability, reliability, regulatory compliance, safety) are also common considerations when evaluating investment alternatives. While there was not a defined prioritization decision-making process defined as part of this asset management plan, it has been identified as an improvement action.

The following table summarizes high risk assets that have been identified through the development of this plan. While many of these assets have a high criticality, some may be lower, but remain high risk given their current condition or age.

Table 83: High Risk Assets for Renewal Prioritization

Asset	Description	Comment
Roadway	Boundary Drive East	Class 5 Highway - Sealed
Roadway	Boundary Drive East	Class 5 Highway - Sealed
Roadway	Cloud Lake Road	Class 5 Highway - Gravel
Roadway	East Oliver Lake Road	Class 5 Highway - Gravel
Culverts	48 Culverts on Class 5/6 Roads	All with <2 years in remaining life
Bridges	Pardee Rd (Over Friendly Creek) BR09	Bridge closed until renewed / replaced
Bridges	Pardee Rd (Over Crystal Creek) BR08	Replacement based on age and condition
Bridges	Farm Road bridge (BR05)	Scheduled for replacement
Bridges	Cloud Lake Road (BR16)	Poor condition, will need replacement soon
Bridges	East Oliver Lake Road (BR17)	Good condition but only 5 yrs remaining life
Bridges	Oinonen Road (BR07)	Fair condition and only 5 yrs remaining life
Memory Road Park	Asphalt and boat launch assets	End of life and in Very Poor condition
Fleet	P-102.1 Rapid Attack Vehicle	25 Years old, and overdue for replacement
Fleet	P-151.1 Pumper	35 Years old, and overdue for replacement

These assets should be evaluated against other priorities within the Municipality when programing projects within the capital budgeting process. Selecting alternative projects

should be done while considering the increase risk acceptance that will be required should renewal be deferred for these assets.

9.4.2 Alternative Investments in New/Enhanced Infrastructure

For communities that have low growth rates, investment in renewal tends to be focus of a capital program. Indeed, good practice tends to encourage sufficiently funding the existing portfolio, before investing in improved service levels, expanded services or increases in capacity. Most communities have a mixture of both renewal and "New" capital investment in their capital program. The following projects have been identified as part of this plan. Investments in these projects were not included in the lifecycle analysis for required levels of investment, as they create new assets, or enhance current service / asset quality. These assets should be evaluated against renewal priorities within the Municipality (particularly as some of these works will not be required if the asset is replaced).

Table 84: High Risk Assets for Renewal Prioritization

Asset	Description	Comment
Cloud River Road #1 bridge	$20,000	Lower and extend steel beam guardrail
Cloud River Road #2	$14,500	Lower guardrail and provide new guardrail at approaches
Farm Road Bridge	$15,000	Guardrail repairs and extension at approaches
Pardee Road bridge over Crystal Creek	$18,000	Provide new guide rail at approaches and over bridge
Cloud Lake Road	$18,000	Install guiderail with signage
East Oliver Lake Road	$15,000	Install 3-cable railing system on bridge
Culverts at Larson Road, Wamsley Road (Pine Creek Tributary), Wamsley Road, Scoble Townline Road, and Klages Road	$75,000	Install 3-cable guide rail system at $15,000 each
Culverts at Blake Hall Rd, Sturgeon Bay Road #1, and Sturgeon Bay Road #2	$63,000	Install guardrail at $21,000 each
Scoble Landfill Expansion	$278,460 to $387,420	Estimate excludes closure, post closure, and acquisition costs of adjacent crown land.
New Emergency Service Base Station	$4.5M	Class C Estimate with a range of +/- 15%

While these proposed investments have not been included in the lifecycle cost estimates for the existing portfolio, some items in this list may take precedence over renewal investment, if they have a service or strategic priority for the Municipality. The trade-off between investing in renewals versus new capital should be evaluated transparently, with consideration given to service expectations and risk. For example, expansion of the landfill may be required to allow the Municipality to continue to deliver solid waste management services independently, without reliance on neighboring facilities. Bridge closures limit network mobility for some users. Investment levels overall should be targeted to align with the long-term average renewal costs established for the portfolio as part of this plan and increased further to accommodate these new asset investments.

