

Asset Management Strategy

District of Saanich

June 2023





Land Acknowledgement

The District of Saanich lies within the territories of the lək̓ʷəŋən peoples represented by the Songhees and Esquimalt Nations and the W̱SÁNEĆ peoples represented by the W̱JOLELP (Tsartlip), BOKÉĆEN (Pauquachin), STÁUTW (Tsawout), W̱SIKEM (Tseycum) and MÁLEXEŁ (Malahat) Nations. The First Peoples have been here since time immemorial and their history in this area is long and rich.

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- *Working With Levels of Service, Asset Management BC*
- *Applied Climate Action Cohort: Operationalization of Climate Change through Asset Management, Canadian Network of Asset Managers*
- *Natural Asset Management Roadmap Project, Natural Assets Initiative*
- *Natural Asset Management Workshop Series, Natural Assets Initiative*
 - *Workshop 1: How to Integrate Climate Considerations into Natural Asset Management*
 - *Workshop 2: How to Develop Levels of Service for Natural Assets*
 - *Workshop 3: Implementing Natural Asset Management: Solutions to Consider*

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Executive Summary

Purpose

The District of Saanich (Saanich) Asset Management (AM) Strategy establishes the formal framework and system for implementing Saanich’s AM Policy, defines the current state of Saanich’s assets and AM practices, and sets out a road map for continuous improvement over the next five years.

This strategy fulfils an initiative in the District’s Strategic Plan, and it fulfils an eligibility requirement for future provincial and federal grant applications.

As shown in Figure E.1, the AM Strategy will be a guiding document as Saanich increases its AM maturity towards achieving the key principles set out in the AM Policy, which are:

By implementing the strategy, Saanich is taking care of its existing assets so that the people of Saanich receive the greatest possible value from their infrastructure investment to meet their service delivery needs, without compromising the ability of future generations to meet their own needs.

- **Service Delivery to Customers** - The District will prioritize and direct resources and expenditures in order to deliver levels of service and other community benefits at an acceptable level of risk.
- **Long-Term Sustainability and Resilience** - The District will consider socio-cultural, environmental, and economic factors and implications when making and implementing asset management decisions.
- **Holistic Approach** - The District will ensure that decisions are made collaboratively and consider all life-cycle stages and the interrelationships between asset performance, operational performance, and overall performance.
- **Fiscal Responsibility and Asset Management Decision-Making** - The District will develop prioritized capital investment plans that reflect established levels of service and other strategic objectives.
- **Continual Improvement** - The District views continual improvement as a key part of our asset management approach.



Figure E.1 - Purpose of the AM Strategy



Saanich Assets

Saanich delivers services to the community using a portfolio of built assets with a current replacement value of approximately \$4.7 billion (\$2022), including drainage, facilities, information technology, park & trail structures, transportation, vehicles & equipment, wastewater, and water assets, as shown in Figure E.2. Saanich also owns and manages natural assets; however, these are not currently valued or included in its financial statements.

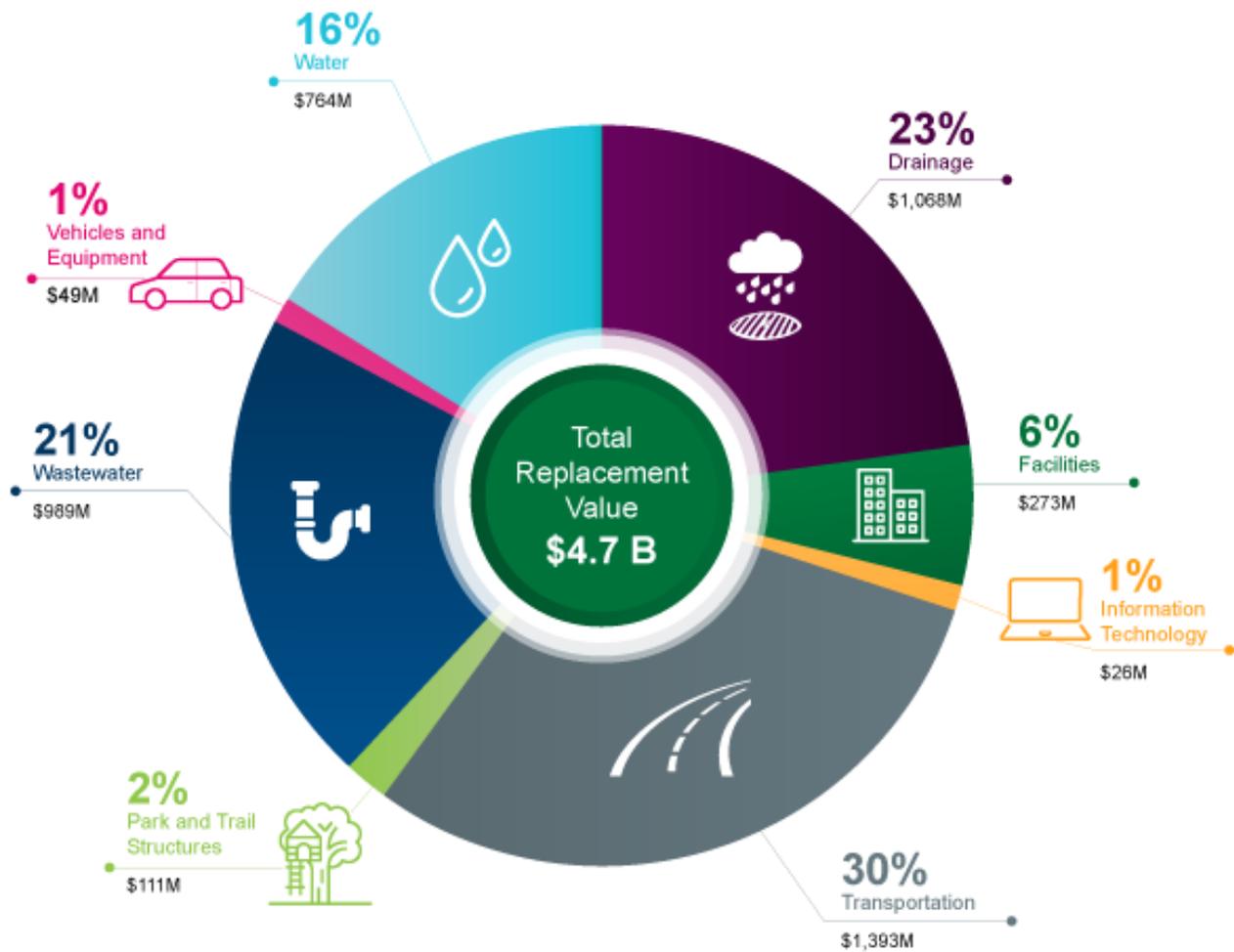


Figure E.2 – Asset Replacement Value (\$2022)



Saanich Asset Management Practices



Assets

Currently, Saanich has partially complete asset inventories for most of its assets, except for its natural assets. Technical asset data is currently maintained in a variety of software programs, such as GIS and Excel spreadsheets, as well as some remaining paper-based systems. Financial information is currently maintained in a variety of software programs, such as JD Edwards and Excel spreadsheets. Currently, these systems are not linked, so there is no single source of truth for asset data, and not all assets have a unique identification number.



Information

Currently, Saanich has some information on the physical condition of most of its assets, either based on a condition assessment or estimated based on age, and there is an ongoing effort to gather additional condition data. However, Saanich needs to improve its AM practices in the areas of natural assets, levels of service, risk assessment, integration of climate change considerations, and AM plans.



Finances

The current replacement value of Saanich's assets was estimated at \$4.7 billion (\$2022), which is more than double the original estimate of \$2.1 billion (\$2007). This does not include valuation of our natural assets. As shown in Figure E.3, the main reason for the increase was inflation, particularly over the past six years. Based on the estimated useful life of Saanich's assets, the targeted average annual replacement funding is now \$86 million, which is more than double the original target that was reached in 2019 of \$41 million. Saanich's Infrastructure Replacement Funding Strategy will be updated to include the new estimates, and alternative financing scenarios will be developed for Council consideration.

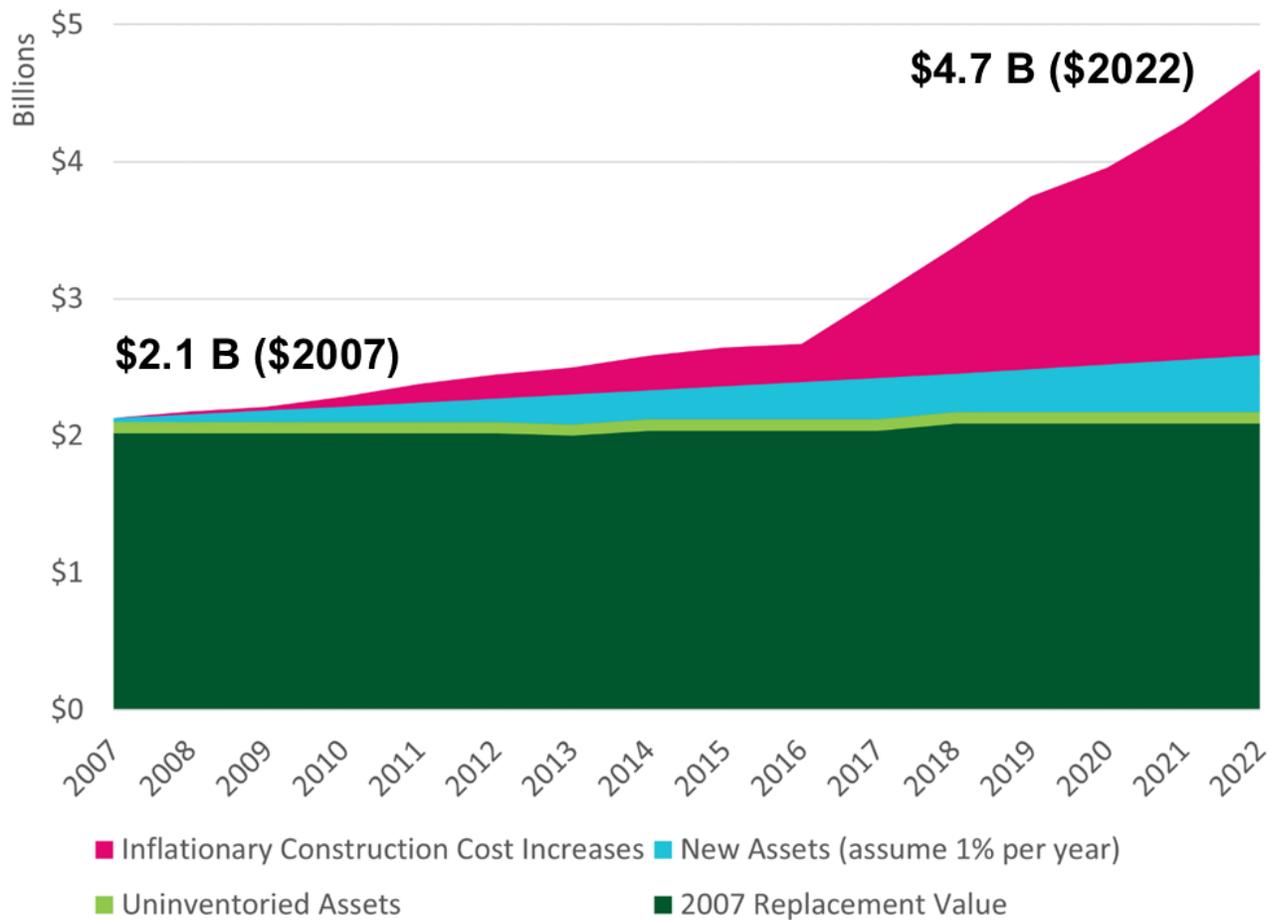


Figure E.3 – Change in Asset Replacement Value



People

Over the past 15 years, Saanich has built a very positive culture for AM within the organization, and there is a strong demand for the business improvements that can be realized through AM. Currently, knowledge, experience and resources vary across departments and there is no formalized program for managing assets in a consistent manner across the organization. Some Saanich staff understand the need for AM and the benefits of AM, as well as the need for continuous learning to develop their knowledge, experience, and capacity for AM. However, this needs to be extended to all staff. There is also a need to integrate AM practices across all departments.



Continuous Improvement

Based on the results of Saanich’s AM maturity assessment, investments are needed in each of the four core elements of assets, information, finances, and people, in order to work towards achieving the AM Policy key principles. Saanich’s implementation plan for continuous improvement in the short and medium term (over the next five years) has prioritized ten strategies, which are summarized in Figure E.4. Each strategy includes several projects for implementation. Additional resources required to support this initial workplan are identified and will be included for consideration through Saanich’s annual Financial Plan process.

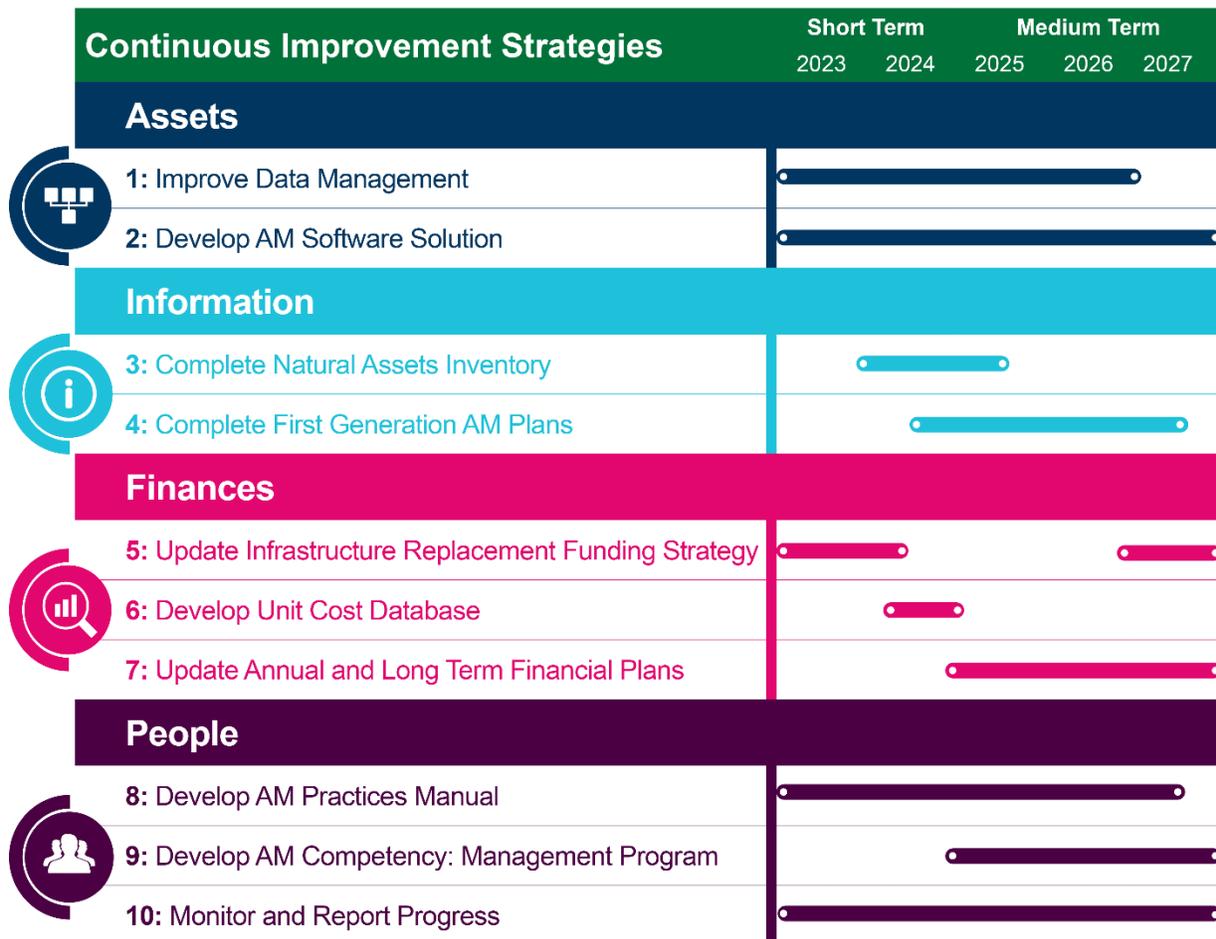


Figure E.4 - Implementation Plan 2023-2027



The AM Strategy will be formally reviewed and updated approximately every 5 years, and Council will receive annual reports on the progress of the AM Program. As shown in Figure E.5, Saanich has already made progress and will continue to improve its AM practices on the journey towards sustainable service delivery.

