



ASSET MANAGEMENT PLAN

Town of Blind River
Blind River Fire Department

Document Control	Asset Management Plan
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This Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

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1.0 EXECUTIVE SUMMARY

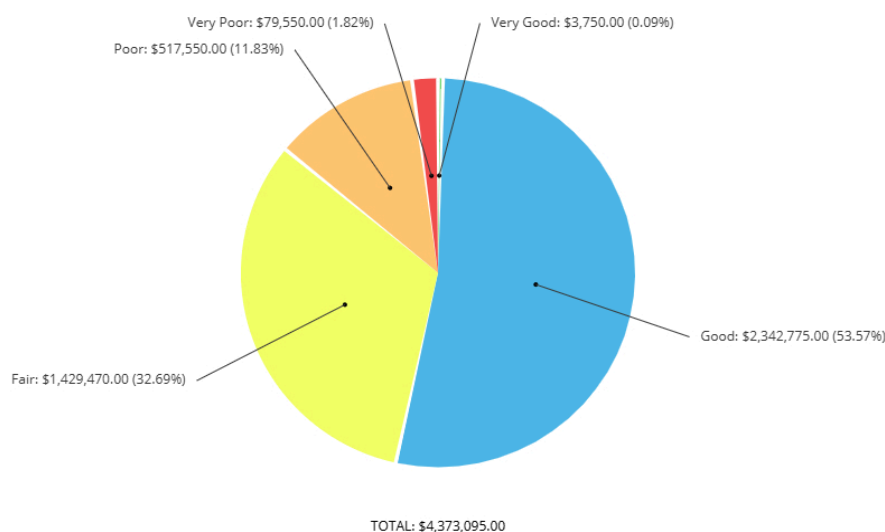
1.1 The Purpose of the Plan

This Fire Asset Management Plan (Fire AMP) details information about Blind River Fire Department assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 2025-2035 year planning period. The Fire AMP will link to a Long-Term Financial Plan which typically considers a 10-year planning period.

1.2 Asset Description

This plan covers the infrastructure assets that provide fire services provided from the assets. The Fire Asset Management Plan includes assets that are comprised of:

- Fire apparatus, which are vehicles and response units: This can vary, but typically includes Pumpers, Ladders, Rescues, Tankers and Command vehicles. Many of these specialized fleet units take time to order and ship, including repair parts, which can affect readiness if they are not available. Additionally, these delays in orders, parts and such may lead to affecting levels of service.
- Firefighting gear and equipment: Every firefighter has access and training in the use of all firefighting personal protective equipment, such as bunker gear and Self-Contained Breathing Apparatus. Fire stations also maintain specialized tools for specific situations like wildland fires, motor vehicle collisions, etc. A well-equipped fire station maintains a healthy stock of firefighting hose, ladders, extrication equipment and other mission specific equipment that are critical to tactical and strategic priorities. Additionally, with workplace related cancers in firefighting being made a priority, consideration must be made to ensure the well-being of our firefighters.
- The fire station itself has a replacement value estimated at \$4,373,095.00 and a current overall condition rating of good. However, it is important to realize that the various components within the fire hall can range from very poor to very good as identified in the following chart.



1.3 Levels of Service

The allocation in the planned budget is becoming insufficient to continue providing existing services at current levels for the planning period. The Ontario Fire Marshal's Office has mandated additional levels of services for all Municipal Fire Departments (O. Reg. 343/22: Firefighter Certification), which would impose additional costs in training and equipment. For example, all firefighters shall meet NFPA 1072 Hazmat Awareness, and NFPA 1006 Technical Rescue Vehicle Extrication Awareness. All firefighters shall also meet NFPA 1001 Firefighter I and II, these seals are the professional designation for firefighters. The additional costs will be requested for additional operating costs to cover these training needs for 2026; the additional budget requests will be for additional wages to cover the added costs for training. Where Blind River Fire Department is uniquely positioned for success is that our Senior Officers are qualified as Fire Services Instructors (NFPA 1041) and can complete said training in its entirety to prepare for Ontario Fire College auditing in the future.

The main service consequences of the Planned Budget are:

- Mandated requirements from the Ontario Fire Marshall, such as the NFPA 1072 Hazardous Materials Awareness, NFPA 1001 Firefighter and NFPA 1006 Rescues.
- Recruiting and retention
- Climate change potentially causing an increase in Wildland Fire risks

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Ontario Fire Marshall and the training/certification demands being mandated as per O. Reg. 343/22
- Climate change
- Increase in vehicle and equipment costs, lengthy delivery times
- US Tariffs on equipment, steel and other goods

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

- Develop levels of service and performance measures for Fire Services
- Using the Town's work order system Citywide to track maintenance costing

1.5 Lifecycle Management Plan

What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this Fire AMP includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the Fire AMP may be prepared for a range of time periods, it typically

informs a Long-Term Financial Planning period of 10 years. The Fire Services is projected to cost \$367,000 on average per year.

1.6 Financial Summary

1.6.1 What we will do

The 5-year historical budget has averaged \$357,000 per year. This is 100% of the cost to sustain the current level of service at the lifecycle cost. The infrastructure reality is that only what is funded in the budget can be provided. The Informed decision making depends on the Fire AMP emphasizing the consequences of Planned Budgets on the service levels provided and risks.

The Fire AMP considers the following:

- Operation, maintenance, renewal, acquisition and disposal of fire apparatus and equipment to meet service levels set by the Town in annual budgets and by Council in the Establishing a Fire Department By-Law.
- Prioritization and forecasting of fire equipment and fleet renewal within the 10-year planning period based on the age of the equipment, maintenance costing and abiding by NFPA standards.

1.6.2 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Wildland Fires
- Recruiting and retention
- Fire prevention

We will endeavour to manage these risks within available funding by:

- Continuing with public education, speaking to fire safety, Firesmart and such
- Ensure lessons are learned from Departments facing recruiting and retention issues
- Continuing to work with local stakeholders, landlords and property owners to ensure fire codes and standards are met, to prevent fires and/or minimize damages caused by them.
- Continuing to operating very successful programs such as the burn permit system and the vacant building registry.

1.7 Asset Management Planning Practices

Fire has a robust inventory of their assets with replacement value which assists in evaluating the assets. Fire assets requiring renewal are identified from the asset register.

The timing of capital renewals is based on the age of the fire equipment. The Asset

Register was used to forecast the renewal lifecycle costs for the Fire AMP. This Fire AMP is based on a 90% confidence level, highly reliable, and very certain level of confidence information.

1.8 Monitoring and Improvement Program

The next steps resulting from this Fire AMP to improve asset management practices are:

- Developing reports about asset failures for fire apparatus and maintenance programs for fire equipment in the Asset Management technology, CityWide for informed decisions on asset replacements.
- Use of CityWide work orders and inspections to track PM programs and reactive maintenance and capture the O&M costs as another factor for fleet replacement.
- Continue to identify assets that should be captured within the Fire AMP.