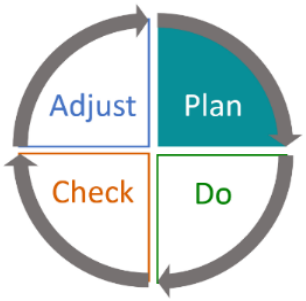
10 AM Improvement Plan

10.1 Implementation

In addition to describing the assets that support the delivery of services, and the required activities and costs to manage the assets over the next 10 years, this section recommends tasks for improving the next version of the plan. These improvement tasks will:

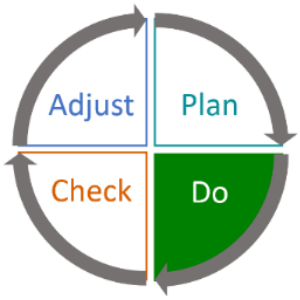
- Increase the level of understanding of the assets and services provided;
- Improve the accuracy of financial forecasts and risk assessments;
- Provide decision-makers with more accurate and complete information in an easy to understand format to assist them with making evidence-based decisions for the best use of available funding and the best interests of the community.

Neebing will adopt a continuous improvement approach which includes a regular review and adjustment process to keep the AMP up to date with the latest information, understanding, and forecasts. This can also be described as a 'Plan, Do, Check, Adjust,' process (based on the Deming Cycle).



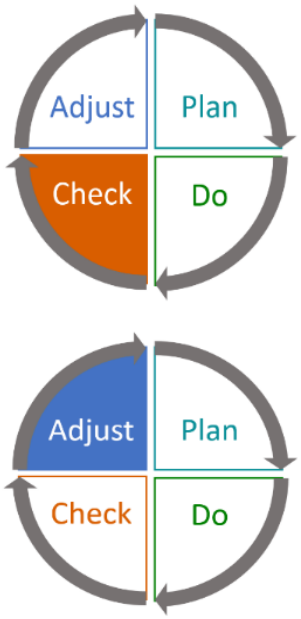
PLAN

- Collate available data and analysis results
- Consider data and analysis results in relation to objectives
- Document outcomes and recommendations
- Update understanding of limitations and assumptions
- Update AMP document, consult and confirm for implementation



DO

- Schedule, fund, and complete improvement tasks
- Improve asset, performance, and cost data
- Monitor, manage, and mitigate risk
- Manage assets and deliver required service
- Measure and record performance



CHECK

- Review performance results
- Analyze asset, performance, and cost data
- Re-assess state of infrastructure and risk ratings
- Re-assess state of asset management practice
- Report achievements

ADJUST

- Update improvement tasks and plan
- Update Level of Service
- Adjust lifecycle strategies
- Adjust priorities and targets
- Update forecasts

Figure 51: SSDP Continuous Improvement Model

This four-step process can be used to generate on-going iterative improvements to the AMP and all business processes for managing assets, delivering service, and facilitating responsible adaptation to change. The development of this AMP is an iteration of the 'Plan' phase.

The review cycle for implementing and updating the AMP should be done annually. However, it may be done every two to three years where little change has occurred. The timing for the AMP update is preferably prior to the annual budget process. This will facilitate consideration of outcomes and inclusion of updated forecasts into the financial planning process.

10.2 Continuous Improvement Items

Several improvement actions were identified through the development of the asset management plan. These include;

- Update schedule of unit costs at least every 5 years as indicated in the AM policy (or sooner if there is a significant change in market costs). Recommendation is to update unit costs annually using consumer/construction cost index and every 3-5 years undertake a more in-depth review of unit costs, referring to actual invoiced costs and researching market rates relevant at that time.
- Record actual costs as assets are replaced, to provide local data for unit cost reviews, to improve accuracy of financial forecasts for asset renewals.

- Evaluate target levels for capital reserve funding, that more closely align to the long-term investment requirements of the service areas that make up the Municipality's infrastructure portfolio. Transportation reserves (in particular), appear to merit review.
- Establish a formalized prioritization method for evaluating investment alternatives for the Municipality's capital program. An objective assessment of the risk, service priority and strategic alignment for each investment alternative is one common method to accomplish this.
- Update AM policy to align with AMP including the asset hierarchy and componentization.
- Coordinate Asset Management planning with neighbouring municipalities as it relates to shared assets, such as boundary roads.
- Record the age of assets when they are replaced, and the reason for replacing them (deterioration, not performing as required).
- Establish a collated master asset register.
- Add signs, lights, guardrail, and ditches to inventory data
- Capture other assets at Parks and Landfill sites and record information in the asset register.
- Develop a resourcing and implementation plan and assign responsibilities to keep asset data up to date and annually review and update the AMP.
- Develop a formal project prioritization (investment prioritization) and decision-making process.