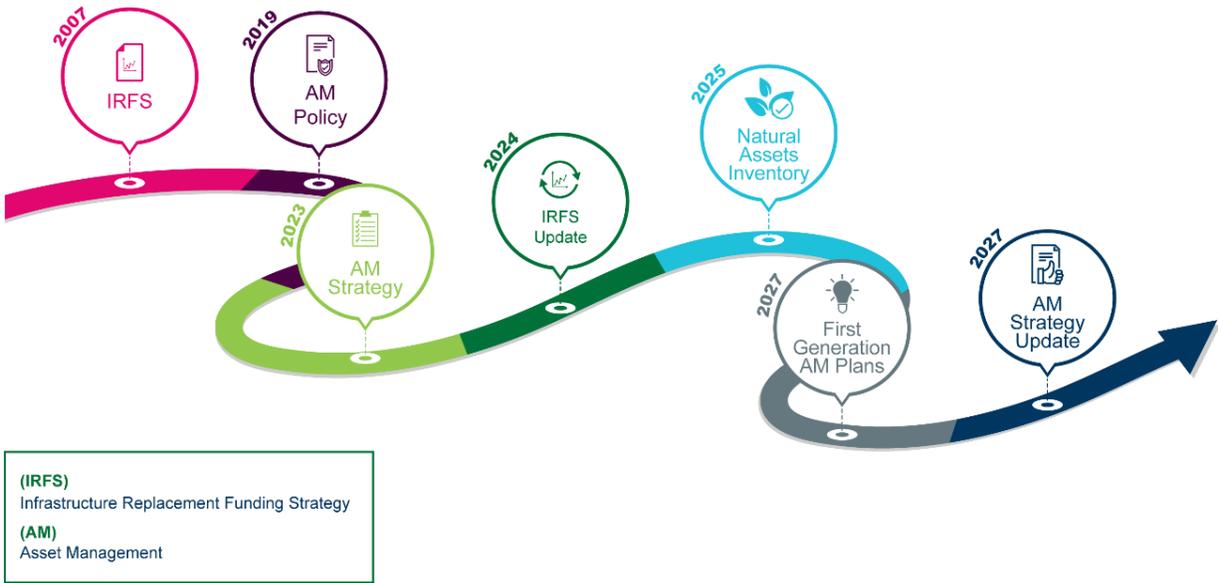


Figure E.5 – Saanich Asset Management Journey





Acronyms and Glossary

A list of acronyms used in this report is provided below. The AM Program Glossary is found Appendix A.

Acronym	Term
AARF	average annual replacement funding
AM	asset management
AMBC	Asset Management British Columbia
AMRS	Asset Management Readiness Scale
AMSC	Asset Management Steering Committee
AMWG	Asset Management Working Group
CCTV	closed-circuit television
CHGC	Cedar Hill Golf Course
CIRC	Canadian Infrastructure Report Card
CNAM	Canadian Network of Asset Managers
CMMS	computerized maintenance management system
CoP	community of practice
CRD	Capital Regional District
CSA	Canadian Standards Association
D&C	design and construction
DCC	development cost charges
DEI	diversity, equity and inclusion
EGBC	Engineers and Geoscientists BC
ERM	Enterprise Risk Management
GIS	geographic information system
FCI	facility condition index
FCM	Federation of Canadian Municipalities
FTE	full-time equivalent
IIMM	International Infrastructure Management Manual
IRFS	Infrastructure Replacement Funding Strategy
ISO	International Organization for Standardization
IT	information technology
LGDE	Local Government Data Entry
LoS	levels of service
LTFP	long term financial plan
NAI	Natural Assets Initiative
O&M	operations and maintenance
P&A	planning and analysis
RV	replacement value
SOAR	state of assets report
TCA	tangible capital assets
UBCM	Union of British Columbia Municipalities



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1.

Purpose



1 Purpose

The purpose of the District of Saanich (Saanich) Asset Management (AM) Strategy is to establish a road map for the formalization and continuous improvement of Saanich’s AM practices in order to achieve sustainable service delivery as set out in the key principles of the AM Policy.

The AM Strategy describes the current state of Saanich’s assets and AM practices, and identifies priority improvements for implementation over the next five years. It addresses the questions:

- Where is Saanich now?
- Where does Saanich need to be?
- How will Saanich get there?

The AM Strategy is a component of Saanich’s AM Program. As shown in Figure 1, the AM Strategy is the guiding document for Saanich staff to implement the AM Program, and for Council and the community to monitor continuous improvement towards achieving the AM Policy key principles. The AM Strategy supersedes the AM Program Charter, which was prepared in 2022 to guide the initial start-up of the AM Program. The AM Strategy will be updated regularly in a process of continuous improvement.



Figure 1 - Purpose of the AM Strategy



2.

Saanich Asset Management Program



2 Saanich Asset Management Program

2.1 Goals and Benefits

Saanich delivers a wide range of services to the community that are paid for collectively through property taxes and user fees. Delivery of these services is supported by the physical assets, including built and natural assets, that the community owns and will continue to invest in over the asset lifecycle.

“Communities build and maintain infrastructure to provide services. Sustainable service delivery is the purpose and desired outcome of asset management” (AMBC, 2019)

Similar to other local governments, Saanich’s physical assets are aging, costs are increasing, and risks need to be carefully managed in order to deliver services at agreed levels. As the owner of billions of dollars worth of physical assets, Saanich needs accurate information about its assets to ensure that service levels are appropriately balanced with risks and costs, as shown in Figure 2, and that there is a sustainable source of funding over the asset life cycle.

Therefore, the goal of Saanich’s AM Program is to develop and implement a District-wide, systematic and consistent approach to managing Saanich’s physical assets which ensures that decisions regarding levels of service (LoS), asset maintenance, renewal and replacement, and funding are sustainable over the long term, in accordance with the key principles set out in the AM Policy.



“Sustainable service delivery involves understanding and making informed decisions about trade-offs between delivering service, managing risk, and reducing cost throughout the lifecycle of the asset” (AMBC, 2019)

Figure 2 - Sustainable Service Delivery¹

¹ Adapted from Asset Management British Columbia (AMBC) website.



The anticipated benefits of the AM Program include:

- Reduce risk of asset failure
- Optimize spending over the asset life cycle
- Provide sustainable funding for physical assets over long term
- Prioritize funding according to risks to service delivery
- Increase transparency and consistency in decision-making processes
- Increase communication and coordination between departments
- Increase public trust and confidence
- Achieve sustainable service delivery
- Maintain eligibility for provincial and federal grant funding

“Spending \$1 on preventative road maintenance and regular repair during the first three quarters of a road’s estimated service life can eliminate \$6 to \$10 in costs later in its life” (AMBC website)

2.2 Scope

The scope of the AM Program includes all the physical assets owned by Saanich that support service delivery and have an economic life of greater than one year. This includes both engineered and natural assets with the following asset types that align with Saanich’s Tangible Capital Assets (TCA) policy and Saanich’s annual Financial Plan:



Drainage



Transportation



Facilities



Vehicles and Equipment



Information Technology



Wastewater (Collection)



Natural Assets



Water (Distribution)



Park and Trail Structures

The AM Program encompasses the whole life cycle of the assets, including planning, design, construction, acquisition, operations, maintenance, repair, rehabilitation, and renewal, replacement, or disposal.

The scope of the AM Program aligns with the threshold asset values set out in the TCA Policy. In some cases, individual assets of lower value are treated as a group that meets the threshold value, and the group is included in the AM Program.

The scope of the AM Program does not include works of art.



2.3 Asset Management Policy

In 2019, Council approved Saanich's AM Policy, which outlines the fundamental AM principles that will be developed and implemented District-wide.

The AM Policy describes the AM Program as follows (Saanich, 2019):

“Asset management is a broad strategic framework that encompasses many disciplines and involves the entire organization. The District of Saanich owns a multitude of infrastructure assets which support the delivery of services and require responsible acquisition, operation, maintenance, rehabilitation, and eventual replacement and/or disposal. In some cases, our assets are interdependent with other municipalities' assets. This policy applies to all existing and new physical assets and also all District of Saanich departments, officers, employees and contractors.”

The AM Policy establishes the following key principles to define the high-level approach to AM Program implementation and guide decision making for all levels of the organization:

- **Service Delivery to Customers** - The District will prioritize and direct resources and expenditures in order to deliver levels of service and other community benefits at an acceptable level of risk.
- **Long-Term Sustainability and Resilience** - The District will consider socio-cultural, environmental and economic factors and implications when making and implementing asset management decisions.
- **Holistic Approach** - The District will ensure that decisions are made collaboratively and consider all life-cycle stages and the interrelationships between asset performance, operational performance and overall performance.
- **Fiscal Responsibility and Asset Management Decision-Making** - The District will develop prioritized capital investment plans that reflect established levels of service and other strategic objectives.
- **Continual Improvement** - The District views continual improvement as a key part of our asset management approach.

2.4 Governance

Governance of the AM Program is based on a centre of excellence model, where the AM Program provides guidance and support to the Operational Units, which do the day-to-day work of managing assets and delivering services to the community. The cross-departmental AM Steering Committee (AMSC) oversees the AM Program, and the AM Program Manager (AMPM) is dedicated to developing and implementing the AM Strategy with input from the cross-departmental AM Working Group (AMWG).

The intent is to implement the AM Program as much as possible in-house, using external consultants and specialists only as required, in order to maintain the learning, understanding and knowledge gained over time in the AM expertise of Saanich staff.



The governance structure for the AM Program is shown in Figure 3, including the relationship and reporting lines between Council, the AMSC, the AMPM and the Operational Units.

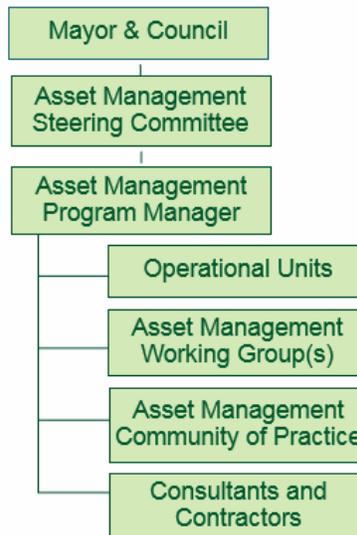


Figure 3 - AM Program Governance Structure

The roles and responsibilities for AM Program governance are described as follows:

- **Mayor & Council** - Set strategic direction and allocate resources based on information provided by staff about asset performance, risk and cost
- **AM Steering Committee** - Provide strategic oversight and guidance for the AM Program, with the following membership:
 - CAO
 - Chief Information Officer
 - Director of Engineering
 - Director of Finance
 - Director of Parks, Recreation and Community Services
 - AM Program Manager
- **AM Program Manager** - Develop and implement the AM Strategy, and provide guidance and support to the Operational Units
- **Operational Units** - Carry out the day-to-day work of managing assets and delivering services to the community
- **AM Working Group** - Provide a formal mechanism for technical input from each operational unit to the development and implementation of the AM Program, with the following membership:
 - AM Program Manager
 - Financial Services, Senior Manager
 - IT, Manager
 - Municipal Facilities, Manager
 - Park Planning & Development, Manager
 - Public Works, Senior Manager



- Recreation Services, Senior Manager
- Risk Management, Manager
- Sustainability, Manager
- Transportation, Senior Manager
- Urban Forestry, Natural Areas, and Community Stewardship, Manager
- Water Resources, Senior Manager
- **AM Sub-working Groups** - Provide input on specific asset types or AM practices
- **AM Community of Practice** – Support information sharing and the development of AM culture and competency (to be formed in future)
- **Consultants and Contractors** – Provide specialized expertise as required

2.5 Asset Management Framework

Saanich’s AM Program follows the Asset Management British Columbia (AMBC) framework, *Asset Management for Sustainable Service Delivery – A BC Framework* (AMBC, 2019), which is focused on sustainable service delivery as shown in Figure 4.



Figure 4 - Asset Management Framework (AMBC, 2019)



The framework is based on current international best practices, including the *International Infrastructure Management Manual* (IIMM) and the International Organization for Standardization (ISO) standard for AM (ISO 55000). The framework includes the following sustainable service delivery primers:

- *Climate Change and Asset Management* (AMBC, 2019)
- *Integrating Natural Assets into Asset Management* (AMBC, 2019)
- *The Role of Operations and Maintenance in Asset Management* (AMBC, 2019)
- *Land Use Planning and Asset Management* (AMBC, 2019)

2.6 Strategic Alignment

2.6.1 Official Community Plan

As shown in Figure 5, there is strategic alignment between Saanich’s vision established in the Official Community Plan (OCP) and the goals of the AM Program, with a common focus on sustainable service delivery.



Figure 5 - Sustainable Saanich Vision (Saanich, 2008)

2.6.2 Strategic Plan

The Saanich Strategic Plan is developed by Council following each municipal election to guide activities during their term in office and beyond in order to move Saanich towards the vision outlined in the OCP.

The *Saanich Strategic Plan 2019-2023* prioritized the development of an AM Strategy under the goal of Affordable Housing, Land Use and Infrastructure as follows (Saanich, 2019):

“Asset management is critical to sustainable, effective service delivery:

- *Implement an asset management strategy that promotes financial sustainability and integrates climate change in the provision, renewal and enhancement of services, facilities and assets*



- Continue to provide stewardship of existing and future built and natural assets
- Initiative 2.7 - Develop an asset management road map - Develop a corporate asset management program which will include the creation of a Council policy, training of staff, analysis of all assets/categories, and the implementation of asset management software.”

The next Strategic Plan is expected to continue to prioritize AM under the theme of Organizational Excellence.

2.6.3 Climate Plan

Saanich’s *Climate Plan: 100% Renewable & Resilient Saanich* includes strategic goals that are directly aligned with AM (Saanich, 2020), as well as other strategic goals for climate mitigation and adaptation:

- Strategy B5: Increase the resilience of Saanich’s infrastructure and assets
 - Climate Action B5.1: Include climate change considerations in the corporate asset management system
- Strategy E2: Protect and manage natural assets as critical infrastructure
 - Climate Action E2.1: Evaluate services provided by natural assets
 - Climate Action E2.2: Develop a strategy to maintain services provided by natural assets

2.6.4 Saanich Documents

A detailed list of Saanich strategies, plans and programs that inform the AM Program are provided in Appendix B.

2.7 Business Context

Saanich is a local municipality with the Capital Regional District (CRD), with a population of 117,735 (2021). The total land area is 104 square kilometers, including 51 square kilometers within the Urban Containment Boundary and 53 square kilometers in the rural area. The landscape has a varied topography ranging from sea level to 229 meters above sea level, including many freshwater lakes and watercourses and an extensive marine shoreline.

“Asset management is a process within the everyday business of local government; it is not a separate activity, software or plan”
(AMBC, 2019)

Saanich was incorporated as a District municipality in 1906 and some of Saanich’s existing underground infrastructure, roads and heritage buildings date back to the early 1900’s. Following World War II, Saanich continued to increase in population, changing from a semi-rural community to a more densely populated suburban community within the Greater Victoria area. In 1966, Saanich became part of the CRD, which was established to co-ordinate and provide services to local municipalities, and during the next two decades much of the existing infrastructure was constructed with funding support from senior levels of government.



The community of Saanich exists in a social, environmental and financial environment that shape service delivery priorities and how services are delivered. In the most recent Saanich citizen and business survey, most Saanich residents said that quality of life is good, and most Saanich businesses said that Saanich is a good place to operate a business (BC Stats, 2023). Current organizational challenges for consideration through the AM Program include:

 **Assets:** Aging infrastructure; Climate change impacts; Loss of biodiversity; Transportation safety

 **Finances:** Affordability; Inflationary pressure; Construction cost increases

 **Information:** Population growth resulting in changing demand for service; Paper-based asset data collection and storage

 **People:** Communication silos between departments in some areas; Recruitment, retention and upcoming retirements

2.8 Asset Management System

Saanich’s AM System is shown in Figure 6. This is a preliminary illustration of the line of sight and flow of information between the AM Program and Saanich’s overall organizational strategic, financial and operational documents and processes. The AM System will be refined as needed in future revisions of the AM Strategy to reflect the continuous improvement of Saanich’s AM practices.



Figure 6 – Saanich Asset Management System



3.

Saanich Assets

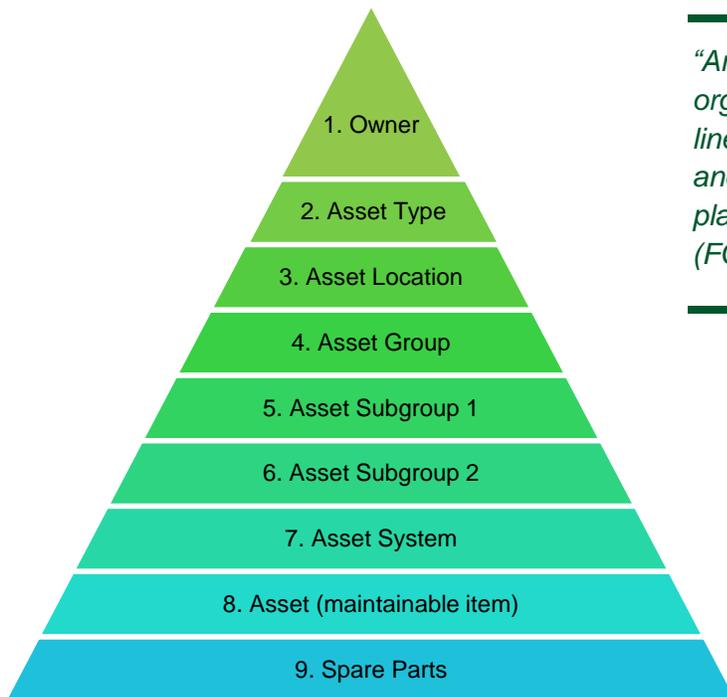


3 Saanich Assets

3.1 Asset Hierarchy

Saanich’s asset hierarchy was developed based on ISO standard ISO 14224:2016 and is shown in Figure 7. Saanich’s nine asset types are Level 2 in the asset hierarchy:

-  Drainage
-  Transportation
-  Facilities
-  Vehicles and Equipment
-  Information Technology
-  Wastewater (Collection)
-  Natural Assets
-  Water (Distribution)
-  Park and Trail Structures



“An asset hierarchy is “a systematic organization of assets that creates a line of sight between services, assets and accountabilities that facilitates planning and decision-making.”
 (FCM, 2018)

Figure 7 - Asset Hierarchy



3.2 Asset Inventory

Saanich delivers services to the community using a portfolio of built assets with a current replacement value (RV) of approximately \$4.7 billion (\$2022) as shown in Figure 8. This includes drainage, facilities, information technology, park & trail structures, transportation, vehicles & equipment, wastewater, and water assets, but excludes land costs and natural assets. Saanich owns and manages natural assets; however, these assets are not currently valued or included in financial statements.