2.0 INTRODUCTION

2.1 Background

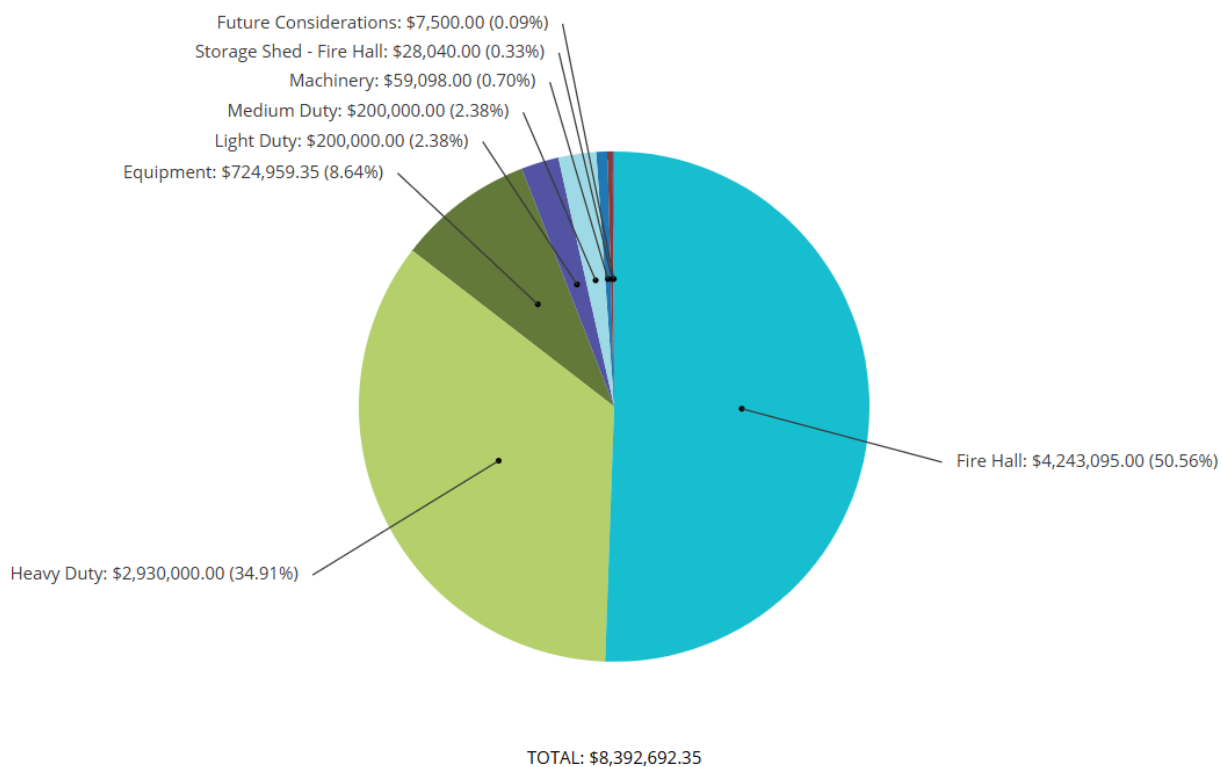
This Fire AMP communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the planning period.

The Fire AMP is to be read with the Community Risk Assessment, By-Law 23-16 Establish a Fire Department. This should include the Asset Management Policy and Asset Management Strategy and the annual budget, where developed. In addition to these important documents, in future iterations this Fire AMP will also need to be read with the Community Wildland Fire Protection Plan, Hazard Fire Mapping and HIRA.

Blind River Fire Department has one full-time Fire Chief, 16 volunteer firefighters and 6 probationary volunteer firefighters that operate from one fire station located at 241 Causley Street.

The assets covered by this Fire AMP include the Fire Hall, equipment, bunker gear and fire vehicles. The composition of the fire assets are:

- Fire Hall 50.56%
- Machinery and equipment 9.34%
- Vehicles 39.67%



These assets are used to provide fire and rescue services.

The assets included in this plan have a total replacement value of \$8,392,692.35.

Key stakeholders in the preparation and implementation of this Fire AMP are shown in Table 2.1.

Table 2.1: Key Stakeholders in the Fire AMP

Key Stakeholder	Role in Asset Management Plan
Town of Blind River Council	▪ Represent the needs of community/shareholders, ▪ Allocate resources to meet planning objectives in providing services while managing risks, ▪ Ensure service sustainability.
Executive Leadership Team	▪ Provide leadership with imbedding asset management practices across the organization, ▪ Recommend project selection criteria and weighings to Council, ▪ Make budgetary and property tax/rate and infrastructure levy setting recommendations to Council, ▪ Ensures that adequate resources are available for development and implementation of AM initiatives, ▪ Approves future revisions.
Director of Protective Services	▪ Provide support and be subject matter expert to AM team on new acquisitions and replacements for fire equipment and fire apparatus, ▪ Create Fire Master Plan, ▪ Update Community Risk Assessment, ▪ Create Community Wildfire Protection Plan, ▪ Provide information to support AM goals, review condition of fire assets, etc., ▪ Assist in capital planning for Fire Services during pre-budget discussions such as reviewing condition of fire assets, ▪ Provide level of service information.

2.2 Goals and Objectives of Asset Ownership

Our goal for managing fire department assets is to meet the defined level of service (as amended from time to time) in the most cost-effective manner for present and future consumers. The key elements of fire department asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks,
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are:

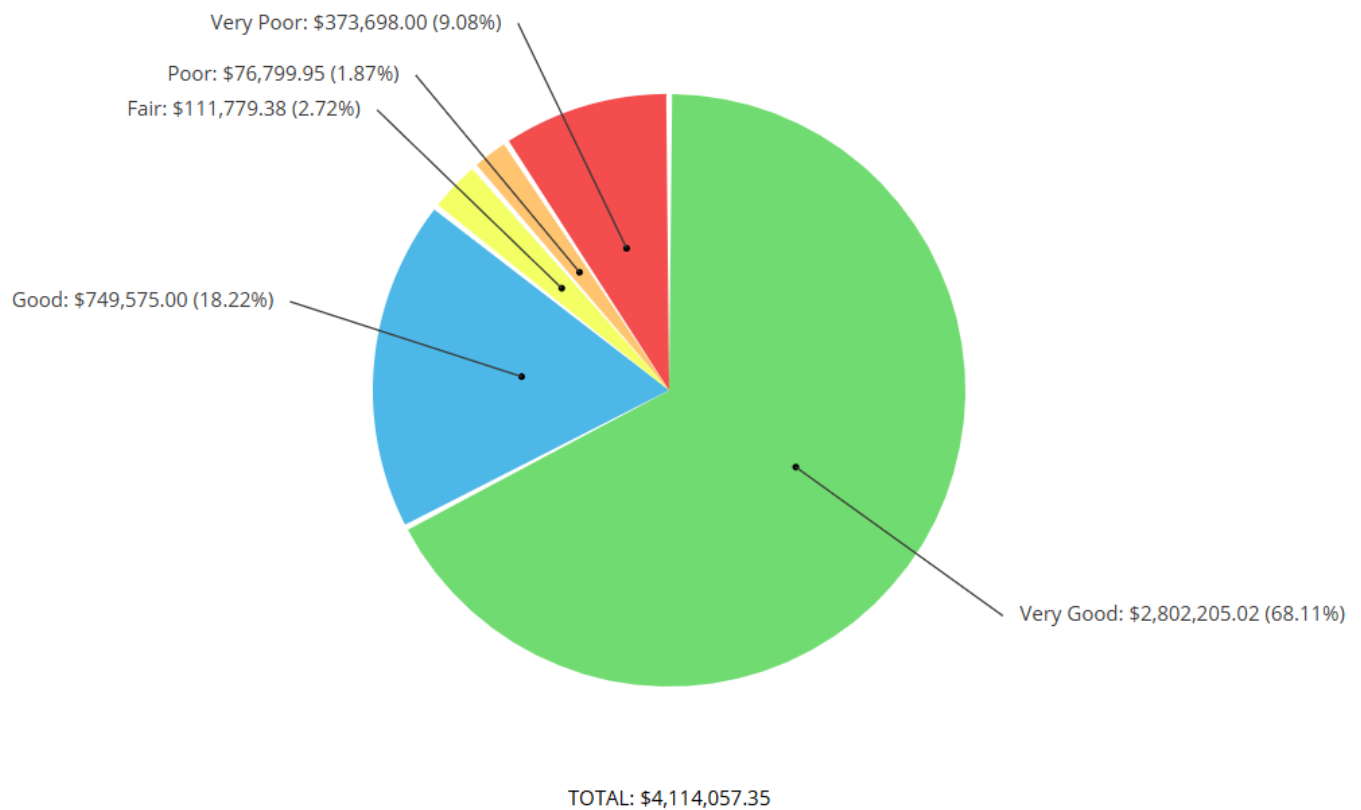
- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