Appendix A - Asset Management Policy

AMENDED STRATEGIC ASSET MANAGEMENT POLICY

Date Approved: June 5, 2019

Purpose: The purpose of this policy is to promote a corporate approach to the management of the Corporation's assets to support the delivery of services to the community. It guides staff in the management of corporate assets, including purchase decisions, and decisions about Asset Maintenance, Asset Renewal and Asset Replacement.

Scope: This policy applies to the creation, acquisition, operation, maintenance, rehabilitation and disposal of all of the Corporation's assets.

Objectives: The objective of this policy, together with the Asset Management Plan, is to effectively manage existing and new infrastructure to maximize benefits, reduce risk and provide safe and sustainable Levels of Service to the community.

Governing Principles and Expectations:

1. The Corporation will develop an Asset Management Plan which will cover all - categories of corporate assets and will meet all legislative requirements and reasonable regulatory standards.
2. The Asset Management Plan will align with key principles set out in Schedule "A" to this Policy, which align with Provincial legislation, including Section 3 of the *Infrastructure for Jobs and Prosperity Act*, 2015 (S.O. 2015, c. 15) and Ontario's land-use planning framework. This will be achieved through consultation, as well as through lifecycle and financial sustainability analysis.
3. In creating the Asset Management Plan, the Corporation will rely on work already done and data already available through road, bridge and culvert inspections, tangible capital asset registries and budget forecasting.
4. Council and Staff will review the Asset Management Plan on an ongoing basis to check it against performance of the assets in accordance with the Corporation's goals and objectives.
5. The Corporation will continuously improve Asset Management systems and adopt appropriate Asset Management practices. This will be achieved through continuing education of staff and members of Council on best Asset Management practices, and ongoing review and monitoring of the Asset Management Plan. The Asset Management Plan will be considered a "living" document, to be updated continually based on best practices and current research and methodology.
6. The Asset Management Plan will establish Asset Renewal and Asset Replacement strategies through the use of full Lifecycle Cost principles.

7. The Asset Management Plan will include a financial plan to provide for the appropriate level of maintenance of assets to deliver approved Levels of Service and maximize the Useful Life of the assets.
8. The Asset Management Plan will include mechanisms for forecasting the required funding to maintain, replace, renew and/or decommission assets.
9. Council and Staff will consider and incorporate Asset Management into other decision-making by Council, where appropriate.
10. Climate change will be considered as part of the risk management approach embedded in Asset Management methods. This approach will balance the potential cost of vulnerabilities to climate change impact and other risks with the cost of reducing these vulnerabilities. The balance will be struck in the Levels of Service delivered through operations, Asset Maintenance schedules, disaster response plans, contingency funding and capital investments.
11. The Corporation is committed to coordinating Asset Management planning with neighbouring municipalities as it relates to shared assets, such as boundary roads.
12. This Policy applies to all assets whose role in service delivery requires deliberate management by the Corporation. The Corporation will use a service-based (qualitative) perspective when applying this Policy to municipal assets, rather than a monetary value (qualitative). The service-focus intent of this Policy differentiates its requirements for identifying assets from the capitalization thresholds which are developed for the purposes of financial reporting. For this reason, the capitalization threshold developed for financial reporting will not be the guide in selecting assets covered by Asset Management planning processes.
13. The Corporation recognizes the importance of stakeholder engagement as an integral component of a comprehensive Asset Management approach. Accordingly, the Corporation will foster informed dialogue with municipal residents and other interested parties using the best available information and engage with them by creating opportunities to provide input into Asset Management.

Strategic Alignment:

The Corporation has developed and adopted the plans and policies listed below:

- The Corporation’s Official Plan
- Policies and procedures governing creation and approval of the Corporation’s annual budget.
- Reserve Fund Policies.
- User Fee Policies.
- The Tangible Capital Asset Policy
- The Emergency Management Plan
- The Multi-Year Accessibility Plan

The Corporation is working on the following plans, which will be adopted when completed:

- the Economic Development Strategic Plan.
- the Neebing Emergency Services Strategic Plan.
- the Corporate Strategic Plan.

The completed plans and policies, as well as those that are currently under development, were and are being designed to meet legislative requirements and work together to achieve the Corporation's service delivery goals. Spending requirements defined in the budgeting process and in long-term financial planning will reflect the objectives of these plans and policies.