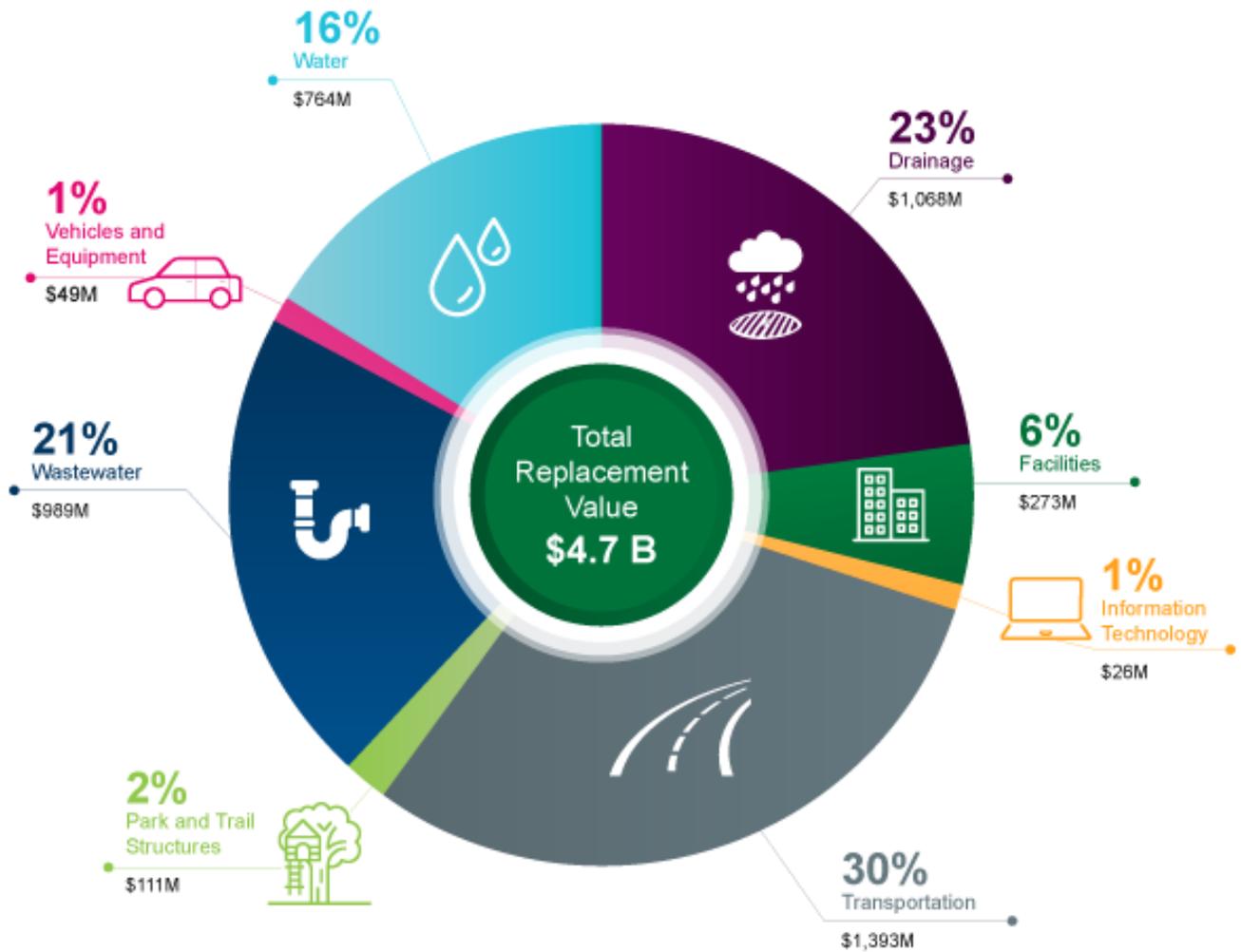


Figure 8 – Asset Replacement Value (\$2022)



A summary of Saanich’s built asset inventory is provided in Table 1, and information about Saanich’s natural assets is provided in Section 3.3.

Further information about each asset type is found in Appendix C – Asset Dashboards.

Note that Table 1 does not identify all the assets that Saanich owns because there are data gaps for some assets. Asset groups that are currently missing from the asset inventory will be included in future reports as Saanich’s AM practices are continuously improved.





Table 1: Saanich Asset Inventory (Excluding Natural Assets)

Asset Groups, Replacement Value, Quantity, Remaining Service Life and Average Condition	
Drainage	Transportation
 <p>RV \$1,068 M</p> <p>Average Remaining Useful Life 50% Average Physical Condition Fair</p>	 <p>RV \$1,393 M</p> <p>Average Remaining Useful Life 40% Average Physical Condition Good</p>
<ul style="list-style-type: none"> 5 km box culverts 11 km culverts 165 km laterals 559 km mains 1 pump station 	<ul style="list-style-type: none"> 37 bridges 221 bus stops 104 controlled crosswalks 23 pedestrian signals 567 km roads 269 km sidewalks 9,093 streetlights 20,000 street signs 84 traffic signals
Facilities	Vehicles & Equipment
 <p>RV \$273 M</p> <p>Average Remaining Useful Life 40% Average Physical Condition Fair</p>	 <p>RV \$49 M</p> <p>Average Remaining Useful Life 20% Average Physical Condition Fair</p>
<ul style="list-style-type: none"> 72 municipal facilities 81 park buildings 	<ul style="list-style-type: none"> 35 fire vehicles 254 fleet vehicles 84 police vehicles 67 Cedar Hill Golf Course equipment 2 E-bikes 55 EV Charging Stations 155 fitness equipment
Information Technology	Wastewater (Collection)
 <p>RV \$26 M</p> <p>Average Remaining Useful Life To Be Developed Average Physical Condition To Be Developed</p>	 <p>RV \$989 M</p> <p>Average Remaining Useful Life 40% Average Physical Condition Good</p>
<ul style="list-style-type: none"> various hardware various software 	<ul style="list-style-type: none"> 39 pump stations 19 km force mains 548 km gravity mains
Park & Trail Structures	Water (Distribution)
 <p>RV \$111 M</p> <p>Average Remaining Useful Life 10% Average Physical Condition Fair</p>	 <p>RV \$764 M</p> <p>Average Remaining Useful Life 40% Average Physical Condition Poor</p>
<ul style="list-style-type: none"> 50 courts 97 foot bridges 1,559 irrigation zones 72 parking lots 3 km park roads 56 playgrounds 56 sports fields 124 km park trails 	<ul style="list-style-type: none"> 5 reservoirs 18 pump stations 46 PRVs 549 km mains 29,275 meters



3.3 Natural Assets

Natural assets are part of Saanich’s AM Program as one of the nine asset types in the AM hierarchy.

As defined in Saanich’s AM Policy, municipal natural assets (natural assets) are the stocks of natural resources or ecosystems that contribute to the provision of one or more services required for the health, well-being and long-term sustainability of a community and its residents. Given that natural assets provide services to the community, just like other engineered assets but typically at a much lower cost, while also providing other valuable ecosystem services, it is critically important they are included in the AM Program and factored into decision-making.

As shown in Figure 9, natural assets are a component of the broader category of green infrastructure. In addition to natural assets, green infrastructure includes assets that have been designed and engineered to mimic natural functions and processes in the service of human interests. These other types of green infrastructure will be managed under one of Saanich’s other asset types as appropriate (e.g., Drainage, Facilities, Park & Trail Structures, Transportation, etc.).

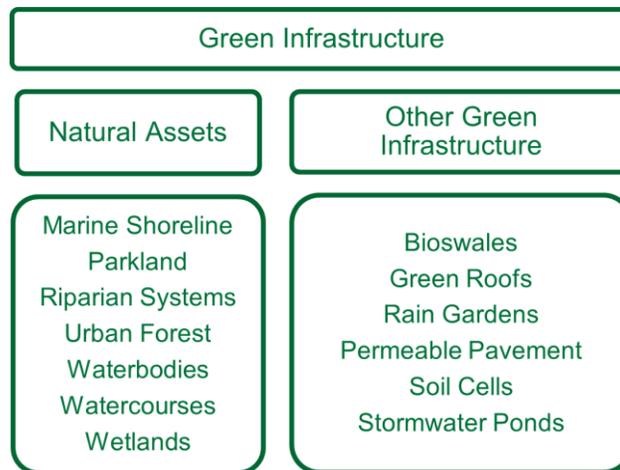


Figure 9 – Scope of Saanich’s Natural Assets²

Saanich has not yet developed a natural assets inventory, however there is some information about its natural assets in the geographic information system (GIS) and in various reports, such as:

- State of the Urban Forest (Diamond Head, 2023)
- State of Biodiversity (Diamond Head, 2023)
- The Canadian City Parks Report (park people, 2022)

A preliminary dashboard of information about Saanich’s natural assets is found in Appendix C.

² Adapted from *Defining and Scoping Municipal Natural Assets* (NAI, 2017)



4.

Saanich Asset Management Practices



4 Saanich Asset Management Practices

4.1 Maturity Assessment

4.1.1 Overview

Saanich AM maturity was assessed using the following approaches:

- AMBC's AssetSMART2.0
- FCM's Asset Management Readiness Scale (AMRS)

The AssetSMART2.0 scale provides greater detail related to asset data and information, so it was used to assess Saanich's maturity at the level of each asset type. The AMRS is a broader scale meant to assess overall corporate readiness for AM, so it was used to assess Saanich's District-wide AM maturity.

"Asset management fulfills the statutory responsibility of local governments to look after the community's assets. The Community Charter (sec 7) and the Local Government Act (sec 185) identify the purpose of local government as follows:

- * Providing for good government of its community*
- * Providing for services, laws and the matters for community benefit*
- * Providing for stewardship of the public assets of its community*
- * Fostering economic, social and environmental well-being of its community"*

(AMBC website)

4.1.2 AssetSMART2.0

AssetSMART2.0 is a tool for local governments to assess their capacity to manage their assets and the maturity of their AM practices. The tool is organized by the four core elements of assets, information, finances and people, and uses a progressive improvement scale of 1 to 4, where each Level is described as follows:

- Level 1 – Low maturity
- Level 2 – Fair maturity
- Level 3 – Good maturity
- Level 4 – High maturity

In 2016, Saanich completed a maturity assessment using AssetSMART2.0 that resulted in an average score between Levels 1 and 2. In 2023, the assessment was updated, and the resulting average score identified an increased maturity of Level 2. This reflects the improvements made to Saanich's AM practices over the past seven years, including:

- Recognition of the importance of natural assets in strategic documents
- Council approval of the AM Policy
- Starting work on an AM Strategy by creating a program charter
- Completion of an updated Climate Plan (2020) addressing mitigation and adaptation and including regional climate projections (2017) a climate risk assessment and sea level rise and flood inundation mapping



- Completion of a Long Term Financial Plan
- Establishing a cross-departmental steering committee
- Establishing a cross-departmental working group
- Developing a communications plan and starting to raise awareness with staff

The overall results are shown in Figure 10, and the detailed assessment is found in Appendix D. A radar graph for each asset type is found in the AM Dashboards in Appendix C.

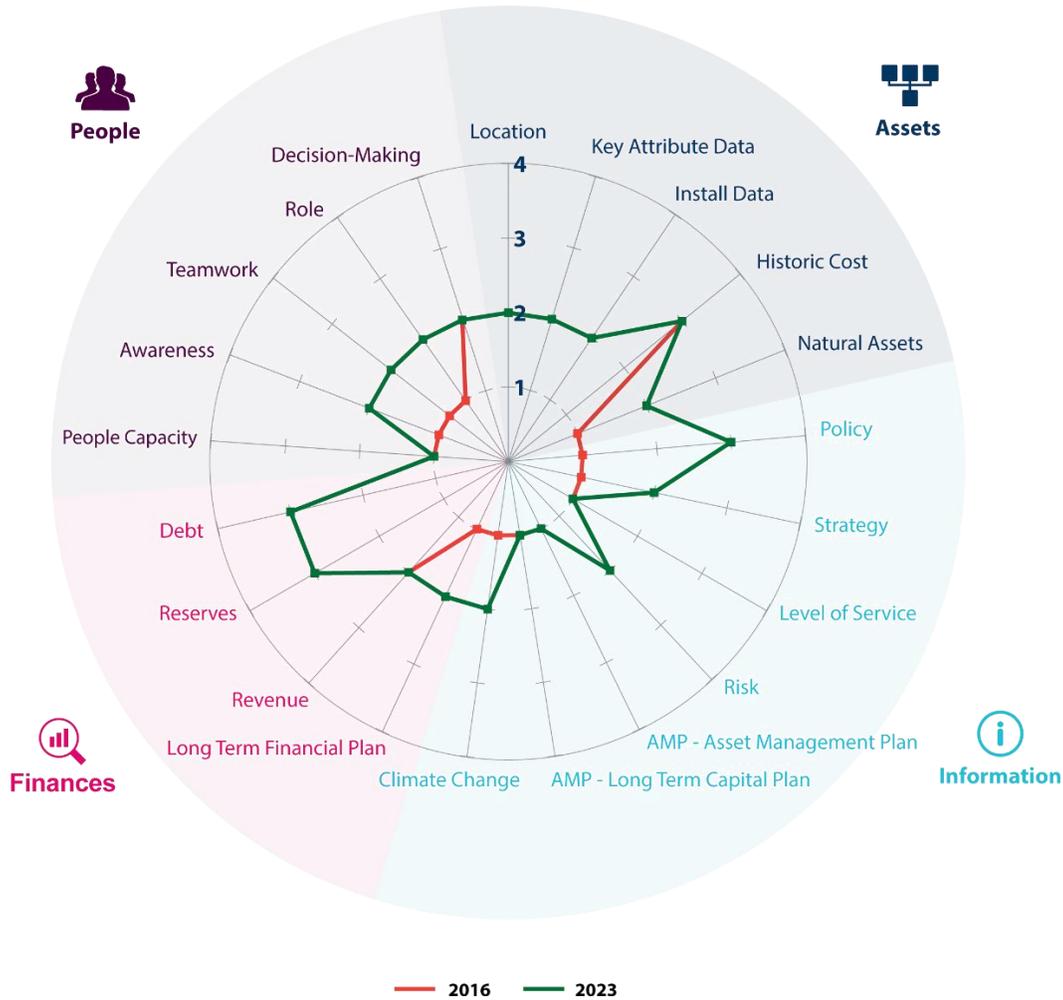


Figure 10 - Saanich District-Wide AM Maturity Using AssetSMART2.0



4.1.3 Asset Management Readiness Scale

FCM's AMRS is a tool developed to help local governments measure overall corporate progress in the practice of AM over five competency areas (FCM, 2018):

- Policy and governance
- People and leadership
- Data and information
- Planning and decision-making
- Contribution to asset management practice

Each competency area is measured on a progressive improvement scale from Pre-Level 1 through to Level 5 as follows:

- Pre-Level 1 – Working on Level 1
- Level 1 – Initial investigation into the competency area
- Level 2 – Beginning to integrate processes and systems into daily routines
- Level 3 – Integrating processes and systems into daily routines
- Level 4 – Regular monitoring and continuous improvement; this level is roughly aligned with the requirements of the ISO 55000 standard for AM
- Level 5 – Advanced maturity beyond the requirements of the ISO 55000 standard

Saanich's assessment of its current maturity using the AMRS scale is shown in Figure 11, and the detailed assessment is found in Appendix D.