3.0 STATE OF THE BLIND RIVER FIRE DEPARTMENT

3.1 Fire Services

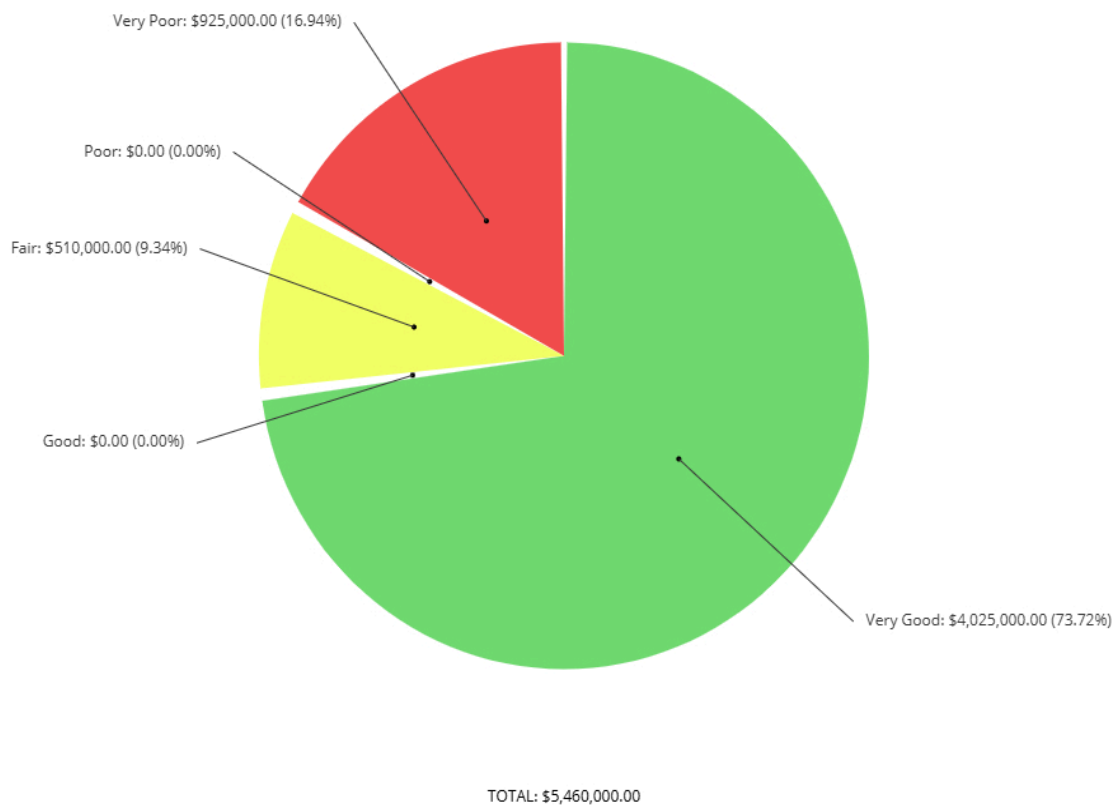
The total replacement value of the assets grouped under the Fire Services is \$8,392,692. Table 3.1 breaks down the Vehicles and Equipment illustrating an overall cost distribution. The very poor condition of the fire apparatus in the graph is Truck 1, which is in overall good condition considering the age of this vehicle, but the NFPA standard for fire apparatus dictates that Truck 1 must be replaced.

Chart 3.1.1 Vehicles and Equipment



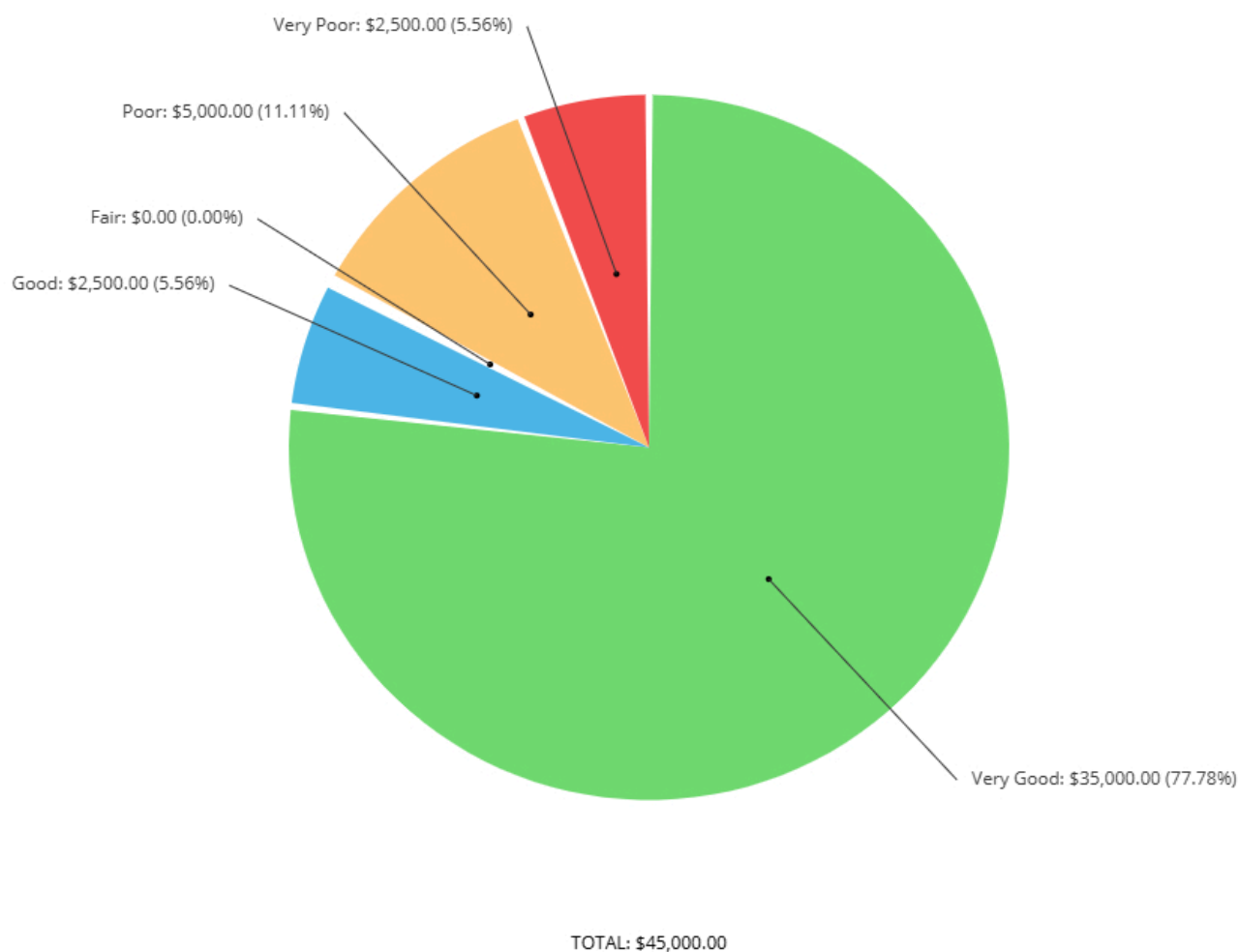
The replacement value for all Fire vehicles is approximately \$3,330,000 encompassing 39.7% of the total service replacement value. Approximately 83% are rated at Fair to Very Good condition. Our minimum service level for Fire apparatus is Fair as the critical nature of these assets do not suggest acceptance of poor assets. The condition of the assets is generally age-based with all fire apparatus inspected as per the National Fire Prevention Association (NFPA) requirements. Any aging assets that are shown as poor assets are scheduled to be replaced.