Each of these plans and policies rely to some extent on the physical assets owned by the Corporation and the commitment of staff to ensure their strategic use. This includes the long-term maintenance, repair and replacement of existing assets along with the acquisition of new assets to meet the evolving needs of the Corporation. Therefore, Asset Management planning will not occur in isolation from other municipal goals, plans and policies.

Roles and Responsibilities:

The role of the Executive Lead is to:

- Provide organization-wide leadership in Asset Management practices and concepts.
- Coordinate and track Asset Management program implementation and progress.

The role of the Asset Management Committee is to:

- Provide advice to Council regarding Asset Management decision and implementation strategies
- Monitor progress of ongoing Asset Management planning work and implementation efforts
- Participate in the annual review of the Asset Management Program.
- Review the Asset Management Plan and provide input to Council for updates at least every five years.

The role of the Council is to:

- Approve by resolution the Asset Management Plan and its updates every five years.
- Conduct an annual review of the Asset Management Program progress on or before July 1st of every year, that includes:
    - Progress on ongoing implementation efforts
    - Consideration of the Asset Management Policy
    - Any factors affecting the ability of the Corporation to implement its Asset Management Plan.
    - Consultation with departmental staff,
    - A strategy to address these factors, including the adoption of appropriate practices.

- Support ongoing efforts to continuously improve and implement the Asset Management Plan.
- Approve this Policy, establishing the Corporation's expectations around the management of the Corporation's assets;
- Establish Levels of Service and set appropriate standards;
- Review recommendations of staff for amendments to the Asset Management Plan and make the appropriate decisions related to those recommendations; and
- Approve the annual budget and any long-term budget forecasts, including funding allocations to meet Levels of Service identified in the Asset Management Plan.

The role of the staff is to:

- Commit to achieving the goals and objectives of the Asset Management Plan;
- Work towards achieving the goals and objectives of the Asset Management Plan;
- Review the plan periodically, identify any issues, and make recommendations to Council on improvements and/or other necessary amendments to the Asset Management Plan for continuous improvement and to reflect current conditions and known variables;
- In consultation with the Asset Management Committee, present an updated Asset Management Plan to Council for approval at least every five years.
- Participate in the annual review of the Asset Management Program's progress and prepare reports for Council.
- Keep asset registries current by updating repair, maintenance and replacement data and periodically confirming mathematical calculations and cost forecasts against performance realities;
- Develop guidelines and practices consistent with the Asset Management Plan; and
- Document Levels of Service and assess asset performance.

Financial Planning and Budgeting:

The Asset Management Program will be an integral part of Council's annual consideration of the Corporation's capital budgets, operating budgets and long-term financial plans.

Departmental staff will reference the Asset Management Plan in order to forecast spending needs, determine progress, identify gaps and prioritize spending needs for the years to be budgeted. Departmental budgets will be reviewed with the Treasurer in preparation for the annual budget.

The Treasurer will be involved in Asset Management planning to facilitate the bridge between the financial strategy within the Asset Management Plan and the overall budgeting process.

Definitions:

a) “Asset Maintenance” means all actions necessary for retaining an asset as near as practicable to its original condition in order for it to achieve its expected useful life. Asset Maintenance may be “corrective” or “preventative”.

b) “Asset Management” means a combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of services in the most cost-effective manner at an acceptable level of risk. It involves decision-making and actions through the Useful Life of the physical assets.

c) “Asset Management Committee” means a committee of persons appointed by the Council, comprised of the Executive Lead, the Working Roads Foreman, a member of Neebing Emergency Services, and at least two members of Council and the Mayor.

d) “Asset Management Plan” means the Corporation’s plan, regularly updated, to develop strategies and implement actions in order to achieve objectives and targets. It provides an understanding of:

   - the extent of the Corporation’s asset inventory and replacement valuation;
   - the condition of each asset in the inventory;
   - the existing and desired service levels;
   - the financial commitments needed to operate, maintain, renew and replace assets;
   - the policies and programs required for sustainability; and
   - the public and business risks associated with asset failure.