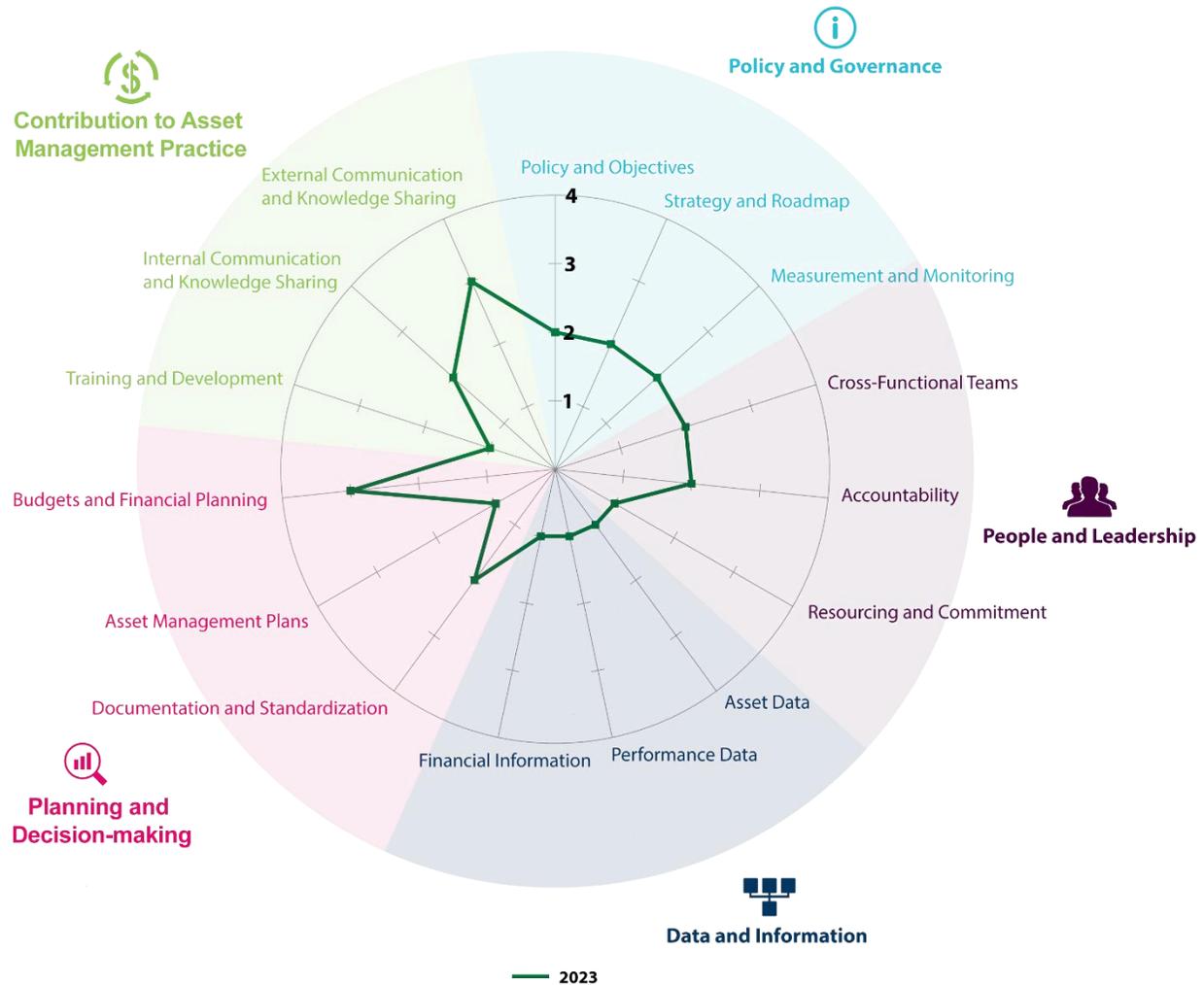


Figure 11 - Saanich District-wide AM Maturity Using Asset Management Readiness Scale

4.1.4 Summary of Maturity Gaps

Saanich’s 2023 maturity assessment identified the following key gaps according to the two scales:



Assets (Data and Information)

- Asset data is not stored in a central location and accessible by all staff
- There is not a single source of truth for asset data
- Technical and financial asset data is not linked
- Location data is missing for some assets
- Key attribute data is missing for some assets
- Installation date is missing for some assets
- Condition information is missing for some assets
- Natural asset data is missing or not documented in a usable format



Information (Policy and Governance)

- There is no strategy for an AM Program
- Performance measures for an AM Program have not been established
- Current LoS have not been documented, and staff have not considered the trade offs between desired LoS, risks and costs
- Some service level strategies and master plan have been developed, but AM Plans have not yet been developed



Finances (Planning and Decision-Making)

- Saanich's decision-making approach is currently informal, risk-based prioritization is not applied consistently across the organization
- Saanich's Infrastructure Replacement Funding Strategy (IRFS) requires updating
- Saanich's Long Term Financial Plan requires updating



People (People and Leadership, and Contribution to Asset Management Practice)

- The District has one position dedicated to developing and implementing a District-wide AM Program. Staff resources in the Operational Units are limited in terms of adopting new, formal AM practices
- Roles and responsibilities for AM require clarification and documentation



4.2 Assets

4.2.1 Asset Inventory

Saanich has some information about most of its assets, including location, attributes (i.e., size, material, type), and physical condition. The historic cost for physical assets is also available through Saanich's TCA financial reporting.

As part of the development of this AM Strategy, current asset inventory data was compiled in a central location in a set of asset inventory spreadsheets, one for each asset group. The data was obtained from a variety of sources including GIS, TCA spreadsheets, and staff input. Currently, these spreadsheets are disconnected from existing business processes for updating asset data in GIS or other existing software, and this represents a challenge in Saanich's ability to keep accurate and current inventories.

Each spreadsheet has a common template and includes the following asset data:

- Location
- Key Attributes (i.e., material, size, type, etc.)
- Installation Date
- Useful Life
- Physical Condition
- Unit Costs
- Replacement Value



The main gap in Saanich's asset inventory is natural assets. Currently, information about the location of natural assets is found in a series of GIS datasets, however there is no formal inventory for natural assets.

Details of the current state of Saanich's asset information by asset type are provided in the Asset Dashboards found in Appendix C.

4.2.2 AM Software

Currently, Saanich's asset data is managed using a combination of enterprise systems, department specific software, Excel spreadsheets and paper-based processes. The following existing District-wide software systems provide support to Saanich's AM Program:

- **ArcGIS** (Esri) – Most spatial assets and attribute data is currently stored in Saanich's GIS system, which has been under development since the early 2000's. Currently, each asset has one unique identification number (Asset ID) that changes when the asset is replaced, and the IT Department is in the process of adding a second number (Facility ID) that will not change when the asset is replaced.
- **Citywide Budgeting** (PSD Citywide) – This is a new system that is currently being implemented for future development of an annual financial plan, including operating and capital budgets.
- **Enterprise Document Retention Management System (EDRMS)** (To Be Determined) – A project is underway to provide a District-wide EDRMS that will support the digital storage of records associated with physical assets.
- **JD Edwards EnterpriseOne** (Oracle) – This is Saanich's Enterprise Resource Planning (ERP) system for managing financial information, including tracking of historical and actual costs, and preparation of financial statements.
- **Tempest** (CentralSquare) – This system contains Calls for Service, Licensing and Permitting information.

Other department specific systems that support Saanich's AM Program include:

- **Bluebeam Revu** (Bluebeam) – Automates the sharing and review of civil engineering design drawings.
- **AutoCAD and Civil 3D** (Autodesk) – Automation of civil engineering design drawings.
- **FAMIS 360** (Accruent) – Computerized maintenance management system (CMMS) that is purpose built for Facility assets. Staff is in the process of populating this Cloud-based software for major Municipal Facilities and work is being done to ensure the system can be used and accessed cross-departmentally.
- **Fleet Management** (Fleet Complete) – Automates fleet tracking and improves vehicle utilization for Vehicle assets.
- **infraMAP (iWater)** – Manages operational activities and corrective maintenance work orders for Drainage, Wastewater and Water assets, but currently does not manage preventative maintenance activities. Currently, the data collected through this system is accessible only to a limited group of users and is not integrated with higher level



planning documents. The current version of the software is being phased out, and the upgraded version will be tested to assess its ability to meet Saanich’s needs.

- **InfoSWM, InfoSewer, and InfoWater** (Innovyze) – Models the capacity of Saanich’s drainage, wastewater and water systems, including linear and vertical assets.
- **IT Asset Management** (ServiceNOW) – Provides an asset inventory for IT assets, and automates lifecycle management for software, hardware and cloud assets.
- **SCADA (Supervisory Control and Data Acquisition)** – Provides automation and alarms for the operation and maintenance of Saanich’s Drainage, Wastewater and Water assets.
- **VFA Facility** (Gordian) – Asset inventory, capital planning, forecasting, and decision-support software that is purpose built for Facility assets. The software uses condition information to assess the likelihood of failure, criticality information to assess the impact of failure, and then uses the resulting risk score to support prioritization of the capital plan. Currently, the software is populated with only the major Municipal Facilities that are included in Saanich’s *Strategic Facilities Master Plan* (Saanich, 2018), and population of the balance of the Municipal Facilities assets is currently in-progress.

A summary of current AM software utilization by asset type is shown in Table 2, where green indicates current usage of a software system, yellow indicates current usage of a partial software solution, and red indicates that a software solution needs to be developed.

Table 2: Current AM Software Utilization

Asset Type	Location and Asset Inventory	Asset Management Decision-Support	Computerized Maintenance Management System (CMMS)
Drainage	ArcGIS	To Be Developed	infraMAP
Facilities	VFA Facility (Major Facilities)		FAMIS 360 (Major Facilities)
IT	IT Asset Management		
Natural Assets	ArcGIS	To Be Developed	To Be Developed
Park & Trail Structures	ArcGIS	To Be Developed	To Be Developed
Transportation	ArcGIS	To Be Developed	To Be Developed
Vehicles & Equipment	JD Edwards	To Be Developed	To Be Developed
Wastewater (Collection)	ArcGIS	To Be Developed	infraMAP
Water (Distribution)	ArcGIS	To Be Developed	infraMAP



Current AM software gaps include:

- Lack of an AM decision-support software for some asset types
- Lack of maintenance management (CMMS) software for some asset types
- Lack of unique identification numbers for some assets
- Lack of a single point of data entry for all assets (no single source of truth)
- Lack of integration between technical and financial systems





4.3 Information

4.3.1 Overview

Saanich has some information on the physical condition of its assets, either based on a condition assessment or estimated based on age, and staff are working on gathering additional condition data. However, Saanich needs to improve its AM practices in the areas of LoS, risk assessment, integration of climate change considerations, and AM Plans. Current information gaps are highlighted in Table 3, where green means there is information available for most assets, yellow means there is information available for some assets, and red means there is little or no information.

Table 3: Current State of Information

Asset Area	Levels of Service	Condition Assessment	Risk Assessment	Climate Change Integration	AM Plan
Drainage	Red	Yellow	Red	Yellow	Red
Facilities	Yellow	Yellow	Yellow	Yellow	Red
IT	Red	Red	Red	Red	Red
Natural Assets	Red	Red	Red	Red	Red
Park & Trail Structures	Red	Yellow	Red	Red	Red
Transportation	Red	Green	Red	Green	Red
Vehicles & Equipment	Red	Green	Red	Green	Red
Wastewater (Collection)	Red	Green	Green	Red	Red
Water (Distribution)	Red	Green	Green	Red	Red

4.3.2 Levels of Service

LoS are specific objectives that describe the extent and quality of services that the municipality provides to the community. The desire of Council or the public for a particular level of service will directly affect the cost of providing that service in terms of utility fees or taxation.

Saanich consults with the public regarding service delivery through the Citizen and Business Survey and the Annual Budget Simulation Tool, and provides updates on performance indicators in the *Annual Report* (Saanich, 2023). A summary of current Saanich performance indicators and the associated asset type is provided in Appendix E.

Currently, Saanich has not formally developed or documented its LoS (AM Objectives). In 2022, the AMWG started this process of developing LoS through participation in the AMBC LoS training program. As part of this training, the AMWG developed a list of the services that Saanich provides to the community and the types of assets that support the service delivery, as shown in Table 4.



Table 4: Alignment of Services and Assets

Services Provided to the Community	Asset Types Supporting Service Delivery
General Government Services	
Provide a wide variety of general administrative, communications and legislative services, including but not limited to climate change mitigation and adaptation	Facilities, Information Technology, Natural Assets, Vehicles & Equipment
Parks Services	
Provide parkland, structures, facilities and programming for outdoor recreation and community activities	Facilities, Information Technology, Natural Assets, Park & Trail Structures, Transportation, Vehicles & Equipment
Protect, restore and enhance natural areas, including the Urban Forest, watersheds, and other natural areas, which together provide a wide variety of stormwater management and ecosystem services	
Protective Services	
Provide police services	Facilities, Information Technology, Transportation, Vehicles & Equipment
Provide fire prevention and suppression services	
Provide emergency management services	
Recreation & Community Services	
Provide facilities and programming for recreation and community activities	Facilities, Information Technology, Natural Assets, Vehicles & Equipment
Provide public golf course	
Solid Waste Services	
Collect residential garbage and organics	Facilities, Information Technology, Transportation, Vehicles & Equipment
Collect fall leaves and compost	
Provide public yard-waste drop off site	
Collect litter from bus shelters	
Clean-up roadside dumping	
Stormwater Management Services	
Manage stormwater to protect buildings and transportation network from flooding	Drainage, Facilities, Information Technology, Natural Assets, Transportation, Vehicles & Equipment
Treat stormwater to protect the natural environment	
Provide emergency spill response	
Transportation Services	
Provide infrastructure to support the public transit system in Saanich	Facilities, Information Technology, Natural Assets, Transportation, Vehicles & Equipment
Provide transportation network for motor vehicles	
Provide active transportation network	
Wastewater Collection Services	
Collect wastewater and convey to CRD for treatment	Facilities, Information Technology, Transportation, Vehicles & Equipment, Wastewater (Collection)
Water Distribution Services	
Distribute potable water to the community	Facilities, Information Technology, Transportation, Vehicles & Equipment, Water (Distribution)
Provide water for fire suppression	



4.3.3 Condition Assessment

As shown in Table 5, current physical condition information is based on condition assessment study reports and/or physical inspections where available.

Table 5: Basis for Physical Condition Estimates

Asset Type	Asset Groups With Condition Assessment	Asset Groups Without Condition Assessment (Based on Age)	Asset Groups Without Condition Assessment and Without Age Data
Drainage	Mains (some CCTV data), Pump Stations	Mains (no CCTV data), Manholes	N/A
Facilities	Major Municipal Facilities	Minor Municipal Facilities, Park Buildings	N/A
IT	N/A	N/A	IT Assets
Natural Assets	N/A	N/A	Natural Assets
Park & Trail Structures	Playgrounds, Park Roads	Courts, Footbridges, Irrigation, Parking Lots, Sports Fields, Trails	N/A
Transportation	Bridges, Pedestrian Signals, Roads, Streetlights, Traffic Signals	Bus Stops, Sidewalks	Controlled Crosswalks, Street Signs
Vehicles & Equipment	Vehicles	Equipment	N/A
Wastewater (Collection)	Gravity Mains (some CCTV data), Pump Stations	Force Mains, Mains (no CCTV data)	N/A
Water (Distribution)	PRVs, Pump Stations, Reservoirs	Mains, Meters	N/A

N/A = Not Applicable

If there is no condition assessment information available, then the physical condition is estimated based on the age of the asset as compared to the useful life, using the following formula:

- Very Good (used 0-25% of useful life)
- Good (used 25-50% of useful life)
- Fair (used 50-75% of useful life)
- Poor (used 75-100% of useful life)
- Very Poor (used >100% of useful life)

If there is no condition assessment information and no age data, then the department responsible has identified collection of this information as an action for continuous improvement.

As noted in Table 5, Saanich has assessed the condition of some of drainage and wastewater mains through its closed-circuit television (CCTV) program. Based on current funding levels, the CCTV Program has a cycle of approximately 20-30 years. To date, Saanich has assessed approximately 40% of the wastewater system, and the current rate of assessment is approximately 15 km/year (3% of the total system per year). Approximately 15% of the drainage



system has been assessed to date, and the current rate of assessment is approximately 15 km/year (3% of the total system per year). Currently, Saanich has not completed a condition assessment of its water mains, so current condition has been estimated based on age; water mains are not accessible for condition assessment using CCTV technology, and instead require either destructive testing or submersible technology.

Currently, Saanich reports annually on the condition of its Major Municipal Facilities in the *Annual Report* (Saanich, 2023) using the facility condition index (FCI) as the indicator. The condition of these facilities was assessed as part of the development of the *Strategic Facilities Master Plan* (Saanich, 2018), which reported an overall corporate average FCI of 0.36, and set a target to meet an overall corporate average FCI of 0.25 within 10 years.

4.3.4 Risk Assessment

In 2022, Saanich's Enterprise Risk Management (ERM) Program completed a District-wide ERM Framework, and work is underway to develop a corporate risk register. The next step, planned for 2023-2024 is to develop departmental risk registers. Supporting this work is a Community Risk Assessment that was completed by the Fire Department's Emergency Program in 2022, and a Climate Hazard and Vulnerability Assessment that was completed in 2018 as part of the development of the Climate Plan.