Chart 3.1.2 Vehicles



The replacement value for the bunker gear is approximately \$45,000.00 encompassing less than 1% of the total service replacement value. Approximately 83% are rated Fair to Very Good Condition. The condition of these assets is governed by NFPA requirements, which state, that any firefighting gear shall expire at 10 years after date of manufacture.

Chart 3.1.3 Bunker Gear



4.0 LEVELS OF SERVICE

4.1 Customer Research and Expectations

This Fire AMP is prepared to facilitate consultation prior to adoption of levels of service by Council. Future revisions of the Fire AMP will incorporate customer consultation on service levels and costs of providing the service. This will assist Council and stakeholders in matching the level of service required, service risks and consequences with the customers' ability and willingness to pay for the service.

4.2 Understand your customers

The Customer is defined as those who use or are impacted by activities associated with providing the Fire Services. The customer base for Fire are residents, business groups, Council, consultants, contractors and higher levels of governments. Dispatch services are currently provided by the Central Algoma Communications Centre.

Table 4.2 gives a snapshot of stakeholders and customer groups.

Table 4.2: Customer Groups and Stakeholders

Stakeholder	Customer Groups
Residents	Service providers
Regulatory Bodies	Ontario Fire Marshall, NFPA
External Stakeholders	Council, Provincial Government, Ontario Provincial Police

The Office of the Fire Marshal, Ontario (OFM) has developed the Comprehensive Fire Safety effectiveness Model. The model identifies “three lines of defense” that can be utilized in responding to local community needs. The three lines of defense include:

- Public Education and Prevention- Educating residents of Blind River on means for them to fulfill their responsibilities for their fire safety is a proven method of reducing the incidence of fire. For example, notifying residents on testing of smoke alarms and installing carbon monoxide alarms at homes, warning on fire pits and dry weather are some of the instances of public education and prevention.
- Fire Safety Standards and Enforcement – Ensuring that buildings have required fire protection systems, safety features, including fire safety plans and that these systems are inspected and maintained, so that the severity of fires may be minimized. The NFPA and FPPA has set up standards that is mandated for all bunker gears, apparatus, and communication systems.
- Emergency Response – Providing well trained and equipped firefighters directed by capable officers to stop the spread of fires once they occur and to assist in protecting the lives and safety of residents. The emergency response is the failsafe for those times when fires occur despite prevention efforts.

Table 4.2.1: Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in the FAMP
Good Governance	Ensure the Town meets the levels of service for Fire assets	Ensure safety of residents, impart education on fire safety and emergency preparedness
Community Engagement	Improve community engagement within the Town through enhanced customer service and communication	Endeavour to continue school visits, open houses at the fire hall, providing information on socials and healthy aging fairs, etc...

4.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. There are also Town specific by-laws on fire safety. The legislative requirements that impact the delivery of the fire service are outlined in Table 4.3.

Table 4.3: Legislative Requirements

Legislation	Requirement
Compliance with NFPA regulations	Compliance with NFPA codes on fire suppression, fire safety and fire education.
Fire Protection and Prevention Act	Compliance on public education related to fire safety, prevention and fire protection services to residents of the Town of Blind River
Ontario Fire Marshall	Compliance to OFM monitor and review of fire protection services
Town of Blind River By-Laws	Fire regulations on prevention, spreading of fires, open air fires, establishing times during which open fires can be set.

4.4 Levels of Service

Levels of Service (LOS) are defined using two terms, customer levels of service and technical levels of service.

Customer LOS: measures how the resident receives the service and measure of value provided.

Core Value and Levels of Service Statement	KPI Community Levels of Service	Is data for KPI available or can it be readily derived/calculated?	2023	2024	2025	2026	2027	Trend
Accessible and Reliable Emergency Services assets are well-maintained, readily available, and support efficient service delivery.	% of Protective Services vehicles out of service (unplanned)	Yes		0	0			=====
	# of complaints due to vehicle body condition - Protective Services	Yes		0	0			=====
	% of emergency response times that meet NFPA standards - Fire Services	Yes		100	100			=====
	# of complaints received related to Fire Service response times	Yes		0	0			=====
	# of working structure fires responded to in Blind River proper	Yes		3	1			<=====
	# of motor vehicle collisions responded to	Yes		1	2			<=====
	# of wildland fire responded to	Yes		3	0			<=====
Safe and Regulated All Emergency Services assets support safe operations and meet regulatory requirements for maintenance and replacement.	Average age of vehicles --Protective Services--	Yes		16.94				=====
	Average age of vehicles - Fire Services Vehicles	Yes		16.94				=====
	Uptime % - Fire Services Vehicle Assets	Yes		16.94				=====
	# of residential fire events that result in a fatality	YES		1	1			=====
								=====
Affordable Emergency Services assets are managed cost effectively.	% of average after-tax income per household to fully fund annual capital requirements for Emergency Services Assets	Yes						=====
								=====
								=====

Technical LOS: technical measures of performance relating to the resources of service activities to achieving the desired outcomes and demonstrate effective performance.

- **Operations** – ongoing activities, day-to-day operations
- **Maintenance** – activities enabling an asset to provide service for its planned life
- **Renewal** – activities that return the service capability to near original capacity
- **Upgrade** – activities that provide a higher LOS

For the purposes of this report and because residents' expectation of a Fire Department is quite simple, for the purposes of this Fire AMP, only Technical LOS have been included.

The current and expected Technical Levels of Service detailed in Table 4.4 shows the expected levels of service based on resource levels. Organizational objective measures are measures of fact related to the service delivery outcome.