   The Asset Management Plan consists of asset inventories, condition assessments and Life Cycle Costs. It is developed for classes of assets, however, some Asset Management planning is generic for any class of asset.

e) “Asset Management Program” is the implementation of the Asset Management Plan.

f) “Asset Renewal” means a restoring of an asset’s service potential. It is required to lengthen the original life expectancy of an asset.

g) “Asset Replacement” means the complete replacement of an asset that has reached the end of its useful life to enable the Corporation to provide a similar or alternate level of service.

h) “Corporation” means The Corporation of the Municipality of Neebing.

i) “Cost-Benefit Analysis” means an examination of a cost (such as a Life Cycle Cost or an acquisition cost) in comparison to the benefit received from the expenditure. Depending on circumstances, a Cost-Benefit Analysis may mean that a choice is made to lease an asset rather than to purchase an asset.

j) “Council” means the elected council of the Corporation.

k) “Executive Lead” means the Treasurer of the Corporation.

l) “Level of Service” means the quality, quantity, functionality and reliability of the Corporation’s assets.

m) “Life Cycle Cost” means the total cost of an asset throughout its useful life. It includes planning, design, construction, acquisition, operation, maintenance, rehabilitation/renewal, and disposal costs.

n) “Policy” means this Strategic Asset Management Policy, as amended from time to time.

o) “Staff” when used in this policy refers to employees or volunteers who make use of the Corporation’s assets in the delivery of service and/or are charged with Asset Maintenance responsibilities.

p) “Useful Life” means the period of time over which an asset is expected to be used by the Corporation.

Asset Groups:

The Corporation’s physical assets which will benefit from the Asset Management Plan fall into one of the following classes:

A. Buildings (including: the municipal garage, the municipal office, fire halls, Blake Community Hall) and Structures (including: playground and park equipment, outdoor ice rinks, gazebos, trails and boat ramps, but excluding bridges) and the associated property on which they stand, and their associated components, such as:
    - Roofs,
    - Windows,
    - External cladding,
    - Interior finishings,
    - HVAC systems,
    - Plumbing systems,
    - Electrical systems,
    - Furnishings and fixtures,
    - Landscaping, and
    - Surface treatment (i.e. parking lots, ice skating surfaces, playground surface treatments, etc.).

B. Equipment (including: backhoes, graders, excavators, loaders, trailers, etc.)

C. Heavy Vehicles (including: dump trucks, fire tankers, fire trucks, ambulances)

D. Light Vehicles (including: cars and pick-up trucks)

E. Property (including: property without improvement or with some structures, which is not programmed and is either surplus to municipal needs or being held for future use or development)

F. Road Network, including:

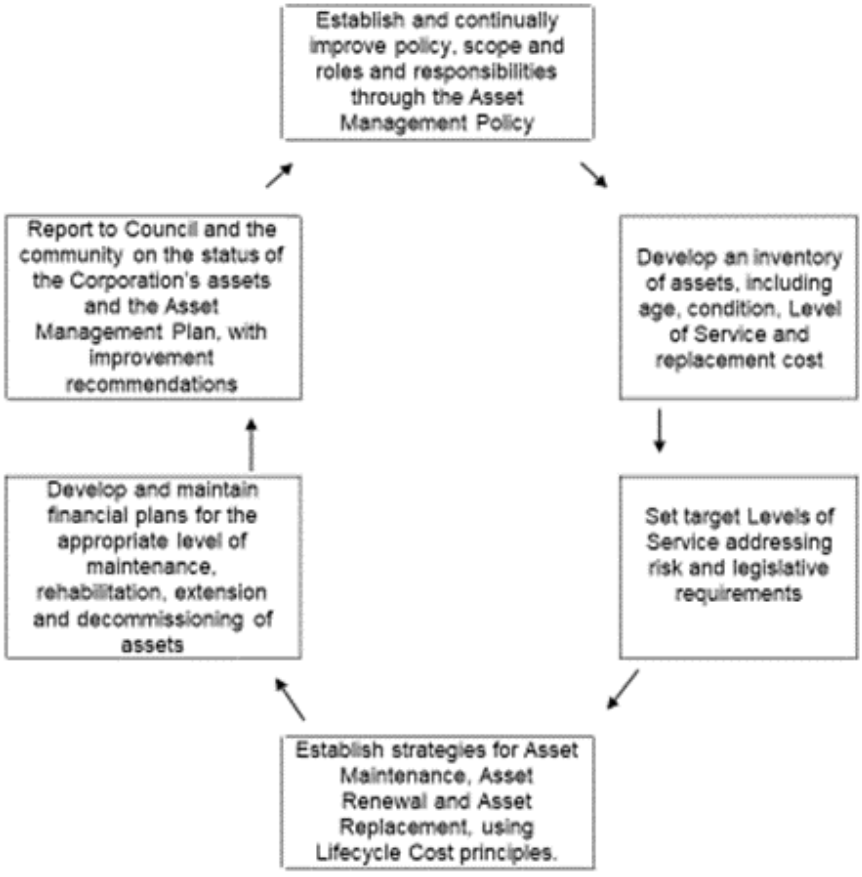
- the travelled portion of the road,
- the shoulders of the road,
- the boulevards and ditches,
- municipal signs,
- any culverts,
- any bridges,
- any streetlights,
- and any landscaping associated with the road.