To date, preliminary assessment of the risk of asset failure has been completed for major facilities assets as part of the *Strategic Facilities Master Plan* (Saanich, 2018), and for wastewater and water assets as part of recent updates to the *Water Master Plan* and *Sewer Master Plan*.

4.3.5 Climate Change Integration

Currently, Saanich has made some progress integrating climate change considerations with AM practices, particular in the work on climate change mitigation related to its Facilities, Transportation and Vehicles & Equipment asset types. Some progress has also been made on climate change adaptation, particularly in the review and update of engineering design standards, such as Saanich's stormwater Intensity-Duration-Frequency curves that are informed by future climate projections. The collection and analysis of various climate related data, for example, future climate projections, flood inundation and sea level rise mapping, heat vulnerability mapping, has been undertaken and further work is underway. This information is necessary to integrate climate change considerations into the AM Program. However more work is needed to formalize consideration of climate change into Saanich's business processes over the full lifecycle of its assets, and more work is needed on the protection and management of Saanich's natural assets.

A number of Climate Plan actions are underway or due to be initiated in 2023-2024 that will inform the development of Saanich's AM Plans, including:

- Development of a Biodiversity Conservation Strategy
- Update of the Urban Forest Strategy
- Updated climate projections, coordinated by the CRD



- Updated climate risk assessment based on updated climate projections and conducted at the more detailed service/asset level
- Development of actions (including asset/infrastructure upgrades) required to mitigate the identified risks and associated cost estimates (cost of doing nothing and funding gap to achieve climate recovery needs)

4.3.6 Asset Management Plans

Currently, Saanich has not completed AM Plans for any of the nine asset types. However, there are existing strategies and master plans, as shown in Table 6, that will inform Saanich’s first-generation AM Plans.

Operational plans for each department are currently informally documented as part of the development of the annual Financial Plan, and there is one formal operational plan that was developed in 2021 for Saanich’s EV Charging Stations.





Table 6: Current State of Departmental Strategies and Plans

Asset Type	Strategies and Master Plans	Operational Plans
Drainage	Integrated Stormwater Master Plans (first version in progress)	To Be Developed
Facilities	Strategic Facilities Master Plan 2018 (update in progress); 2019 Market Analysis Study Recreation, Wellness and Health Programs, Services, Activities and Experience	To Be Developed
IT	IT Master Plan (first version in progress)	To Be Developed
Natural Assets	Urban Forest Strategy 2010 (update in progress); Biodiversity Conservation Strategy (first version in progress)	To Be Developed
Park & Trail Structures	Parks, Recreation and Community Services Master Plan 2013 (update in progress - Parks, Recreation and Community Services Comprehensive Direction & Actions Plan)	To Be Developed
Transportation	Active Transportation Plan 2018 (update in progress)	To Be Developed
Vehicles & Equipment	Fire Services Review 2020	EV Charging Stations Operational Plan; Others To Be Developed
Wastewater (Collection)	Sewer Master Plan 2022	To Be Developed
Water (Distribution)	Water Master Plan 2022	To Be Developed



4.4 Finances

4.4.1 Replacement Value

The RV of an asset is the cost if the asset were to be replaced on a like-for-like basis in the current year.

Based on work completed in 2007, the original estimated RV for all Saanich’s physical assets was \$2.1 billion, excluding natural assets. In order to avoid a moving target for estimating Saanich’s annual replacement funding needs, the RV estimate was not updated until 2022.

In 2022, as part of the development of the AM Strategy, the RV for each Asset Group was updated based on the best available inventory of Saanich’s built assets and their current unit costs. As shown in Table 7, the updated RV estimate for Saanich’s built assets is \$4.7 billion, which excludes assets that are currently not documented in the asset inventory and also excludes valuation of natural assets. The unit costs that were used to update the RV estimate are provided in Appendix F, along with the sources of information and assumptions associated with each unit cost. A third-party review of Saanich’s RV estimate was completed by Urban Systems Ltd., and the results are provided in Appendix F.



As shown in Figure 12, the increase between 2007 and 2022 is mainly due to inflation and local construction cost increases, as well as new assets added since 2007 and accounting for assets had not been included in the original calculations.

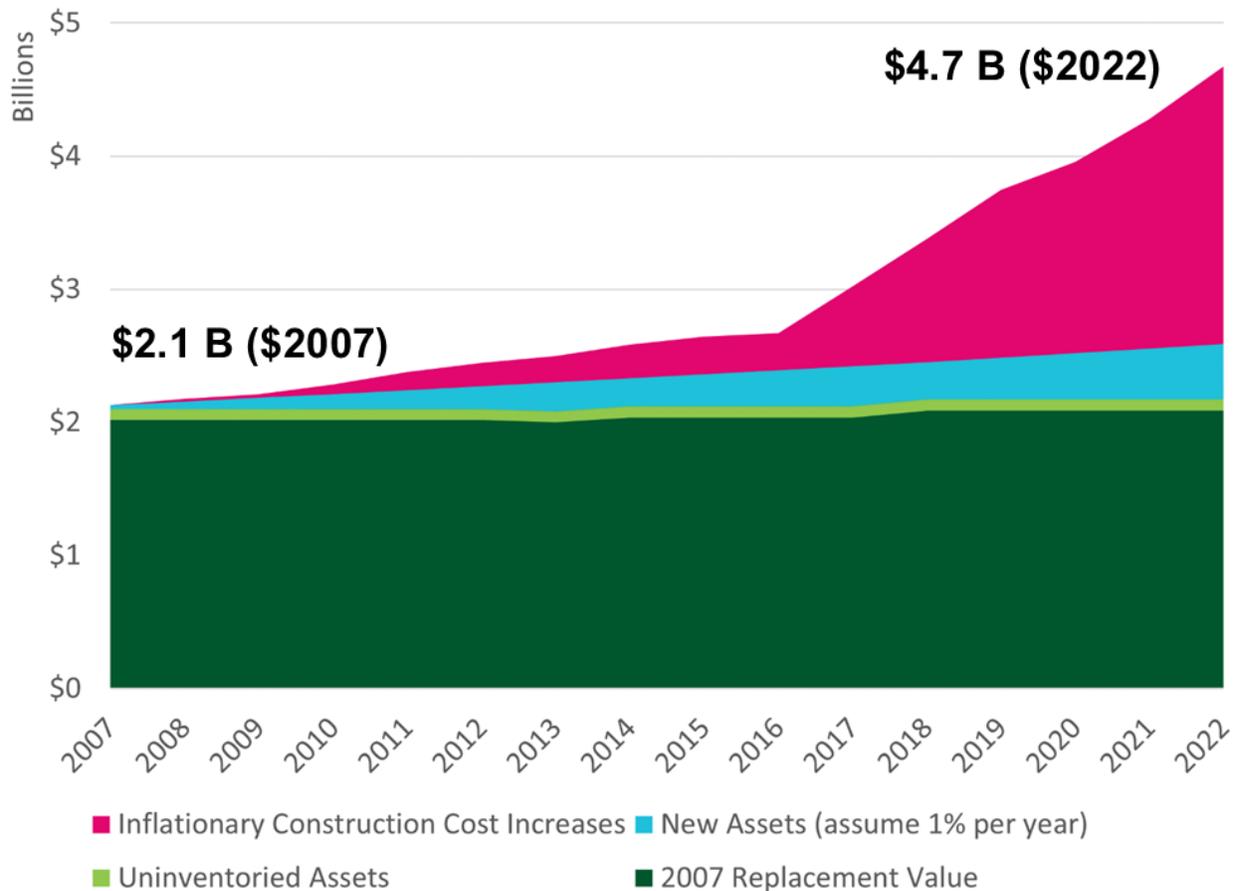


Figure 12 – Change in Replacement Value from 2007 to 2022

It is important to note that the RV is an order-of-magnitude estimate of the current value of Saanich’s assets based on the best available information, and professional judgement in developing unit costs. The RV estimate is expected to increase as assets are added to the inventory and inflation pressure increases unit costs over time. There is currently no industry standard methodology for estimating RV, and there is a considerable variation in reporting by municipal governments in BC and across Canada. However, as more municipal governments start reporting their RV, it is expected that Saanich will be able to benchmark its RV estimate with other comparable municipalities.

It is also important to note that the actual cost of the project to replace an asset may be higher than the RV if the replacement is not simply like-for-like but also includes upgraded or new service levels. For example, the estimated project costs for the replacement of Fire Hall No. 2 and the Saanich Operations Centre are higher than the RV because the new facilities will



include new or upgraded features such as additional capacity, design features to meet building code requirements, and features to meet safety requirements.

4.4.2 Average Annual Replacement Funding

The average annual replacement funding (AARF) is calculated as the RV of an asset divided by its useful life. This is the target amount of funding to be spent each year, either on a capital project to replace the asset, or on a transfer to a reserve for future replacement.

As shown in Table 7, the original AARF target estimated in 2007 for all of Saanich’s built assets, excluding natural assets, was \$41 million. In 2022, the AARF target was updated using the updated RV and updated useful life estimates. A summary of the useful life estimates is provided in Appendix G. The new AARF target is more than double the original value at \$86 million, resulting in a current AARF gap of approximately \$45 million per year.

Table 7: Updated Replacement Value and Annual Funding Target

Asset Type	Original RV (\$2007 M)	Original AARF (\$2007 M)	RV (\$2022 M)	AARF (\$2022 M)	Annual Funding Gap (\$2022 M)
Drainage	\$502	\$7.5	\$1,068	\$15.3	\$7.8
Facilities	\$168	\$2.8	\$273	\$6.0	\$3.2
Information Technology	\$7	\$1.1	\$26	\$3.9	\$2.8
Park & Trail Structures	\$63	\$3.2	\$111	\$4.9	\$1.7
Transportation	\$468	\$8.4	\$1,393	\$24.0	\$15.6
Vehicles & Equipment	\$28	\$2.8	\$49	\$4.8	\$2.0
Wastewater (Collection)	\$451	\$7.0	\$989	\$14.2	\$7.2
Water (Distribution)	\$400	\$7.9	\$764	\$12.6	\$4.7
Total	\$2,087	\$40.7	\$4,673	\$85.7	\$45.0

4.4.3 Infrastructure Replacement Funding Strategy

Saanich’s IRFS is a long-term financial strategy for funding the like-for-like replacement of physical assets at the end of their useful life. Figure 13 shows how the IRFS fits into Saanich’s Financial Planning Framework.

The IRFS was developed in 2007 to align with the new legislated requirement for TCA financial reporting. As described above, the estimated RV and estimated useful life of Saanich’s assets were used to estimate an AARF target of \$41 million. Council then approved the IRFS, which established a goal to meet the AARF by 2019. In order to avoid a moving target, the target levels were maintained at the levels set in 2007 without any increase to account for inflation, uninventoried assets or new assets.

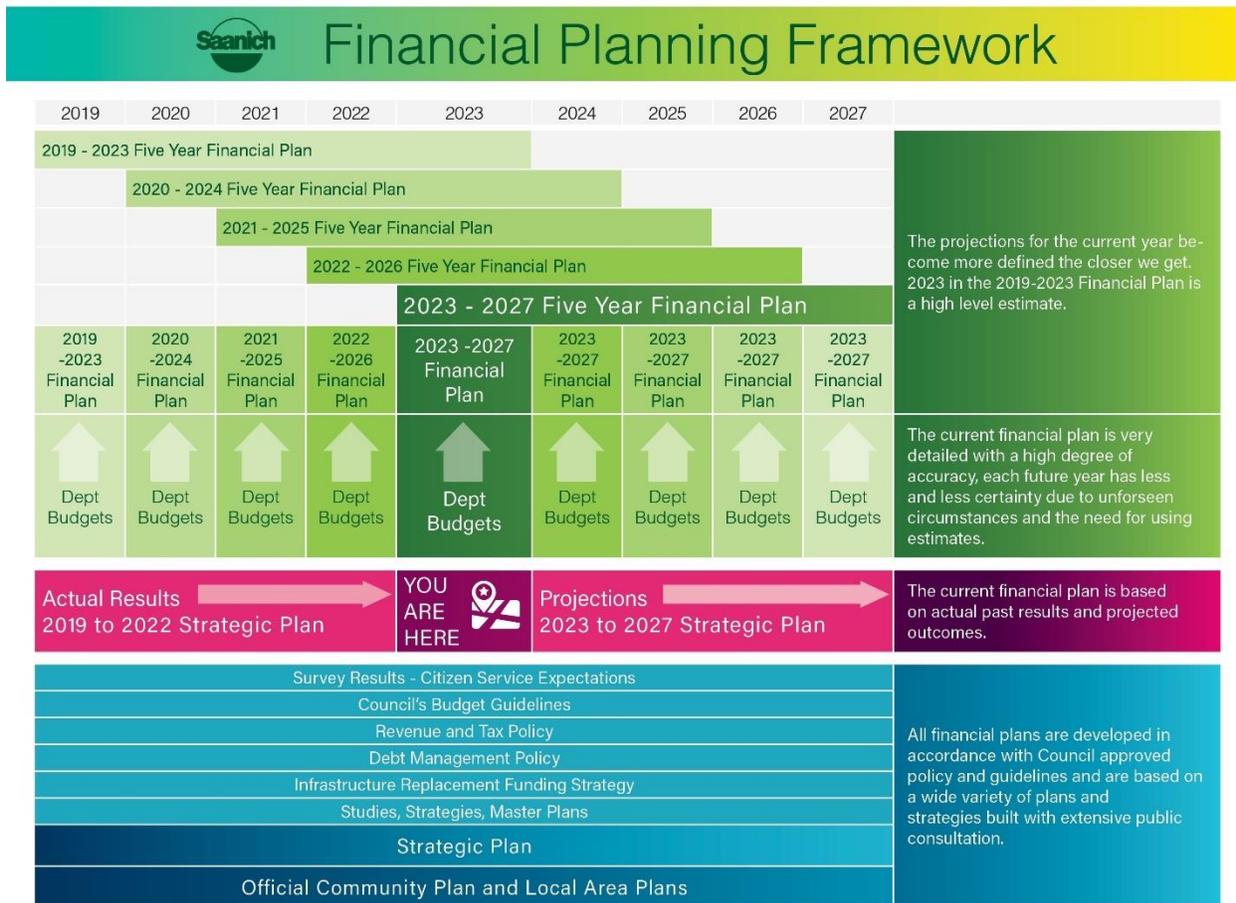


Figure 13 - Saanich Financial Planning Framework

As shown in Figure 14, from 2007 to 2019, Council gradually increased tax and utility rates, until the replacement funding target was met in 2019. Since 2019, infrastructure replacement funding has remained steady at the target level, with the understanding that an update to the target level was underway, and that the target level would need to be adjusted in the near future.

Figure 14 also shows the updated AARF target of \$86 million. The gap between Saanich’s current replacement funding levels and the updated AARF target is approximately \$45 million per year. This indicates that Saanich is currently not investing sustainably in its assets. Each year that Saanich does not reinvest in its assets at the target level, the risk is increasing that community service levels will not be met. This also means that the financial burden on future generations is increasing.

“Asset management supports practical, evidence-based decision-making. Take the guess work out of decision-making and set priorities based on what needs to be fixed or replaced and when.”
 (AMBC website)

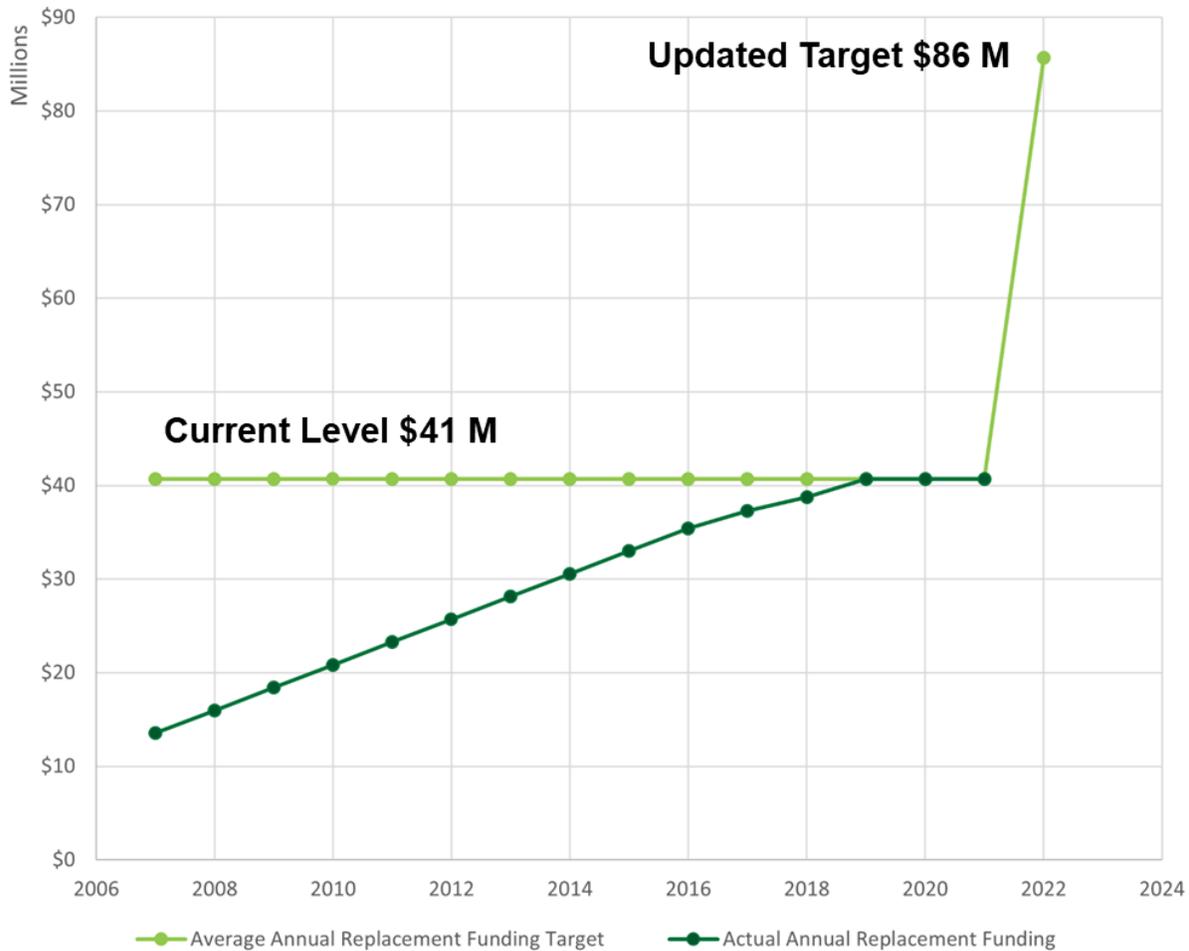


Figure 14 - Average Annual Replacement Funding Target Update

In addition to updating the RV and AARF, the following information has been developed for each asset group:

- **Replacement Backlog** – The replacement backlog represents the value of assets that are currently past the end of their estimated useful life.
- **Replacement Forecast** – A 100-year forecast of replacement funding needs has been developed based on the year installed and useful life for each asset group.