Target	KPI Technical Levels of Service	Should KPI be used to track performance?	Is data for KPI available or can it be readily derived/calculated?	2023	2024	2025	2026	2027	Trend	Target
	0 % of preventative maintenance activities completed as scheduled	Yes	Yes		100	100			—	100
	0 Total number events providing mutual aid vs. receiving mutual aid	Yes	Yes		7 vs 0	0			—	1
	100 % of equipment which has surpassed the established replacement cycle	Yes	Yes						—	
	0 Average response time in minutes	Yes	Yes		5.5	5.5			—	10
	100 Number of fire safety programs delivered annually (across diverse demographic groups)	Yes	Yes		12	7			↘	7
	100 # of annual dispatch requests received	Yes	Yes		48	20			↘	<60
	100 % of calls declined in service area				0	0			—	0
	% of all fleet and machinery & equipment assets in poor or very poor condition	Yes	Yes							
<15	% of Protective Services vehicles in poor or very poor condition	Yes	Yes							<20
	95 % of vehicles and equipment past recommended service life – Protective Services	Yes	Yes							
<2	% of fire department staff fully trained under NFPA 1001 FF1&FF2	Yes	Yes		30	30			—	100
	% of fire department staff fully trained under NFPA 1072 Hazmat Awareness	Yes	Yes		30	30			—	100
	% of mutual aid agreements reviewed and updated annually	Yes	Yes		100	100			—	100
	% of Emergency Services equipment inspected annually	Yes	Yes		100	100			—	100
	# of annual fire inspections completed	Yes	Yes		15	12			↘	10
	Average capital reinvestment rate for Emergency Services fleet and equipment	Yes	Yes							
	O&M cost per vehicle - Protective Services	Yes	Yes			2026				
	Annual cost of Emergency service per serviced household	Yes	Yes							

Table 4.4 Technical Levels of Service

Service	Service Objective	Objective Measure	Current Performance	Desired Outcome
Operations \$124,340 Average Budget	Safe and reliable equipment and equipment training to facilitate prompt fire response times	Firefighters are trained to use and regularly exercise equipment during practice times to ensure proper function at fire scenes	Trucks and equipment checked bi-weekly on training nights. Fire hoses checked annually	All equipment aside from hoses are checked bi-weekly
Maintenance \$14,280 Average Budget	Reliable and consistent fire services without interruption or delay of service	Regular maintenance and condition assessments	Regular annual inspections on major equipment and vehicles as per NFPA 1911	Complete condition assessments using an established system to coordinate with Fire AMP
Renewal No Renewal Budget	Fire Services assets meet needs to provide quality services to customers	Renewals are performed where required, without sacrifice to quality when	Although equipment and vehicles are currently safe and in good running order, replacing	Aging equipment and vehicles to be replaced before they fail, leading to delays or

		upgrade is a more suitable option Equipment and apparatuses are safe and in good running order	Trucks 6, 8 and 3 in the near term would ensure we meet NFPA codes and standards	interruption in services expected. Truck 1 will need to be replaced in 2028
Upgrade/New \$250,000 budgeted per year 2023-2027 to reserve for future fleet replacements	Newer fire apparatus for reliable service delivery	Fire apparatuses are following the Fire Underwriters Survey guidelines compliance measures	The next fire apparatus is due in the near-term, however, another vehicle may not be budgeted for 10 years. BRFD to apply for exception with FUS to keep Truck 1 as an option for water shuttle relays	All fire apparatus are budgeted and replaced within the timeline specified by the Fire Underwriters Survey

It is important to monitor the service levels provided regularly as these will change as regulations and expectations change. The current performance is influenced by work efficiencies, technology, the Ontario Fire Marshall and Fire Underwriters Survey regulations that will change over time. Review and establishment of the agreed position that achieves the best balance between service, risk and cost is essential.

4.5 Required Replacements

The Fire Underwriters Survey (FUS) dictates replacement schedules for fire apparatuses. Table 4.5 shows the guidelines for First Line, Second Line, and Reserve. Based on population, Blind River is designated as a Medium Size community and as such is required to adhere to these guidelines to retain recognition. One consequence in the loss of recognition would result in a large spike in residential fire insurance rates. While First and Second Line have a maximum age on the chart, apparatuses can be up to 25 years old in these positions. In addition, only one apparatus per department can be applied to have an age exception applied; only special circumstances will allow for two apparatuses being considered for exception. Leniency for these rules may change in the future but for the purposes of this AMP, a maximum apparatus age of 25 was applied in order to determine replacement dates and contribution levels.

Table 4.5 - Fire Underwriters Survey Fire Apparatus Age Guidelines

Apparatus Age	Major Cities ³	Medium Sized Cities ⁴ or Communities Where Risk is Significant	Small Communities ⁵ and Rural Centres
0 – 15 Years	First Line	First Line	First Line
16 – 20 Years	Reserve	2 nd Line	First Line
20 – 25 Years ¹	No Credit in Grading	No Credit in Grading or Reserve ²	No Credit in Grading or 2 nd Line ²
26 – 29 Years ¹	No Credit in Grading	No Credit in Grading or Reserve ²	No Credit in Grading or Reserve ²
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

¹ All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)

² Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.

³ Major Cities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND
- a total population of 100,000 or greater.

⁴ Medium Communities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR
- a total population of 1,000 or greater.

⁵ Small Communities are defined as an incorporated or unincorporated community that has:

- no populated areas with densities that exceed 200 people per square kilometre; AND
- does not have a total population in excess of 1,000.

5.0 ASSET MANAGEMENT STRATEGIES

5.1 Demand Drivers

Drivers affecting demand for Fire are generally regulations related to fire safety, education and fire prevention, population and demographic related growth, public expectations, technological changes, and environmental awareness.

5.2 Demand Impact and Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets and following the NFPA 1720 standards where the response time includes the combined turnout and travel of the fire department's response to incidents. Table 5.1.1 shows the NFPA 1720 first response standard and minimum resources for different demand zones in the Town.

Table 5.1.1. NFPA 1720 Demand Zones, Resources and Response Time

Table B2: NFPA 1720

Demand Zones	Demographics	Minimum # of Firefighters Responding	Response Time (Turnout + Travel) in Minutes
Urban Area	>1000 people per square mile	15	9
Suburban Area	500-1000 people per square mile	10	10
Rural Area	<500 people per square mile	6	14
Remote Area	Travel Distance + or – 8 miles	4	Dependent upon travel distance
Special Risks	To be determined by Fire Department	To be determined by Fire Department	Determined by Authority Having Jurisdiction

5.3 Climate Change Adaptation

Global climate change has a significant impact on temperature and precipitation, and these are influencing the frequency of extreme climatic events and requiring large-scale emergency preparedness and response. Flooding due to rainfall and destruction of property during tornadoes and wildfires, communities are experiencing immediate danger to life, property, and long-term public health threats. It is important that fire service should incorporate climate change to prepare for and mitigate future disasters. How climate change impacts on assets in the Town will vary depending on the location. Locations close to wildland urban intermix or interface will increase the risks associated with wildland fires.