Also included are the road surface, the road substructure/base.

G. Technology and Communication (including: weather stations, software, hardware, radio equipment, telecommunications equipment)

H. Waste Management Assets (including: landfill sites and their structures, recycling equipment and material, etc.)

Asset Management Plan Implementation



Asset Management Policies for the Asset Management Plan

In creating, updating, reviewing and making recommendations regarding the Asset Management Plan, Staff shall follow the rules in this section of the policy.

1. **Overall Strategy:** The Asset Management Plan will endeavor to outline a set of planned actions that will enable the Corporation's assets to provide the Level of Service set by Council in a sustainable way, while managing risk, and minimizing Lifecycle Cost.

2. **Financial Strategy:** Financial strategies in the Asset Management Plan must take into account the following:

a) The Asset Management Plan may include funding strategies such as debt management for Asset acquisition, Asset Renewal, Asset Maintenance or Asset Replacement.

b) Impact on taxation must be held to a reasonable level.

c) Grants and other financial contributions outside of taxation shall be pursued and utilized wherever possible.

3. **Condition Assessments:** Condition assessments of the Corporation's assets will be made, reviewed and updated through one or a combination of factors, including:

- an asset's age, compared to its Useful Life;
- a visual inspection of the asset's condition by Staff; and/or
- a professional detailed review of the asset's condition by a person with the relevant knowledge and experience.

4. **Lifecycle Costs:** The cost of the Corporation's assets shall include consideration of all of the following:

- The cost to purchase, install and commission the asset (investment cost)
- The cost to operate, maintain and monitor the asset throughout its Useful Life (operating costs); and
- The cost to remove/decommission and dispose of the asset, realizing less any salvage value (disposal costs).

5. **Replacement Costs:** Replacement costs will be calculated based on intended designs and specifications for future needs and Levels of Service. For example, if it is Council's intention to replace a piece of equipment with a larger model, then the replacement cost calculations will be based on the larger model. When replacement costs will be estimated by multiplying a known purchase cost for a similar asset in a particular year by the cost of living index published annually by Statistics Canada, over the Useful Life of the asset. Replacement costs in the Asset Management Plan will be updated as different classes of assets are acquired during the forecast period in the Asset Management Plan. Every 5 years, the replacement costs noted in the Asset Management Plan will be checked against the current market values for similar assets, and re-established if necessary.

6. **Risk/Criticality Assessment:** Assets shall be assigned a condition number from 1 through 10, and a risk-of-failure number from 1 through 10 in accordance with the following:

Condition Number	Condition Summary	Probability that the Asset will Fail	Risk-of-failure Number
9-10	Very Good	Rare	9-10
7-8	Good	Unlikely	7-8
5-6	Average	Possible	5-6
3-4	Poor	Likely	3-4
1-2	Very Poor	Almost Certain	1-2

It is not always necessary to maintain every asset in top condition. If the risk that an asset will fail is low, and the consequences of failure are minimal, a less-than- perfect asset can perform to certain Levels of Service satisfactorily.

The consequences of an asset's failure shall be assigned a number from 1 through 5 as follows:

Consequence	Cost	Social/Health	Environmental	Service Delivery
1	Insignificant	No impact	No impact	No interruptions
2	Small/minor	Minor impact	Short-term impact	Minor interruptions
3	Considerable	Moderate impact	Medium-term impact	Moderate interruptions
4	Substantial	Major impact	Long term impact – fixable	Major interruptions
5	Significant	Significant impact	Long term impact - permanent	Significant interruptions

Consequences of failure may vary based on the nature of the asset or even the time of year. Whether or not a replacement (temporary or permanent) for the failed asset can be obtained for use (whether for a short- or longer-term) at a reasonable cost is also a consideration.