As shown in Table 8 and Figure 15, the replacement backlog is estimated to be approximately \$0.7 billion, which represents approximately 15% of Saanich’s total asset value of \$4.7 billion. In theory, these assets are due for replacement in 2023, and represent an increased risk to service delivery. Replacement of these assets will be included in the capital program over time using a risk-based prioritization approach.

The overall 100-year replacement forecast is shown in Figure 15, and similar graphs for each asset type are shown in the preliminary asset dashboards found in Appendix C.



Table 8: Replacement Backlog Estimate

Asset Type	RV (\$2022 M)	Backlog (\$2022 M)	Backlog (% of RV)
Drainage	\$1,068	\$85	8%
Facilities	\$273	\$141	52%
Information Technology	\$26	\$0	0%
Park & Trail Structures	\$111	\$60	54%
Transportation	\$1,393	\$132	9%
Vehicles & Equipment	\$49	\$17	35%
Wastewater (Collection)	\$989	\$92	9%
Water (Distribution)	\$764	\$170	22%
Total	\$4,673	\$697	15%

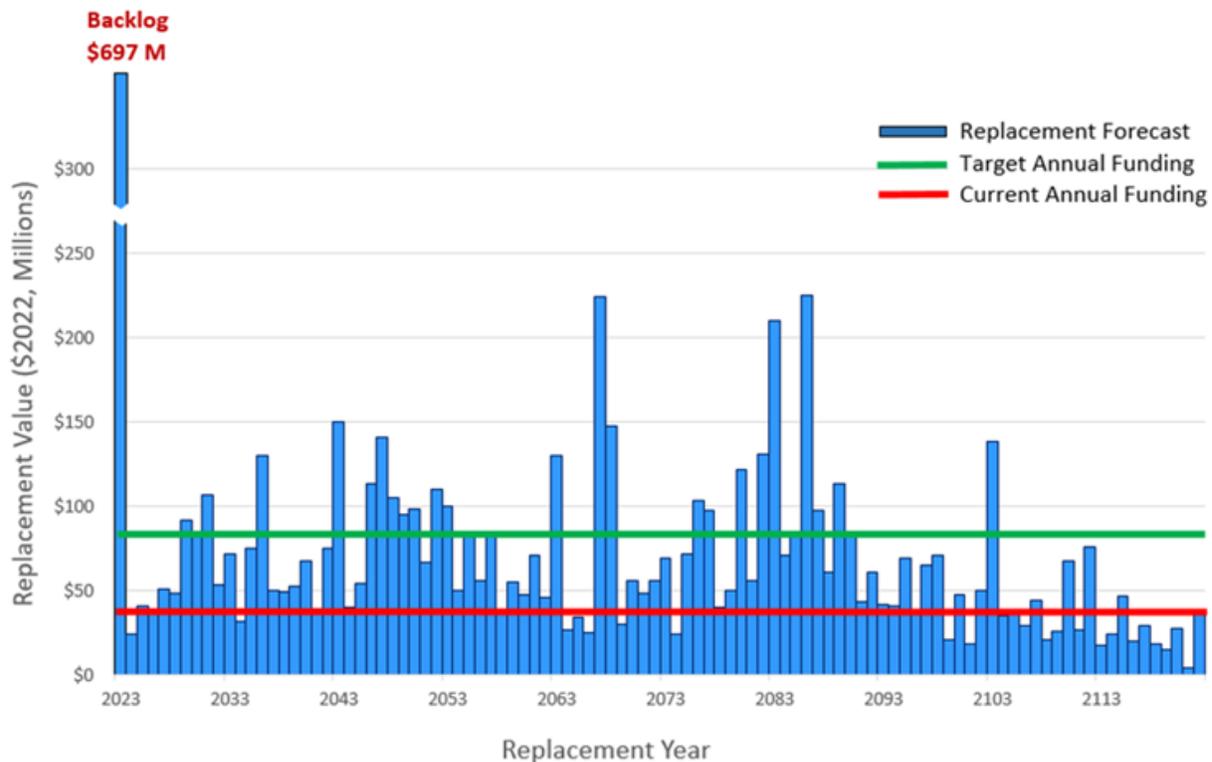


Figure 15 - Infrastructure Replacement Forecast vs Annual Replacement Funding



4.4.4 Annual Financial Plan

Each year, Saanich approves a five-year financial plan, including a balanced current year financial plan and a four-year forecast for operating and capital costs in each of three funds: general operating (tax), and sewer and water (utility).

The financial planning process is a year-round process, with each cycle beginning in June and ending in May as follows:

- Council develops budget guidelines (June - August)
- Departments prepare budget submissions (September – November)
- Finance prepares draft financial plan (November – January)
- Senior Management review (January – February)
- Public input and meetings (March – April)
- Council adopts plan and bylaws (May)

Every four years, Saanich conducts a Citizen and Business Survey to seek input from the public on service delivery. In other years, a shorter Citizen Pulse Online Survey is conducted to inform the budget process, and to capture current perceptions of residents to help identify key opportunities for maintaining or improving awareness and satisfaction of Saanich's services. In addition, Saanich engages the community through the development of various strategies and master plans, and public input through these processes also informs the annual budget process.

Departmental budget submissions are prepared to include the priority activities for the coming year, including core activities and initiatives contained in the Strategic Plan, within the budget guidelines established by Council.

The primary factor in determining capital requirements in Saanich is the replacement of aging infrastructure (Saanich, 2023) through core funding envelopes established through the IRFS, which are estimated based on like-for-like replacement. Each department prioritizes capital projects for asset replacement within the appropriate funding envelope using a variety of formal and informal approaches, such as business case analysis, capacity modeling, climate mitigation and/or adaptation, condition assessment, coordination with other projects, master plans, and risk assessment. The balance of the annual replacement funding envelope that is not allocated to capital projects in a given year, is placed in a capital reserve for future replacement.

Capital projects for new assets and upgrades to existing assets are identified through a variety of sources, such as the Active Transportation Plan, Council's Strategic Plan, Climate Plan, Development Cost Charges (DCC) By-law, Master Plans, and other asset specific strategies and plans. This includes going beyond the like-for-like replacement funding in Saanich's core funding envelopes, as is often required to align with growth, climate action and innovation. Currently, there is no formal, documented prioritization process for prioritization of capital projects for new/upgraded assets. These types of projects are funded from a variety of sources, such as the annual operating surplus, the Council Strategic Initiatives Contingency, and grant funding.



Operations and maintenance (O&M) funding includes the costs for operation of existing assets to deliver services to the community, and maintenance and minor repair to ensure assets reach their useful life. The current Operating Budget process starts with the core budget from the previous year, and increases are applied to account for inflation and rising costs. New requests are then prioritized within Council's budget guidelines. Once LoS are developed, a review of O&M budgets will be required to align funding with the service levels desired by the community.

4.4.5 Long Term Financial Plan

Saanich's long term financial plan (LTFP) was completed in 2022 and details are found in the *District of Saanich Long-Term Financial Plan Development* (KPMG, 2022). The LTFP includes a 10-year capital and operating cost forecast, and also includes:

- Projections for the ongoing costs of current service levels
- Long term financial impacts of major plans and strategies approved by Council
- Evaluation of sources and methods of funding for future operating and capital expenditures
- Financial sustainability policy/framework
- Long term financial planning model

The LTFP includes recommendations for continuous improvement in four categories which are aligned with AM Program objectives:

1. Financial Principles

- a. Adopt a Financial Principles document to guide financial decision-making.

2. Financial Policies

- a. Update the Debt Management Policy to incorporate Provincial requirements.
- b. Establish minimum and optimal reserve balances and update the Reserves and Surplus Policy accordingly.
- c. Schedule review of these reserve balances annually during the budget season with recommendations to increase levels sent to Council for approval.

3. Financial Plan

- a. Adopt a policy which requires all master plans to contain financial projections for Council and the Finance department.
- b. Quantify expenditures for all master plans and incorporate them into the Long Term Financial Plan and model.
- c. Further refine and mature Asset Management Plan expenditures for inclusion in the District's Long -Term Financial Plan.

4. Financial Model

- a. Consolidate all the capital worksheets across the organization into one financial model (to be used as a single source of truth).

4.4.6 Natural Assets

Currently, natural asset valuation is not an accounting requirement and Saanich has not yet valued most of its natural assets. The exception is trees, where there is an assigned value for



replacement trees in the Saanich Tree Protection By-law for development purposes, and tree valuation is under review as part of the Urban Forest Strategy update.

Saanich's Financial Plan currently includes some funding for natural assets as follows:

- **Capital** – The Parks, Recreation and Community Services capital plan includes some capital funds for rehabilitation of natural areas, and there is funding for replacement trees in the Engineering capital plan.
- **Operating** – The operating budget includes annual funding for maintenance of waterways (Engineering), and annual funding for tree maintenance, horticulture maintenance, turf maintenance and natural areas (Parks, Recreation and Community Services).
- **Reserves** – Saanich has dedicated reserve funds for parkland acquisition and for the Urban Forest.



4.5 People

4.5.1 Culture

Over the past 15 years, Saanich has built a positive culture for AM within the organization, and there is a pent-up demand for the business improvements that can be realized through AM. Staff are committed to moving forward however capacity and resourcing realities will dictate the speed of program development. There is a range of AM maturity across the organization, and, in some cases, there is a lack of integration between departments.

4.5.2 Staff Competency

Currently, knowledge, experience and resources vary across departments and there is no formalized program for managing assets in a consistent manner across the organization. Some staff understand the need for AM and the benefits of AM, as well as the need for continuous learning to develop their knowledge, experience and capacity for AM. However, this needs to be extended to all staff. There is also a need to integrate AM practices across all departments.

A few staff have taken formal AM training courses; however, Saanich currently does not have a formalized AM training program.

As part of the development of the AM Strategy, AMWG members received in-house AM training, which was developed by the AMPM using a presentation tool provided by the Federation of Canadian Municipalities (FCM) and an online tool provided by the Canadian Network of Asset Managers (CNAM) (CNAM, 2018). Members of the AMWG also participated in several external training programs.

Saanich staff also participate in various external AM communities of practice (CoP), including the AMBC CoP and the South Vancouver Island AM CoP.



4.5.3 Communications Plan

In 2022, the AMSC approved the AM Program Communications Plan, which establishes communication objectives, and identifies key messages, stakeholders, communication methods, and communication activities. The latest version of the plan is found in Appendix H.

In order to start the process of developing awareness of AM across the organization, an internal AM webpage was established with general information about Saanich's AM Program, a link to Saanich's AM Policy, and links to external resources provided by AMBC, CNAM and FCM. An *Asset Management Introduction* presentation was created as an internal communications tool and is being shared to start conversations and help to foster a culture of AM.

In 2022, Saanich added a new page to its external website for sharing information and resources with the community about Saanich's AM Program.

4.5.4 Roles & Responsibilities

Saanich is responsible for all asset lifecycle activities for most of its assets, including:

- Planning & Analysis
- Design & Construction
- Operations & Maintenance

However, there are some exceptions, including:

- Saanich purchases some services (e.g., water supply, wastewater treatment and solid waste management from the CRD)
- Saanich has cost-sharing agreements with neighbouring municipalities for some assets (e.g., boundary roads and bridges)
- Saanich has commercial and residential lease agreements with community groups or individual community members for the rental of some Facilities assets
- Saanich has agreements with various community groups for the operations and/or maintenance of some assets (e.g., some community centres, park buildings, sports fields)

Figure 16 illustrates Saanich's corporate structure, and Table 9 provides a high-level summary of the roles and responsibilities for Saanich's asset types by department.



Figure 16. Saanich Organization Chart



Table 9: AM Roles & Responsibilities

Asset Type	Planning & Analysis	Design & Construction	Operations	Maintenance
Drainage	Engineering	Engineering	Engineering	Engineering
Facilities	Engineering; Parks Recreation & Community Services	Engineering; Parks Recreation & Community Services	Various	Engineering; Parks Recreation & Community Services
Information Technology	Information Technology	Information Technology	Various	Information Technology
Natural Assets	Engineering; Parks, Recreation and Community Services	Engineering; Parks, Recreation and Community Services	Engineering; Parks, Recreation and Community Services	Engineering; Parks, Recreation and Community Services
Park & Trail Structures	Parks, Recreation and Community Services	Parks, Recreation and Community Services	Parks, Recreation and Community Services	Parks, Recreation and Community Services
Transportation	Engineering	Engineering	Engineering	Engineering
Vehicles & Equipment	Engineering; Fire; Parks, Recreation and Community Services; Police	Engineering; Fire; Parks, Recreation and Community Services; Police	Engineering; Fire; Parks, Recreation and Community Services; Police	Engineering; Fire; Parks, Recreation and Community Services; Police
Wastewater (Collection)	Engineering	Engineering	Engineering	Engineering
Water (Distribution)	Engineering	Engineering	Engineering	Engineering

5.

Continuous Improvement





5 Continuous Improvement

5.1 Overview

With input from the AMWG, the identified gaps were prioritized into short-term (1-2 years), medium-term (3-5 years) and long-term (over 5 years) strategies and projects. The short- and medium-term priorities were built into a five year implementation plan, and the longer term improvements are identified below for consideration in the next revision of the AM Strategy.

5.2 Implementation Plan 2023-2027

5.2.1 Summary

The AM Strategy Implementation Plan is organized around the four core elements of the AM Framework: assets, information, finances, and people. Over the next five years, the implementation plan includes ten strategies for continuous improvement as shown in Figure 17.

Each strategy will be delivered through a series of projects that are described in the detailed implementation plan found in Appendix I, including the lead department, other departments involved, and the estimated timeline. In total, forty-eight priority projects have been identified over the ten strategies. The implementation plan was developed to incorporate some buffer into the timelines, in recognition that there are many other important corporate initiatives happening at the same time. Saanich will only be able to advance the AM Program at a pace that the organization as a whole can support while also continuing to advance other strategic priorities.