Firefighters are first responders who are on the front lines, handling the devastation that comes along with extreme weather, increase in fire severity as well as the other changes due to climate change, like longer fire seasons or drier terrain. These changes add up to create an even more challenging environment to the fire fighters. When we fail to address these added risks, we are failing to protect the public, and those who are responding to the events. The Town will consider how to manage our

existing assets given potential climate change impacts. Risk and opportunities identified to date are shown in Table 5.3.

Table 5.3 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Wildland Fires	High temperature and dry weather conditions	Significant impact on service delivery	Provide fire education to residents, fire hazards, fire prevention and emergency management
Tornados	Significant precipitation and heavy rainfall, storm and flooding	Significant impact on service delivery	Provide fire rescue education to residents, fire prevention and emergency management

The fire service will use previous experience and insight, preventative efforts, community engagement and functional preparation for resiliency. The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Fire AMP.

5.4 Maintenance Strategy

The maintenance activities for Fire Services in the Town are generally the activities involved in maintaining the fire apparatus and equipment. Most of these activities are regulated by the NFPA standards like NFPA 1915 for fire apparatus preventive maintenance. Some routine maintenance activities on fire apparatus is performed by the fleet department, others such as annual pump testing is completed by CMAX.

The NFPA 1851 enforces routine inspections on bunker gear like inspection of garments after each use looking for soiling, contamination, physical damage, damaged trim, and hardware. Advanced inspection is also performed on the bunker gear like moisture barrier and seam sealing integrity, material integrity, reflective trim and Velcro integrity and any loss or shift in thermal liner material. This testing is completed by Inservus.

5.5 Lifecycle Management Strategy

The lifecycle management plan details how the fire services in the Town are managed and operated to meet the agreed levels of service while managing life cycle costs. The following are the different stages of lifecycle for the assets:

- **Acquisition** – the activities to provide a higher level of service (e.g., upgrade of an existing fire apparatus) or a new service that did not exist previously in asset registry

- **Operation** – the regular activities to provide services (e.g., salaries and administration costs to run a fire Station, fire prevention and emergency management activities)
- **Maintenance** – the activities necessary to retain an asset to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g., routine maintenance of fire equipment, maintenance activities contracted to third party as regulated by NFPA 1915)
- **Renewal or replace** – the activities that return the service capability of an asset up to that which it had originally provided or replace an existing asset (e.g., fire apparatus replacement and replacement of bunker gear and communication equipment or replacement due to change in regulations related to fire equipment)

Table 5.5 provides a brief snapshot of some of the asset activities that fall into the different lifecycle activities.

Table 5.5: Fire Lifecycle Activities

Lifecycle Activity	Examples
Non-Infrastructure Solutions	- Fire Master Plan in the future, 2025 - Predictor modeling, demonstrating long-range needs for Fire by reviewing Community Risk Assessment, Community Wildland Fire Preparation Plan, historical data such as call volume, call types.
Operations and Maintenance	- Preventative Maintenance and inspections of fire equipment and apparatus. - Fire Equipment and Apparatus maintenance as regulated by NFPA 1915. - Salaries, training and administration costs of fire chiefs, fire fighters and administration staff.
Acquisition	- Acquisition of new fire apparatus and fleet - Acquisition of bunker gear and communication equipment
Replacement Activities	- Fire equipment and apparatus replacement
Disposal Activities	- Disposal or trade in of fire apparatus and bunker gear
Expansion Activities	- Upgrade of fire apparatus due to potential change in service levels

5.5.1 Background Data

Physical Parameters

The assets covered by this Fire AMP are shown in Table 5.3.1. The age profile of the assets included in this Fire AMP is reflected in the asset inventory. Most of the

smaller value assets are replaced within 10 years while larger fire apparatus has a lifespan of 20 to 25 years.

Table 5.5.1 Assets covered by this Plan

Asset Category	Count	Replacement Value
Equipment	Pooled	\$724,959
Fire Hall	1	\$4,243,095
Future Considerations	1	\$7,500.00
Fleet - Heavy Duty	4	\$2,930,000
Fleet - Medium Duty	1	\$200,000
Fleet - Light Duty	2	\$200,000
Machinery	2	\$59,098
Storage Shed - Fire Hall	1	\$28,040
Total	N/A	\$8,392,692

5.5.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. The Fire Master Plan will provide all details on service locations, resources available, response time and demand zones that will help us decide on asset capacity and performance for Fire Services.

5.5.3 Asset Condition

Condition is currently monitored by age. Fire equipment like bunker gear and equipment have a shorter life span than fire apparatus. The fire apparatus is lifespan aged between 20 to 25 years. The condition, though age-based is reviewed annually for replacement. Condition is measured using a 1-5 grading system as detailed in Table 5.5.3.

Table 5.5.3: Condition Grading System

Condition Grading	Description of Condition
1	Very Good: Typically, new or recently replaced. Very few elements show general signs of deterioration that require attention
2	Good: Some elements show general signs of deterioration that require attention. A few elements exhibit significant deficiencies
3	Fair: Shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies.
4	Poor: Mostly below standard, with many elements approaching end of service life. A large portion of the system exhibits significant deterioration.

5	Very Poor: Unacceptable condition with widespread signs of advanced deterioration. Many components exhibit signs of imminent failure, which is affective service.
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5.5.4 Operations and Maintenance Plan

Operations include regular activities to provide services. Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Typical maintenance activities are performed for bunker gear and communication equipment. The total operating costs for Fire Services adds up to an average of \$196,308.60 annually over the past 5 years with budget for general focused on the department's administration function and firefighting budget focused on firefighters. The trend in operating budgets is shown in Table 5.5.4. The operating expenses are \$196,308.60 on average with the annual volunteer firefighter wages accounting for only \$27,000. Additional costs include cost-of-service delivery, facility costs, professional services, debenture interest and administration expenses. The contracted services include dispatch fees, equipment inspections such as SCBA annual bench testing and bunker gear hydrostatic testing annually. The specialized maintenance of fire apparatus and equipment is performed by third party CMAX Fire Solutions.

Table 5.5.4: Operating and Maintenance Budget Trends

Year	Total Operating Budget
2019	\$239,703.00
2020	\$156,850.00
2021	\$139,560.00
2022	\$232,565.00
2023	\$212,915.00
2024	\$272,815.00
2025	\$306,035.00

5.5.5 Summary of forecast operations and maintenance costs

Forecasting operations and maintenance costs are expected to vary in relation to the total value of the fire inventory. If additional fire equipment assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Fire inventory is subject to supply chain and demand issues experienced throughout the World's economy and Tariffs. Additionally, with the increased demands from the Ontario Fire Marshall as it pertains to NFPA 1001, 1072, 1006 additional funds will be required for training hours.

5.5.6 Replacement Plan

Replacement of fire apparatus and bunker gear at the fire station is a major capital investment. Replacement of these assets will significantly alter the original service provided by the asset, and restores or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and

maintenance costs. The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.5.6.

Table 5.5.6: Useful Lives of Assets

Asset Class	Useful Life
Fire apparatus & Fleet	10-25 years (Light Fleet 10 years, Apparatus 15-25 years)
Bunker Gear	10 Years

Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g., Ensure the fire apparatus or equipment meets the service requirements and change in service level or change in NFPA standards or fire regulations)
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g., condition of a fire equipment and requirement to meet the NFPA standards).