The Risk/Criticality Assessment is based on the following matrix:

Probability of Failure	Consequence of Failure				
	Insignificant	**Minor**	**Moderate**	**Major**	**Catastrophic**
Rare	LOW	LOW	MEDIUM	MEDIUM	HIGH
Unlikely	LOW	MEDIUM	MEDIUM	MEDIUM	HIGH
Possible	LOW	MEDIUM	MEDIUM	HIGH	**CRITICAL**
Likely	MEDIUM	MEDIUM	HIGH	HIGH	**CRITICAL**
Almost Certain	MEDIUM	HIGH	HIGH	**CRITICAL**	**CRITICAL**

The Asset Management Plan will address High and Critical circumstances, and will plan for Medium circumstances.

7. **Levels of Service:** Council will establish Levels of Service, taking into consideration factors such as (among others):
   - ❖ Affordability
   - ❖ Performance targets and timeframes
   - ❖ External trends and community wishes or (reasonable) expectations
   - ❖ Technological advances and/or efficiency improvements

   Staff will, in creating and updating the Asset Management Plan, incorporate the Levels of Service set by Council.

SCHEDULE A

KEY PRINCIPLES TO BE FOLLOWED FROM THE INFRASTRUCTURE FOR JOBS AND PROSPERITY ACT, 2015

The Municipality shall consider the following key principles as outlined in section 3 of the Infrastructure for Jobs and Prosperity Act, 2015 when making decisions regarding asset management:

1. Infrastructure planning and investment should take a long-term view, and decision-makers should consider the needs of citizens by being mindful of, among other things, demographic and economic trends.

2. Infrastructure planning and investment should consider any applicable budgets or fiscal plans.

3. Infrastructure priorities should be clearly identified in order to better inform investment decisions respecting infrastructure.

4. Infrastructure planning and investment should ensure the continued provision of core public services, such as health care and education.

5. Infrastructure planning and investment should promote economic competitiveness, productivity, job creation and training opportunities.

6. Infrastructure planning and investment should ensure that the health and safety of workers involved in the construction and maintenance of infrastructure assets is protected.

7. Infrastructure planning and investment should foster innovation by creating opportunities to make use of innovative technologies, services and practices, particularly where doing so would utilize technology, techniques and practices developed in Ontario.

8. Infrastructure planning and investment should be evidence based and transparent, and, subject to any restrictions or prohibitions under an Act or otherwise by law on the collection, use or disclosure of information,

    I. investment decisions regarding infrastructure should be made on the basis of information that is either publicly available or is made available to the public, and
    II. information with implications for infrastructure planning should be shared between the Municipality and broader public sector entities, and should factor into investment decisions respecting infrastructure.

9. Where provincial or municipal plans or strategies have been established in Ontario, under an Act or otherwise, but do not bind or apply to the Municipality, as the case may be, the Municipality should nevertheless be mindful of those plans and strategies and make investment decisions regarding infrastructure that support them, to the extent that they are relevant.

10. Infrastructure planning and investment should support accessibility for persons with disabilities.

11. Infrastructure planning and investment should minimize the impact of infrastructure on the environment, respect ecological and biological diversity, and support resilience to climate change.

12. Infrastructure planning and investment should endeavour to use acceptable recycled aggregates.

13. Infrastructure planning and investment should promote community well-being, such as local job creation and training opportunities, improvement of public spaces, or other relevant benefits identified by the Municipality and community.

14. Any other principles that may be prescribed for the Government or the broader public sector entity, as the case may be.

Appendix B - Asset Register and Hierarchy

Process for creating the Asset Register and Hierarchy

The register was developed in four steps:

1. Compiled and reviewed available data;
2. Developed an asset hierarchy for organizing the data. It was developed with input from our subject matter experts for roads, bridges, and facilities to find the right balance between the level of detail for managing and reporting assets, and the level of effort for collecting and maintaining the data given your available resources. Additional asset components can be added to the hierarchy either as level 1 or more detailed level 2 components.
3. Created the inventory in MS Excel to align with the hierarchy and enabled state of the infrastructure reporting and forecasting of future needs.
4. Validated the inventory data. Several steps were taken to ensure the inventory data was entered and structured accurately including:
    - Checking more than one data source where possible, e.g. GIS, Bylaw, and DOT data export for roads. Discrepancies were identified and corrected with Neebing.
    - Reviewing the data for a 5% sample of the asset components in the final database. The asset information aligned with the data source for all but one asset where a quantity was inaccurate by less than 10%. This was deemed acceptable and no further action was taken to validate the data.

Additional comments on steps taken to create the register are summarized by Asset Class in the table below.