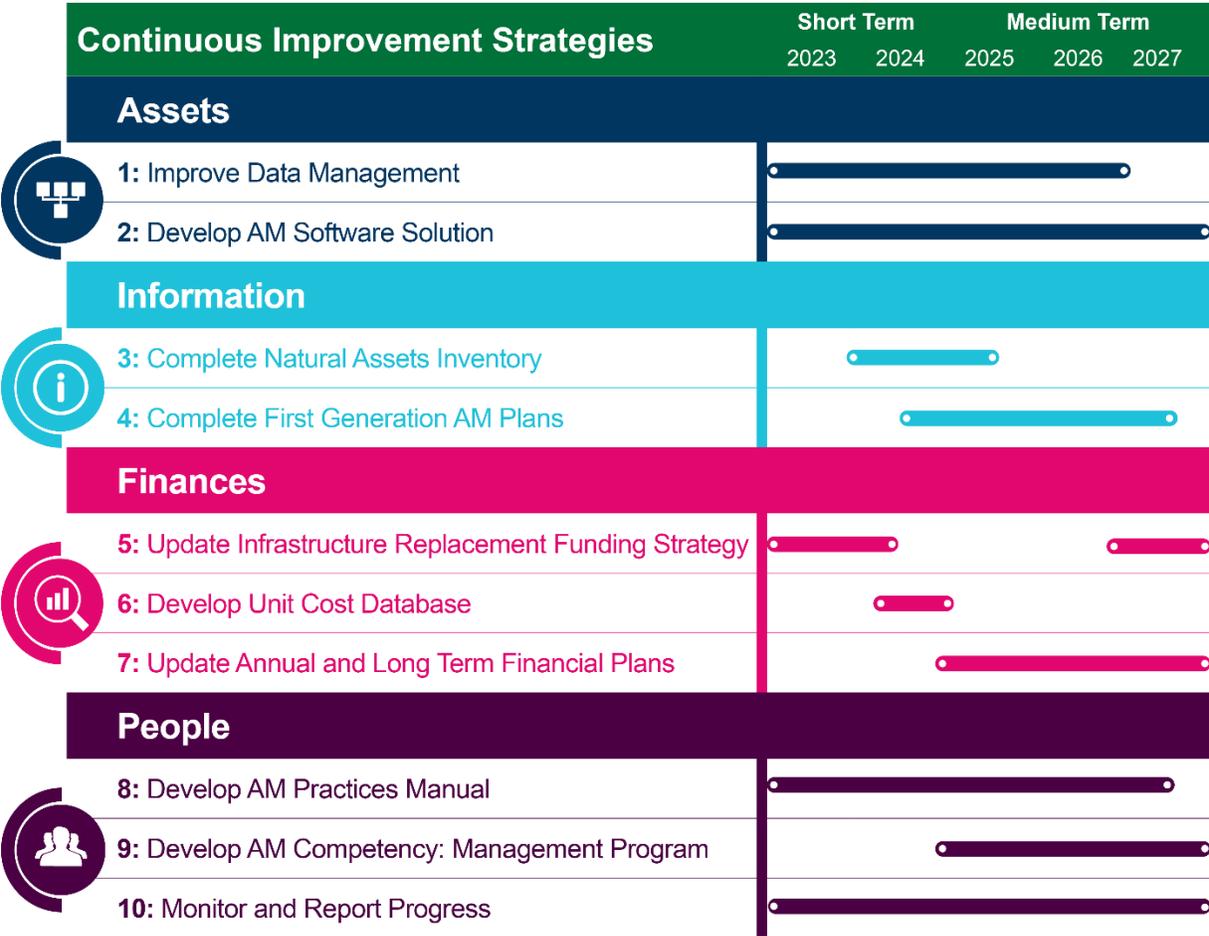


Figure 17. Implementation Plan 2023-2027

5.2.2 Alignment with AM Policy

Each of the priority strategies identified for implementation over the next five years will move us closer to achieving the key principles of the AM Policy, as shown in Table 10. A detailed checklist of alignment with the AM Policy is provided in Appendix J.



Table 10: Alignment of AM Policy and AM Strategy

#	Strategy	Service Delivery to Customers	Long-Term Sustainability and Resilience	Holistic Approach	Fiscal Responsibility and Asset Management Decision-Making	Continual Improvement
1	Improve Data Management	✓	✓	✓	✓	
2	Develop AM Software Solution	✓	✓	✓	✓	
3	Complete Natural Assets Inventory	✓	✓	✓	✓	
4	Complete First-Generation AM Plans	✓	✓	✓	✓	
5	Update IRFS	✓	✓		✓	
6	Develop Unit Cost Database	✓	✓		✓	
7	Update LTFP	✓	✓		✓	
8	Develop AM Practices Manual	✓	✓	✓		
9	Develop AM Competency Management Program			✓		✓
10	Monitor and Report Progress	✓				✓

5.2.3 Climate Change Integration

Several of the strategies in the 2023-2027 implementation plan will improve integration of climate change considerations and AM, including:

- **Strategy 3 – Complete Natural Assets Inventory:** This project will directly support the Climate Plan goal of ‘Preparing for a Changing Climate’ and multiple Climate Plan objectives and strategies, particularly within the Ecosystems key focus area. It will help deliver on the Climate Plan actions related to natural assets.
- **Strategy 4 – Develop First-Generation AM Plans:** The development of a first-generation Natural Assets AM Plan will directly support the Climate Plan goal of ‘Preparing for a Changing Climate’ and multiple Climate Plan objectives and strategies, particularly within the Ecosystems key focus area. In particular, it will help deliver the Climate Plan actions related to natural assets. In addition, all AM Plans will incorporate climate change considerations in the development of LoS, the risk assessments, and in the costing of lifecycle activities.



- **Strategy 8 – Develop AM Practices Manual:** The manual will include a guidance document for Saanich staff on why, what, who, when and how to consider climate change as part of the lifecycle management of Saanich’s physical assets. The goal will be to develop a culture where it becomes second nature to have discussions and critical thinking around climate change mitigation and adaptation in the early stages of asset planning and throughout the asset lifecycle.

5.2.4 Strategy 1: Improve Data Management

This strategy will improve the way Saanich collects and maintains its asset data, so that it is in a form that can easily be leveraged to support decision-making. Data sets will be prepared for future migration into an AM software solution.

Saanich will work toward the following:

- Each asset in the AM Program will have a unique identification number
- Asset attribute data fields to be maintained will have a specific purpose and a single point of entry
- Asset data will be found in one location only, and data for an asset will be linked based on the unique identification number
- Asset data will be centralized, digitized and accessible to all staff
- Asset data will be regularly reviewed and updated
- Staff will have the ability to collect and update asset data in the field and in real-time
- Workflows will be documented and digitized

Saanich will complete the following projects:

- Transfer existing asset inventory data to a central database with unique asset ID numbers.
- Populate IT asset inventory using ServiceNOW.
- Create a digital and dynamic AM dashboard.
- Purchase new mobile devices and provide software configuration and training.
- Update data models and data standards across multiple systems for the AM Program.
- Develop asset data collection forms.
- Document maintenance management workflows.

5.2.5 Strategy 2: Develop AM Software Solution

This strategy will develop a solution for the identified gaps in current AM software:

- Central, accessible asset data management system for all assets
- Capital planning and decision support software for linear assets
- CMMS software for linear assets

Saanich will use the capability and functionality of existing software as much as possible, and complete pilot projects to assess existing software. Saanich will develop a business case that compares possible solutions and recommends a path forward for budget approval. Then, based



on the business case, Saanich will start to implement the approved solution. Saanich will complete the following projects:

- Prepare a needs assessment for AM software.
- Upgrade infraMAP to supported version.
- Pilot Existing Software: Esri FieldMAP for asset data collection.
- Pilot Existing Software: infraMAP for maintenance management.
- Pilot Existing Software: Esri Workforce Starter Solution for maintenance management.
- Pilot Existing Software: JD Edwards for maintenance management.
- Pilot Existing Software: VFA Facility/FAMIS360 for linkages to other systems.
- Pilot Existing Software: FAMIS360 for Recreation Services maintenance management.
- Pilot Existing Software: VFA Facility/FAMIS360 for Parks Services decision-support and maintenance management.
- Prepare a Business Case for providing AM software capacity.
- Provide AM software capacity in accordance with the approved Business Case.
- Begin to implement AM software using a phased approach.

5.2.6 Strategy 3: Complete Natural Assets Inventory

This strategy addresses the top priority project identified in Saanich's natural assets AM roadmap, which is to develop a natural asset inventory, and will help Saanich prepare for any future requirements related to natural assets AM. For example, a recent report on barriers and opportunities for natural AM in BC recommended to the Province that local governments be required to develop a natural assets inventory by 2024 (MNAI, 2023).

Saanich successfully applied for and received grant funding for this project from the Canada Community-Building Fund 2022 Strategic Priorities Fund. The scope of the project includes compiling information about Saanich's natural assets, the services they provided, their condition, the risks they face, and a preliminary valuation, as well as collaboration with neighbouring municipalities and First Nations. The inventory will be informed by Saanich's Urban Forest Strategy, Biodiversity Conservation Strategy, and work underway to develop Integrated Stormwater Management Plans. The inventory will then be an input to the development of an AM Plan for Saanich's natural assets, which will include lifecycle management activities and costs.

5.2.7 Strategy 4: Complete First-Generation AM Plans

A key objective of this AM Strategy is to develop a full set of nine first-generation AM Plans based on existing asset data. If the Operational Units have existing capacity to gather new asset data as part of the development of their AM Plan, then this will form part of the plan, but otherwise the plans will be based on the asset inventory data compiled as part of the development of this AM Strategy. The resulting nine AM Plans will not all be at the same level of detail, but they will all follow the same template and will all include a plan for continuous improvement.



Given that the departments have varying resource availability, the AM Plans will be developed in a staggered manner, so that the areas that are completed first will serve as examples for the other areas, until there is a completed set of nine, first-generation AM Plans by the end of this cycle of AM strategic planning.

This first-generation of Saanich’s AM Plans will be an opportunity for training, learning and the development of internal AM competency.

AM Plans will tell the story of how the assets in each Asset Type are maintained over their useful life to deliver services at a defined level, and will answer the following key questions:

- What does Saanich own?
- How much is it worth?
- What service levels is it expected to provide?
- What condition is it in?
- What work does Saanich need to do over the lifecycle?
- How much will it cost?
- How can Saanich improve?

An AM Plan will be prepared for each of the nine Asset Types:



Drainage



Transportation



Facilities



Vehicles and Equipment



Information Technology



Wastewater (Collection)



Natural Assets



Water



Park and Trail Structures

The AM Plans will be living documents that will be updated by staff on an ongoing basis. Each plan will be broken down into sections for asset groups that have unique lifecycle management activities, and each AM Plan will be updated every 5 years. Operational Units may choose to develop a staggered, repeating cycle for updates of the various sections in order to balance the work of updating the AM Plans over time.

The AM Plans will be developed and owned by the Operational Units, with guidance and support provided by the AM Program Office. Table 11 shows the lead department(s) and integration with other Saanich documents.



Table 11: AM Plan Lead Department(s) and Linkages

AM Plan	Lead Department(s)	Integration with Other Saanich Documents
Drainage	Engineering	Biodiversity Conservation Strategy (under development); Climate Plan; Integrated Stormwater Management Plans (under development); Natural Assets AM Plan (to be developed)
Facilities	Engineering; and Parks, Recreation and Community Services	Climate Plan; Strategic Facilities Master Plan
Information Technology	Information Technology	Climate Plan
Natural Assets	Engineering; and Parks, Recreation and Community Services	Biodiversity Conservation Strategy (under development); Climate Plan; Drainage AM Plan (to be developed); Integrated Stormwater Management Plans (under development); Urban Forest Strategy; various individual park plans
Park & Trail Structures	Parks, Recreation and Community Services	Active Transportation Plan; Climate Plan Washroom Operations and Capital Plan; People, Pets and Parks Strategy (under development); PRCS Comprehensive Direction & Actions Plan (under development); various individual park plans
Transportation	Engineering; and Parks, Recreation and Community Services	Active Transportation Plan; Biodiversity Conservation Strategy (under development); Climate Plan; Urban Forest Strategy
Vehicles & Equipment	Engineering; Parks, Recreation and Community Services	Climate Plan; Fire Master Services Plan
Wastewater (Collection)	Engineering	Climate Plan; Sewer Master Plan
Water (Distribution)	Engineering	Climate Plan; Water Master Plan

The first-generation AM Plans will be developed based on existing information that has been compiled as part of the development of this AM Strategy. Gaps in asset information will be identified as part of the process of developing the AM Plans, and actions to fill these gaps will be included in the continuous improvement section of the plan.

Although staff will not need to spend time gathering new information, development of the first-generation AM plans will require an initial peak workload because staff will be using new business processes for the first time. Once the first-generation AM Plans are complete, it is expected that updating the AM Plans will become part of the regular business process for each Operational Unit.

5.2.8 Strategy 5: Update Infrastructure Replacement Funding Strategy

Now that the RV and AARF estimates have been updated, the IRFS requires updating with a new strategy for reaching the updated sustainable funding targets. Alternative strategies for



reaching the new targets will be developed and presented to Council for consideration by early 2024, so that Council direction may be incorporated into the 2024 Financial Plan.

A key message of the AM Strategy is that the estimated RV of the Saanich asset portfolio has increased significantly from the original estimate of \$2.1 billion (\$2007) to the current estimate of \$4.7 billion (\$2022), and therefore, that the target AARF has also increased significantly from \$41 million in 2007 to the current estimate of \$86 million (\$2022). These are order-of-magnitude estimates that are based on assumptions regarding unit costs and useful life, and the actual values will fall within a range and will change over time. Therefore, the updated IRFS will include a sensitivity analysis and describe alternative strategies for reaching the updated target for Council consideration.

The IRFS will be updated again upon completion of the AM Plans, and then on a regular frequency of approximately every five years.

5.2.9 Strategy 6: Develop Unit Cost Database

This strategy will develop a District-wide unit cost database for all asset groups that is accessible by all staff for use for a variety of cost estimating purposes. The database will be updated annually to account for the average of recent tenders and/or annual inflation. The database will provide consistency for cost estimating for various purposes, such as calculating RV, capital project cost estimates, and development cost estimates. This strategy will provide the basis for updating Saanich's RV estimate annually, and for beginning to benchmark unit costs and RV estimates against other comparable municipalities.

5.2.10 Strategy 7: Update Long Term Financial Plan

This strategy will integrate the updated IRFS and the lifecycle costs from the first-generation AM Plans into Saanich's LTFP.

Saanich will complete the following projects:

- Develop breakdown of the capital plan into replacement and upgrades/new in capital budget software.
- Develop a capital project prioritization framework in capital budget software.
- Update the capital plan based on first-generation AM Plans.
- Update the Long Term Financial Plan.
- Update TCA records to align with updated asset inventory data.

5.2.11 Strategy 8: Develop AM Practices Manual

This strategy will develop a District-wide manual documenting Saanich's AM Practices that will foster consistency in implementing the AM Program across the organization.

The first draft of the manual will be developed in consultation with the AMWG and will consist of series of guidance documents and templates. The manual will then be reviewed and refined during the development of the AM Plans. The final versions will then be compiled into a manual that will be posted and shared on Saanich's internal E-link internet site.



Industry best practices will be incorporated into the Saanich AM Program with consideration for the Saanich business context. In order to align with provincial and national AM reporting, Saanich's AM Practices Manual will focus on the following Canadian and international sources:

- Asset Management British Columbia (AMBC)
- Canadian Network of Asset Managers (CNAM)
- Canadian Standards Association (CSA)
- Engineers and Geoscientists BC (EGBC)
- Federation of Canadian Municipalities (FCM)
- International Infrastructure Management Manual (IIMM)
- Natural Assets Initiative (NAI)

Examples of the AM Practices to be developed include:

- Asset Management Plan
- Capital Project Prioritization
- Climate Change Integration
- Condition Assessment
- Data Management
- Land Use Planning Integration
- Levels of Service (AM Objectives)
- Replacement Value
- Risk Assessment
- Roles and Responsibilities
- Unit Costs
- Useful Life

5.2.12 Strategy 9: Develop AM Competency Management Program

The AM Policy sets out a clear vision for the AM Program to “Create a corporate environment where all employees take an integral part in overall management of Saanich assets by creating and sustaining AM awareness throughout the organization.” In other words – asset management is everyone’s job.

The purpose of the AM Competency Management Program will be to establish a clear path to achieve this vision and create sustainable change. The plan will be developed using the *Asset Management Competency Framework for Canadian Municipalities* (CNAM, 2018), and it will include:

- Clarify roles and responsibilities in the AM Program
- Assess current staff AM competency
- Refine AM Program staffing resource requirements
- Identify AM training requirements for Saanich staff
- Update job descriptions to align with AM requirements
- Create staff knowledge transfer and succession plans



The AM Competency Management Program will identify staff training needs according to the position roles & responsibilities for AM. Appropriate training courses will be identified that align with Saanich's AM Program.

Saanich will complete the following projects:

- Develop an AM Competency Management Program (AMCMP) based on the CNAM Framework.
- Update job descriptions based on the AMCMP.
- Implement staff training based on the AMCMP.
- Develop a staffing plan based on the AMCMP and AM Plans.
- Establish a Saanich AM Community of Practice.

5.2.13 Strategy 10: Monitor and Report Progress

This strategy will assess Saanich's progress in continuous improvement of its AM maturity and provide regular reports to Council on progress of the AM Program.

Saanich will complete the following projects:

- Meet regularly with AMSC and AMWG.
- Develop template for State of Assets Report.
- Provide Council with an annual update on the AM Program.
- Prepare a District-wide Levels of Service summary.

5.3 Asset Management Plan Guidance

A draft guidance document for developing the first-generation AM Plans is provided in Appendix K. This document will be reviewed and refined with input from the Operational Units during the development of the AM Plans, and a revised version of the guidance document will be included in the AM Practices Manual.