It is possible to prioritize renewals by identifying assets or asset groups that:

- Have a high consequence of failure, (e.g., poor condition of the fire equipment or wear and tear of equipment gear and boots)
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, (e.g., rising cost to maintain an old fire truck)
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service. (e.g., Replacing an older fire apparatus or equipment with a new apparatus and or equipment that require minimum maintenance)

5.5.7 Selection Criteria

The likelihood of a new fire facility within the next 10 years is very low and therefore no acquisitions for fire assets have been forecasted in the Long-Range Financial Plan.

The Ontario Association of Fire Chiefs OAF's Industry Committee has informed the Fire Services to consider concerns like rising costs, supply chain issues when seeking to purchase new equipment or apparatus. Fire equipment and apparatus manufacturers are facing new challenges at nearly every step of the process. From increased costs and difficulties for sourcing products and materials, to delays in receiving shipping container products is causing considerable delay in supply chain of assets for fire services. The industry is seeing price increases up to 30% from manufacturers which need to be accounted for during the budget process.

5.5.8 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. The Town's Critical assets have been identified along with their typical failure outcome or mode and the impact on service delivery. Failure modes may include physical failure, or essential service interruption. Fire assets are highly critical to service delivery.

Table 5.5.8 Critical Assets

Critical Assets	Failure Mode	Impact
Bunker Gear	Poor condition of gear	Non-conformance of NFPA standards, safety of firefighters
Fire Fleet	Physical failure such as breakdowns	Service delivery and essential service interruption

A Firefighter's turnout gear has a heat-rating index (thermal protective performance rating) that measures the ability of your thermal protective material to protect you from high thermal exposure. Turnout gear will decrease the risks of harm from heat and flame, body fluids, cuts and abrasions, liquid splash from fireground chemicals, and other hazardous materials. The bunker gear is subjected to numerous tests, and they must pass to be NFPA 1971 certified. In addition to heat resistance thresholds, the gear should also comply with tear resistance, corrosion resistance, retro-reflectivity, breaking strength are just a few of the other tests to be complied. Fire apparatus like pumpers, tankers, and aerials have specialized equipment which are critical to the service delivery of fire services.

The maintenance of fire apparatus as per NFPA 1915 puts emphasis on the following maintenance:

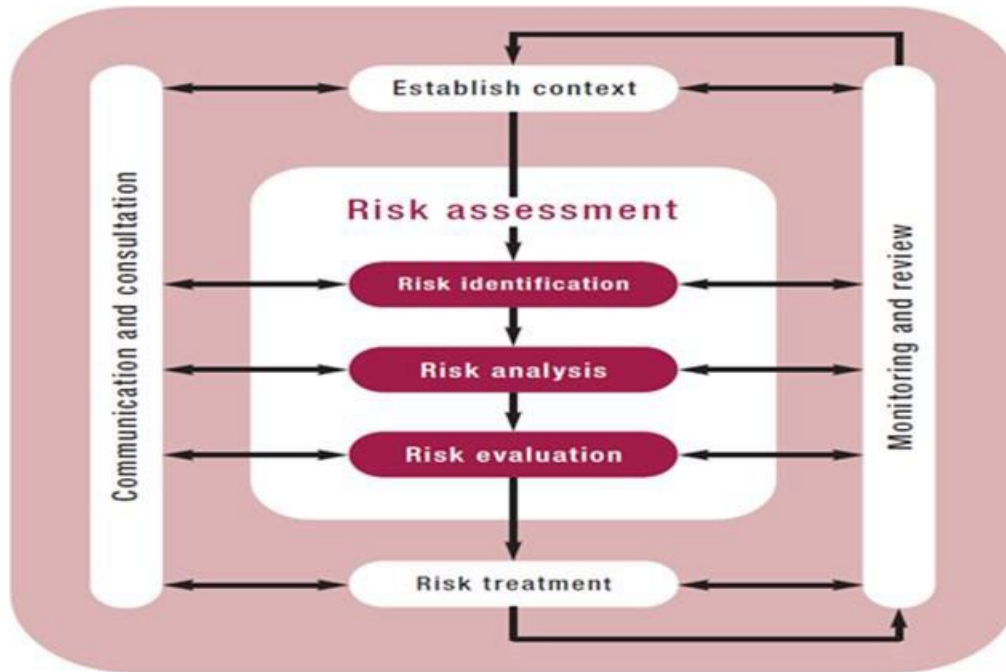
- Chassis maintenance to include fluid and filter changes, lubrication, and inspection criteria and engine
- Air filtration cleaning and replacement
- Line voltage electrical systems like ignition and charging systems
- Inspection, cleaning, and lubrication of aerial components
- Pump maintenance
- Cooling system maintenance

By identifying critical assets and failure modes the Town can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

5.5.9 Risk Assessment

The risk management process used is shown in Figure 5.5.9 below. It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks. The process is based on the fundamentals of International Standard ISO 31000:2018.

Figure 5.5.9 Risk Management Process



The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks. An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, operational and environmental impacts, a financial hardship, reputational impacts, or other consequences. The likelihood of failure is based on the condition of the structures and storm elements while there a consequence matrix helps in developing the risk scores for the storm structures and storm elements. Figure 5.5.9.1 is the risk matrix for the Town.

Figure 5.5.9.1 Risk Matrix for the Town of Blind River

Ranking Matrix						
Likelihood	Consequence					
		1	2	3	4	5
	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Risk Levels:		▪ Risk is Severe for any thing 20 and above
		▪ Risk is High for any thing 15 and below 20
		▪ Risk is Medium High for anything above 8 but below 15
		▪ Risk is Medium Low for anything 4 and above but 8 and below
		▪ Risk is Low for anything below 4

Critical risks are those assessed with Very High (requiring immediate corrective action) and High (requiring corrective action) risk ratings. Most of the fire assets are critical to service delivery and are mandated by NFPA standards and follow a regular preventive maintenance program to reduce risks.

Service and Risk Trade-Offs

The decisions made in adopting this FAMP are based on the objective to achieve the optimum benefits from the available resources.

What we currently do

The Town currently replaces fire assets by both condition and age and prioritizes asset management across all fire assets. The proper care and maintenance of bunker gear is a responsibility borne both by the firefighter and the department. The NFPA 1851 has set specific requirements for fire to ensure minimum procedures for the inspection, cleaning, repair, storage, and retirement of fire turnout clothing. Bunker gear is carefully examined every time the firefighter has been exposed to fireground contaminants or encountered other hazardous substances. Also, an inspection, and testing is done on the fire apparatus, as well as testing on communication equipment. As a result, the Fire Services evaluate asset priorities based on age and historic practices of asset investment and availability of budget to service critical initiatives.

Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Safety to residents, and firefighters/first responders
- Legal, property damage and liability issues
- Compliance issues with NFPA standards
- Environmental issues due to fire

Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Safety to residents, and firefighters/first responders Impact on service delivery
- Potential liabilities and rising insurance claims from residents

Disposal Strategy

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition, or relocation. Deciding when bunker gear must be removed from service is difficult and requires the judgment of experienced persons. The general rule of thumb is that bunker gear should be retired when it's considered unsafe, cannot be effectively cleaned, or decontaminated, or the cost of repairs is more than half of the original purchase price. The lifespan of protective clothing is entirely dependent upon the types of exposures, frequency of wear and the care and maintenance that has been provided. The estimated service life of bunker gear can be drastically shortened if they are extensively used, worn, and exposed to fire. Assets identified for possible decommissioning and disposal on a periodic basis for fire are generally the bunker gear (10-year max.), apparatus. Fire apparatus like pumpers, tankers when aged are evaluated for use as a reserve apparatus or training apparatus before final disposal. Any revenue gained from fire apparatus disposals is included in the trade-in of fire apparatus.