Comments on Creating the Asset Register

Asset Class	Comments
All asset components	- A unique ID was created for each asset component which is a combination of the Asset ID and a sequential component number (i.e. component 1, 2, 3 ,4, etc.). We will use the component ID for the purposes of this project. However, it can be replaced with another set of unique IDs if required to meet your ongoing needs.

Asset Class	Comments
Roads – all functional classes	- Roads were divided into segments ranging from 200 m to 11,700 m. Unique identifiers were created for the road segments, and "From" and "To" descriptions were added to help identify their location. - Delazzer Rd, Little Pine Road, and John's Place were only identified in either the GIS or Bylaw but not included in the DOT export. They were **NOT INCLUDED** in the register.
Drainage	- 11 culverts were identified in GIS database that were not included in the Working Capital Asset Inventory. They were added to the asset register. - The culverts listed in Appendix B were recorded as either major culverts or centreline culverts. It is not clear if the some of the culverts were mistakenly recorded twice as different asset types, or if the culverts listed are all separate assets.
Major Structures – Bridges and Structural Culverts	- See comment for drainage. - Culverts included in the bridge inspection reports were classified as major culverts.
Parks – buildings, sites, rinks, fields Cemetery – buildings and site	- Areas of building footprints, sites, rinks, and fields were estimated from Google Earth where data were not available
Facilities	- Areas of building footprints and sites were estimated from Google Earth where data were not available
Equipment	- Belts were removed as an asset

Appendix C - Asset Data Hierarchy

SERVICE & BUSINESS UNIT	SERVICE FUNCTION	ASSET CLASS	ASSET TYPE	LEVEL 1 COMPONENTS
Transportation Public Works	Roads	Roadway Functional Class (arterial, collector, local)	Road Segments	Surface Base Sub-base Subgrade
		Roadside Assets	Signs	Sign Post
			Street Lights	Luminaire Pole Electrical
			Guardrail	None
			Other safety barriers	None
		Drainage	Ditches	None
			Centreline Culverts	None
			Entrance Culverts	None
	Major Structures	Structures	Bridges	Deck Superstructure Substructure Barrier/rails
			Major Culverts	Pipe Headwall Channel Geotechnical
			Retaining structures	Main wall Tie backs Drainage system
	Operations	Facilities	Buildings	Interior Exterior Roof Foundation HVAC Plumbing Electrical Septic system Fuel tank

SERVICE & BUSINESS UNIT	SERVICE FUNCTION	ASSET CLASS	ASSET TYPE	LEVEL 1 COMPONENTS
			Sites	Grounds Driveway/Access Fence
		Fleet	Vehicles and trailers	None
		Equipment	Equipment	None
Community Services Public Works	Parks and Cemetery	Park	Buildings (including the Gazebo and sheds)	Interior Exterior Roof Foundation HVAC Plumbing Electrical Septic system
			Site	Grounds Signs Playground Boat launch Parking lots Driveway/Access Fence Light poles Luminaires Furniture (benches, tables, garbage cans)
			Baseball Field	Outfield Bleachers Dugout Fenceposts Fence Backstop
			Rink	Concrete pad Boards Lights
		Cemetery	Buildings including sheds	Exterior Roof Foundation Electrical Septic system

SERVICE & BUSINESS UNIT	SERVICE FUNCTION	ASSET CLASS	ASSET TYPE	LEVEL 1 COMPONENTS
			Site	Grounds Signs Parking lots Driveway/Access Fence Lights
Environmental Services Public Works	Solid Waste	Facilities	Buildings	Interior Exterior Roof Foundation HVAC Plumbing Electrical Septic system
			Sites	Grounds Signs Driveway/Access Fence
		Equipment	Recycle bins	None
Emergency Services Fire Departments	Fire Protection	Facilities	Buildings	Interior Exterior Roof Foundation HVAC Plumbing Electrical Septic system
			Sites	Grounds Signs Driveway/Access Fence
		Fleet	Vehicles and trailers	None
		Equipment	Equipment	None
Corporate Services Administration	IT Infrastructure	Hardware	IT Other Server Computer Printers	None

SERVICE & BUSINESS UNIT	SERVICE FUNCTION	ASSET CLASS	ASSET TYPE	LEVEL 1 COMPONENTS
	Government Services	Facilities	Buildings	Interior Exterior Roof Foundation HVAC Plumbing Electrical Septic system
			Sites	Driveway/Access Fence