The following sections provide an outline of the following key steps in developing the AM Plans:

- Roles and Responsibilities
- Levels of Service
- Condition Assessment
- Risk Assessment
- Lifecycle Management Activities
- Lifecycle Costs and Financing
- Operational Plan

“Sustainable service delivery ensures that current community services are delivered in a social, economic and environmentally responsible manner that does not compromise the ability of future generations to meet their own needs.” (AMBC website)



5.3.1 Roles and Responsibilities

This section of the first-generation AM Plans will clarify the roles and responsibilities for management of Saanich's assets over the asset lifecycle. Once roles and responsibilities are clarified, operational budgets will be reviewed to ensure that the group responsible has the appropriate funding, and any necessary changes will be made through the annual budget process.

5.3.2 Levels of Service

This section of the first-generation AM Plans will describe the following LoS (AM Objectives) for each service area:

- **Community LoS:** Define the level at which the customer receives the service, from an experiential perspective.
- **Technical LoS:** Define specific and quantifiable measures for service targets that are used by staff to meet legal requirements and achieve the Community LoS.

Using AMBC's LoS Tool as a guide, Saanich will develop SMART (Specific, Measurable, Achievable, Relevant, Timebound) objectives around one or more of the following characteristics:

- Capacity/Availability
- Quality
- Reliability
- Safety
- Sustainability (environmental, climate mitigation, and climate adaptation)

5.3.3 Condition Assessment

This section of the first-generation AM Plans will describe how the condition of the assets was assessed, including:

- **Physical Condition** will be assessed using completed condition assessment studies or estimated based on proxy data such as age. In order to allow comparison of physical condition across all asset types, all assets will be assessed using the Canadian Infrastructure Report Card (CIRC) scale: Very Good, Good, Fair, Poor, and Very Poor (FCM, 2019). Where there are asset-specific grading scales (e.g., Facility Condition Index, Pavement Condition Index, etc.), these scales will be mapped to the CIRC scale.
- **Capacity Condition** will be assessed using available information, such as modeling software and capacity studies.
- **Functionality Condition** will be assessed in a workshop format with the project team.



5.3.4 Risk Assessment

The risk assessment component of the first-generation AM Plans will include the following two approaches:

- **Service Level Risk Assessment** – The risks to service delivery will be assessed for each service supported by the asset type and documented in a risk register. The register will identify mitigation measures for reducing risk, for consideration in the financial plan.
- **Asset Level Risk Assessment** – The risk of failure of each asset will be assessed using a common scale to allow District-wide comparison, where risk is a product of the likelihood (condition) times the impact (criticality). The resulting risk scores will be used as input to prioritization of the capital budget.

5.3.5 Lifecycle Management Activities

This section of the first-generation AM Plans will document the planned activities for maintaining the asset over its useful life to meet agreed service levels including operations, maintenance and renewal/replacement activities.

5.3.6 Lifecycle Costs and Financing

This section of the first-generation AM Plans will identify the costs of the lifecycle management activities, and the plan for financing the costs so that there is sustainable funding of the capital plan and the O&M budgets. This will also include a review of staffing levels to ensure they are adequate to support the lifecycle activities and deliver the agreed LoS to the community.

5.3.7 Operational Plan

A first-generation operational plan will be developed and included as an Appendix to each AM Plan. This will allow us to capture organizational knowledge before upcoming retirements and create a starting point for more detailed operational plans in the future.

5.4 Resource Requirements

Although AM is not new to Saanich, formalization of its AM practices to reduce organizational risk will require a significant amount of time and organizational effort as well as additional staffing and funding resources. A preliminary assessment of resource requirements was completed as part of the development of the AM Strategy, and details are provided in Appendix L.

“Asset management helps local government to make cost-effective and efficient decisions proactively instead of waiting until something breaks down and frantically finding a costly fix.” (AMBC website)

While the AM Program is a strategic priority for Council, Saanich has many other strategic priorities with resource needs that require prioritization across the organization. Therefore, while Saanich will continue to improve its AM maturity over time, the actual pace of progress will be dependent on the timing of approval of resource requirements.



Requests for additional resources will be refined, prioritized and submitted to Council for consideration through the annual Financial Plan process, with consideration for space allocation and impacts on support departments.

Resource requirements will be reviewed and refined through implementation of several of the strategies in the 2023-2027 Implementation Plan, such as:

- **Strategy 2: Develop AM Software Solution** – There may be requirements for additional resources, depending on the approved business case.
- **Strategy 4: Complete First-Generation AM Plans** – There may be requirements for additional resources based on the development of LoS, lifecycle activities and costs.
- **Strategy 5: Update Infrastructure Replacement Funding Strategy** - Additional staff resources will be required to support increases to the annual capital program.
- **Strategy 9: Develop AM Competency Management Program** – A detailed review of staffing resource requirements to support the AM Program will be completed using the *Asset Management Competency Framework for Canadian Communities (CNAM, 2021)*.

5.4.1 Staffing Resources

Existing staffing resources to support the AM Program include the following:

- **General AM Functions** – Currently, there is one position dedicated to District-wide general AM functions, the AMPM.
- **Service Delivery Functions** – Although staffing levels vary between departments, there are currently staff performing various service delivery functions, including:
 - Planning and Analysis (P&A)
 - Design and Construction (D&C)
 - Operations and Maintenance (O&M)
- **Support Functions** - District-wide support is provided by existing staff in Finance, Human Resources, Information Technology, Planning, Risk Management and Sustainability.

A preliminary assessment was completed to identify additional staff resources required to implement the AM Strategy and support the AM Program, based on best professional judgement with information available at this time.

A core need for the future success of the AM Program is additional District-wide AM expertise to provide support and guidance to the Operational Units and to complete general AM functions. As shown in Table 12, the preliminary assessment identified a requirement for three additional full-time equivalent (FTE) staff to support general AM functions.

Table 12: Staff Resource Requirements for General AM Functions

Department/Area	Position	2024-2025
Engineering/AM Program Office	Asset Management Advisor	2 FTE
Finance	Finance Asset Management Coordinator	1 FTE
Total		3 FTE



In the service delivery areas, the preliminary analysis determined that existing staff are already stretched with no available capacity to support additional workload, and that additional staffing resources will be required to support the AM Program.

In particular, staffing resources to carry out asset P&A functions are currently deficient, as these areas have not been adequately staffed in the past to correspond with population growth and increases in Saanich's portfolio of assets. Currently, the staff who would normally carry out asset P&A functions have been focused on a number of new strategic priorities and initiatives that require infrastructure analysis, such as planning for growth, housing, BC Transit planning, Climate Plan and Active Transportation Plan implementation. Additional staffing resources will also be required to support D&C and O&M functions.

Requests for additional staffing resources required by the Operational Units to support the AM Program will be refined and identified in the coming years. It is important to note that many of these new positions will be funded through the capital program and will not impact taxation rates. New positions that will impact taxation rates will be prioritized and brought forward for consideration by Council through the annual Financial Plan process.

Given the current deficiency in Saanich's staffing resources, many of the functions for managing our assets are carried out by consultants, which is a more expensive funding model and does not support building of internal AM competency. Bringing these functions in-house and building Saanich's internal capacity will support achievement of the key principles of the AM Policy and move Saanich towards the goal of sustainable service delivery.

5.4.2 Funding Resources

As part of the development of the AM Strategy, a preliminary assessment was completed to identify additional funding required to implement the AM Strategy over the next five years, based on professional judgement using information available at this time. Requests for additional funding will be prioritized and submitted to Council for consideration through the annual Financial Plan process. A portion of these funding requests may be funded directly from the Water and Sewer Utility surplus.

Estimated one-time funding requirements are shown in Table 13, with a total estimate of approximately \$2 to \$4 million depending on the approved business case for development of an AM software solution. In addition, depending on the approved business case for development of an AM software solution, there may be ongoing costs for new software licensing starting in 2027, with a preliminary estimated cost of up to approximately \$0.5 million per year.



Table 13: Estimated One-Time Funding Requirements

Strategy (Project Number)	Description	2024	2025	2026	2027	Total 2024-2027
Strategy 1 (Project 1.4)	Purchase new mobile devices for asset data collection.	\$0.7M				\$0.7M
Strategy 2 (Projects 2.3 to 2.9)	Specialized consulting services for software pilot projects.	\$0.2M	\$0.2M			\$0.4M
Strategy 2 (Project 2.11)	Provide AM software capacity in accordance with approved Business Case.			\$0-2 M		\$0-2 M
Strategy 4 (Projects 4.1 to 4.9)	Specialized consulting services for AM Plans.	\$0.1M	\$0.1M	\$0.1M	\$0.1M	\$0.4M
Strategy 9 (Projects 9.1 to 9.2)	Specialized consulting services for AM Competency Management Program.		\$0.1M	\$0.1M		\$0.2M
Strategy 9 (Project 9.3)	Provide staff with AM Program training.				\$0.2M	\$0.2M
Total	Total	\$1.0M	\$0.4M	\$0.2-2.2M	\$0.3M	\$1.9-\$3.9M

5.5 Longer Term Improvements

During the development of this version of the AM Strategy, the following actions were identified for consideration in the longer term (greater than five years):



Assets

- Complete the process of implementing AM software.
- Develop a spare parts inventory for each operational area.
- Place barcodes on assets in the field, where appropriate, for tracking and maintenance purposes (once an AM software solution is in place and as resources allow).
- Develop an automatic process for uploading as-built drawing data to GIS for new assets.
- Consider use of GIS functionality to spatially map the linear components of Facilities assets (e.g., plumbing, ductwork).



Information

- Benchmark asset condition against comparator municipalities.
- Consider transitioning the AM Plans from an asset focus to a service area focus.
- Consider use of AMBC's Sustainable Service Assessment Tool.



Finances

- Upon completion of the first-generation AM Plans, review operations and maintenance resourcing and budgets to ensure there is sustainable funding in place to meet the LoS (AM Objectives).
- Consider extending the forecasts in the Financial Plan from 5 years to 10 years.
- Develop a funding strategy for the cost of incorporating climate change mitigation and adaptation features into project budgets.
- Align with future PSAB accounting requirements for natural assets.
- Explore opportunities to assess the return on investment of the AM Program using information from other jurisdictions.



People

- Engage the community in a conversation regarding balancing LoS (AM Objectives) with risk and cost.
- Compare Saanich's overall staffing resources to other local governments for comparable service delivery.
- Strengthen relationships with First Nations as part of the AM Program (Indigenous Relations, Saanich).
- Develop an approach for integrating diversity, equity, and inclusion (DEI) considerations in the AM Program, in accordance with Saanich's Diversity, Equity, and Inclusion Strategic Report and Action Framework (Saanich, 2023).

5.6 AM Program Risk Management

A preliminary assessment of the risks to the successful implementation of the AM Program is found in Table 14. This risk register will be reviewed and updated in future revisions of the AM Strategy.





Table 14: AM Program Risk Management

Risk Description	Likelihood	Impact	Risk Rating	Mitigation
Assets				
Assets at high risk of failure are not prioritized	Medium: Risk assessment is not complete	High: Asset failure can have social, environmental and financial impacts	High	Complete risk assessment for all asset types and consider risk scores when prioritizing the capital budget
AM Software solution is not properly planned and implemented	Low: The AM Strategy provides a workplan for this project	High: Implementation of new software can be expensive and require organizational effort to integrate into regular business practices	Medium	Assess needs, develop a business case, and ensure buy-in from all stakeholders before proceeding
Information				
Progress on improvement of AM practices is too slow	Medium: The AM Strategy provides a formalized approach, but the speed of progress will depend on resources	High: Funding programs and agreements are tied to AM progress	High	Continue to improve practices and identify resource needs
Finances				
Resources and funding requests are not approved	Medium: AM is only one of many strategic priorities that require resources	High: Without funding, it will be challenging to move the program forward	Medium	Clearly identify the needs and benefits of resource requests
Asset replacement funding is not sustainable	High: The updated annual funding target is more than double the current level	High: Increased risk of asset failure and/or deferring costs to future generations	High	Update the IRFS with options for reaching the new target
People				
Lack of Council and community support	Low: AM is a strategic priority	High: Impacts to service levels and deferral of costs to future generations	Medium	Implement the AM Program Communications Plan
Lack of staff buy-in	Low: Saanich leadership is strongly supportive of the AM Program	High: Without buy-in from staff, program implementation will be challenging	Medium	Take an inclusive and collaborative approach with staff
Roles and responsibilities are not clear	Low: The governance structure is clear, and AM Plans will document roles and responsibilities	Medium: Lack of coordination between programs and silos between departments results in inefficiencies	Medium	Clearly define roles and responsibilities in the AM Strategy and AM Plans
Staff do not have needed capacity and/or capability	High: Staff are already at full capacity on existing priorities	High: The Operational Units own the AM Plans and deliver services to the community	High	Develop and implement an AM Competency Management Program



5.7 AM Program Performance Measures

The progress of Saanich's AM Program towards achieving the AM key principles will be measured and reported annually using the following performance measures:

- Asset Management Readiness Scale
- Average Physical Condition
- Financial Sustainability Indicators
 - Operating Surplus Ratio
 - Asset Sustainability Ratio
- Saanich Financial Principles
 - #16: Life-Cycle Asset Management
 - #17: Asset Management Progress

5.7.1 Asset Management Readiness Scale

This performance measure will assess the overall maturity of Saanich's AM practices using FCM's AMRS (FCM, 2018). This scale is a requirement of federal grant programs and is often a requirement for participation in national AM collaboration programs.

5.7.2 Average Physical Condition

The average physical condition of Saanich's assets will be reported in an annual State of Assets Report, and tracked over time to assess progress in improving the overall physical condition of Saanich's assets.

5.7.3 Financial Sustainability Indicators

The Province of BC has identified the following two sustainability indicators as being the most important measures of local financial sustainability to sustain services and infrastructure, and has indicated that these will be a requirement of future LDGE reporting (Province of BC, 2022):

- **Operating Surplus Ratio** – This is a measure of the amount of money spent operating and maintaining infrastructure each year as a function of the amount of annual revenues. The goal is to bring in between 0% and 15% more in revenues each year than are spent on operating costs, because this indicates that there is flexibility in the annual operating budget to fund the renewal of aging infrastructure.
- **Asset Sustainability Ratio** – This is a measure of the progress being made on renewal of existing assets. It is the ratio of annual actual capital expenditures on renewal of assets as compared to the AM Plan requirement for annual capital renewal, with a goal to be spending between 90% to 110% of all AM Plans, reported on a 5-year moving average.

5.7.4 Long Term Financial Plan Indicators

The Saanich Long Term Financial Plan (KPMG, 2022) includes the following financial indicators directly related to the AM Program:



- **Financial Principle #16: Life-Cycle Asset Management – Indicator:** “Completed asset management plan using life-cycle costing tied to the long term financial plan.”
- **Financial Principle #17: Asset Management Progress – Indicator:** “Total asset classes for which an Asset Management Plan exists divided by the total number of asset classes – provides an indication of the District’s ability to manage its infrastructure gap in the near future.”

5.8 Monitoring and Reporting Progress

5.8.1 AM Strategy Updates

The AM Strategy is a living document that will be formally reviewed and updated approximately every five years, or once the priority strategies and projects identified in the strategy are completed. As part of each strategy update, a formal review of the AM Policy will be undertaken, and it will be updated as needed.

5.8.2 Annual Progress Reports

Progress of the AM Program will be summarized in an annual report to Council, which will include:

- State of Assets Report
- Status of the implementation plan strategies and projects
- Status of the AM Program performance measures

5.8.3 External Reporting

Saanich provides asset data and information to several provincial and federal reporting programs as described below. In future, the data from these programs may be used to help assess Saanich’s AM performance in comparison to provincial and national averages, and comparator municipalities.

5.8.3.1 BC Local Government Data Entry

Each year, local governments in BC are required to submit annual financial reporting, and the data is reviewed, compiled and made available to the public. In addition to TCA reporting, municipalities are asked to report on asset data, such as:

- Physical condition
- Capacity condition
- Functionality condition
- Useful life
- Average age
- Current replacement value

“In BC, improving asset management practices is a requirement in order to receive Gas Tax funding and improves access to other federal/provincial capital infrastructure grants.” (AMBC website)



5.8.3.2 Canadian Infrastructure Report Card

Every two years starting in 2016, Saanich has participated in Canada's Core Public Infrastructure Survey undertaken by Statistics Canada. This survey collects information on the assets, condition, performance and AM strategies of various levels of government and Indigenous entities. The survey results are summarized in the CIRC (FCM, 2019).

5.8.3.3 Community Building Fund Agreement

The Union of British Columbia Municipalities (UBCM) provides reporting on the status of AM practice in BC, which is a requirement under the Canada Community Building Fund (CCBF) Agreement. Local governments, including Saanich, are required to implement and improve AM practices in order to receive funding under this agreement. Saanich provided responses to a baseline survey in 2016 and an update to the survey in 2022.

The 2022 State of Asset Management in BC report is expected to be issued in the near future, and will allow Saanich to compare its responses to those of its peers. Preliminary results presented by UBCM in the fall of 2022 indicate that most BC local governments are active and showing improvements in developing and implementing AM (UBCM, 2022). The preliminary results also indicate that Saanich is more advanced than many of its peers in having estimated RV and sustainable annual funding targets for its built assets, and similar to many of its peers in being at the preliminary stages of natural asset management.



6.

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