6.0 FINANCIAL SUMMARY

This section contains the financial and valuation forecasts resulting from the information presented in the previous sections of this plan. Forecasts will be improved as the discussion on sustainable levels of service, risk and cost matures in line with the financial strategy.

6.1 Financial Sustainability and Projections

6.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the AM Plan for this service area. The two indicators are the:

1. Asset Renewal Funding Ratio (planned renewal budget for the next 10 years / forecast renewal outlays for the next 10 years identified as warranted in the AM Plan), and
2. Lifecycle Funding Ratio (planned lifecycle budget for the next 10 years / forecast lifecycle outlays for the next 10 years identified as warranted in the AM Plan).

Asset Renewal Funding Ratio¹ 118.44%

The Asset Renewal Funding Ratio illustrates that over the next 10 years we expect to have **118.44%** of the funds required for the optimal renewal of assets. The forecast renewal works along with the planned renewal budget, and the cumulative shortfall, is illustrated in Table 6.1.1.

Table 6.1.1 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2025	\$550,378	\$156,500
2026	\$71,000	\$681,500
2027	\$122,750	\$286,500
2028	\$77,500	\$881,500
2029	\$287,475	\$281,500
2030	\$107,500	\$31,500
2031	\$76,838	\$31,500
2032	\$701,820	\$31,500
2033	\$21,872	\$31,500
2034	\$47,200	\$31,500

Lifecycle Funding Ratio – 10-year financial planning period

This AM Plan identifies the forecast operations, maintenance and renewal costs required to provide the levels of service to the community over a 10 year period. This provides input into 10 year long-term financial plan (LTFP) aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the planned budget over the first 10 years of the planning period to identify any funding shortfall.

¹ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

The forecast operations, maintenance and renewal costs over the 10 year planning period is \$281,013 average per year.

Lifecycle Funding Ratio² 111.52%

The 10-year LTFP is \$313,380 on average per year giving a 10 year **funding surplus of \$32,367 per year**. This indicates that **111.52%** of the forecast costs needed to provide the services documented in this AM Plan are accommodated in the proposed budget. Note, these calculations exclude depreciation and the acquisition of new and upgrade of existing assets.

Providing sustainable and affordable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately **90-110%** for the first years of the AM Plan and ideally over the 10 year life of the Long-Term Financial Plan.

6.1.2 Forecast Costs (outlays) for the long-term financial plan

Table 6.1.2 shows the forecast costs (outlays) required for consideration in the 10 year long-term financial plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the long-term financial plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the AM Plan and/or financial projections in the LTFP.

We will manage any 'gap' by communicating the service performance, cost, and risk implications in consultation with the community and key stakeholders. Forecast costs are shown in 2025 dollar values.

² AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

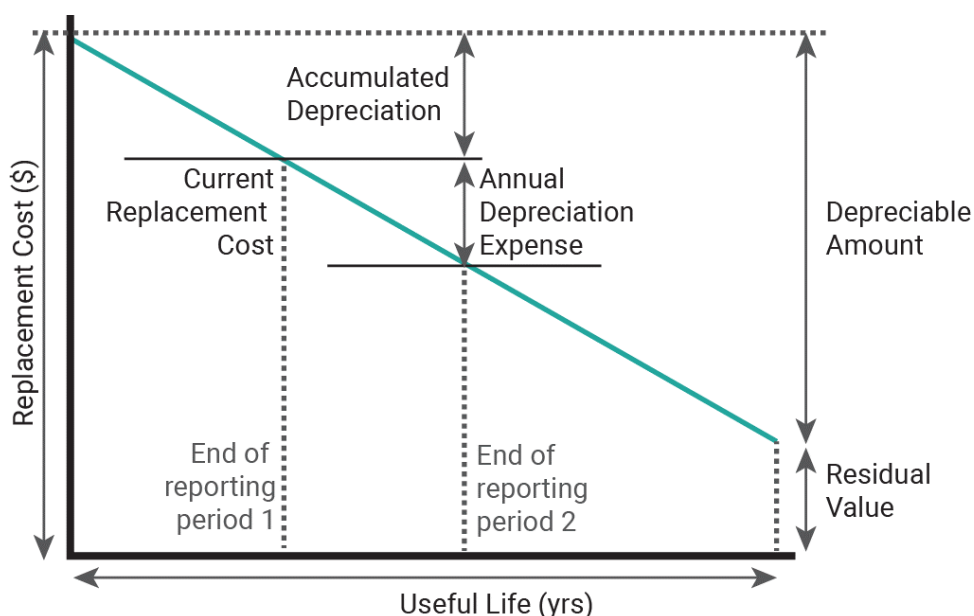
Table 6.1.2: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2025	\$0	\$46,270	\$22,610	\$550,378	\$0
2026	\$0	\$65,270	\$22,610	\$71,000	\$0
2027	\$0	\$65,270	\$22,610	\$122,750	\$0
2028	\$0	\$65,270	\$22,610	\$77,500	\$0
2029	\$0	\$46,270	\$22,610	\$287,475	\$0
2030	\$0	\$46,270	\$22,610	\$107,500	\$0
2031	\$0	\$46,270	\$22,610	\$76,838	\$0
2032	\$0	\$46,270	\$22,610	\$701,820	\$0
2033	\$0	\$46,270	\$22,610	\$21,872	\$0
2034	\$0	\$46,270	\$22,610	\$47,200	\$0

6.1.3 Valuation Forecasts

The best available estimate of the value of assets included in this AM Plan are shown below. The assets are valued at fair value at cost to replace service capacity.

Figure 6.1.3: Valuation Terminology



Replacement Cost (Gross)	\$9,126,324
Depreciable Amount	\$9,126,324
Current Replacement Cost ³	\$4,589,402
Depreciation	\$315,090

³ Also reported as Written Down Value, Carrying or Net Book Value.

Asset values are forecast to remain consistent as additional Fire Services assets are not forecasted to be acquired.

Acquiring new assets will add to existing operations, maintenance, future renewal, and depreciation expenses.

7.0 PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices⁴

7.1.1 Accounting and financial data sources

This Asset Management Plan utilizes accounting and financial data. The source of the data is from the previous five year operating and maintenance budget and actuals as well as the capital budget. The FIRs and Tangible capital assets from finance was the source of information for depreciation, net book value and accumulated depreciation.

7.1.2 Asset management data sources

This FAMP also utilizes asset management data from the inventory provided by Fire Services. Currently all fire inventory is in CityWide.

7.2 Improvement Plan

It is important that an entity recognise areas of their AM Plan and planning process that require future improvements to ensure effective asset management and informed decision making.

7.3 Monitoring and Review Procedures

This AM Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan will be reviewed and updated regularly to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets.

7.4 Performance Measures

The effectiveness of this AM Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this AM Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the AM Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).