Report

MUNICIPALITY OF NORTH Cowichan

Date	November 28, 2023	File:
Subject	Asset Management Strategy and Update	

PURPOSE

To introduce an Asset Management Strategy and provide an update to Council on the state of Asset Management.

BACKGROUND

Asset Management (AM) is an integrated business approach involving all departments to effectively manage existing and new infrastructure to maximize benefits, reduce risk and provide satisfactory levels of service to community users in a socially, environmentally, and economically sustainable manner. It is a continuous process used in decision-making that helps us care for the infrastructure that delivers valuable services to the community in a way that considers the service needs, manages risks and opportunities, and uses resources wisely.

Asset Management BC developed the graphic depiction below. It recognizes there are many components in the asset management process and provides a circular, continuous pathway to link all components of the process together.

In 2016, the Municipality embarked on its formal journey towards AM by engaging a consultant to complete several foundational initiatives supporting improved asset management. This project benchmarked the state of AM practice then and provided suggestions for an AM improvement program.

Following up on the suggested improvement program, in 2018 a project was initiated to improve AM planning for the linear water, sewer, storm and road infrastructure. The summary of findings and recommendations was presented to Council early in 2020.

Informally, the Municipality has always been actively engaged in AM. The consultant reviews indicate that much of the supporting information exists for each asset class (cost, installation date, replacement value, etc.). The suggested improvements focus primarily on establishing defined and documented practices and processes to help ensure consistency across the Municipality.

In 2021, Council approved the first Asset Management Policy (Attachment 1), which outlines the fundamental asset management principals to be implemented across the Municipality. This Asset Management Strategy is the next foundational document, describing how the policy will be implemented across the organization.

DISCUSSION

The AM Strategy is a key component of the Municipality's AM system. It goes hand in hand with the AM Policy, describing how this policy will be implemented throughout the organization. It links infrastructure decisions to achieving vision, mission, goals, and objectives.

The purpose of the AM Strategy is to:

- Describe the role of AM in achieving essential service provision goals
- Document the decision-making approach that will be taken
- Set objectives and performance targets for AM
- Detail roles and responsibilities
- Describe key improvement initiatives

Council is committed to reviewing service levels to ensure they meet public expectations in each of the following core service areas:

- Protective services, including fire, police, and bylaw
- Land use and community planning
- Building inspections and permits
- Public works and engineering
- Parks, trails, and preservation of green space
- Recreation services and facilities
- Accountable general administration and effective customer service

Assets which support these services and are in scope for this strategy include:

Strategic Alignment

Council's Strategic Plan sets the vision: "Council will act to maintain and strengthen North Cowichan as an economically thriving and sustainable community of unique inclusive towns and neighbourhoods, preserving our agricultural, rural countryside, and stewarding healthy forests, rivers and lakes."

The AM Policy and the AM Strategy are interrelated documents. The AM Policy outlines principles and requirements for the AM system, and the AM Strategy provides details on how the requirements will be implemented and achieved.

The AM objectives are aligned with and support the achievement of organizational goals found throughout various corporate documents, including:

- Council Strategic Plan
- Official Community Plan
- Master Transportation Plan
- Water System Master Plans
- Sanitary Sewer System Master Plans
- Master Drainage Plan
- Climate Action and Energy Plan
- Subdivision Bylaw
- Parks and Trails Master Plan

- Forestry Management Plan
- Local Area/Revitalization Plans
- Operational Plans and Budgets

Over time, as these plans are updated, linkages will be further strengthened, and common terminology will be used.

Objectives

Through the development and implementation of its AM program, the Municipality of North Cowichan seeks to achieve the following objectives:

1. Find a sustainable balance between what level of service will be provided and what level of service is affordable.
2. Integrate AM into all departments, policies, strategies, plans and processes.
3. Take a life cycle approach to developing cost-effective management and replacement strategies for the long term that meet defined levels of service.
4. Plan for and provide stable long-term funding for renewing, replacing, upgrading and/or decommissioning assets.

These objectives will be achieved through:

1. Establishment of Levels of Service
   - Developing methodologies to define service levels for each major asset class using standard practice measures and compliance benchmarks.
   - Preparing project analysis methodologies to assist in ranking project priorities within and across services.

2. Integration
   - Developing communication strategies and plans for communicating AM outcomes and issues to relevant staff.
   - Establishing an AM education and training program to support staff in learning key AM principles and apply them to their everyday work.
   - Referencing the AM Policy and Strategy when developing/updating corporate and asset-related strategies, policies, and plans.

3. Systems/Risk/Life Cycle Based Decision Making Framework
   - Developing a risk-based decision-making framework for each major asset class that considers the potential impact of asset failure and implications.
   - Identifying and listing performance measures used in key decision processes.
   - Designing, documenting, and implementing business processes for updating attribute information on new and existing assets.
   - Developing a consistent approach to asset data capture across the organization with robust links between asset management and financial data sets.
   - Developing and implementing a condition assessment and rating frameworks for all major asset classes.

4. Long Term Funding
    - Planning for and providing stable long-term funding for renewing, replacing, upgrading and/or decommissioning assets.
    - Maintaining stable and predictable tax levies by determining appropriate and sufficient reserves to buffer the impact of asset management costs over multiple budget cycles.

A detailed work plan has been developed to achieve these objectives over the next three years.

Where we are at:
The Municipality has good information on what assets are owned, what was paid for them, how long they should last and reasonably good information on the condition of most of the assets.

Staff are currently working on the following:

- integrating natural assets into the asset management system
- obtaining detailed information in an AM plan for buildings
- testing software systems to allow for a standardized approach for Parks infrastructure.

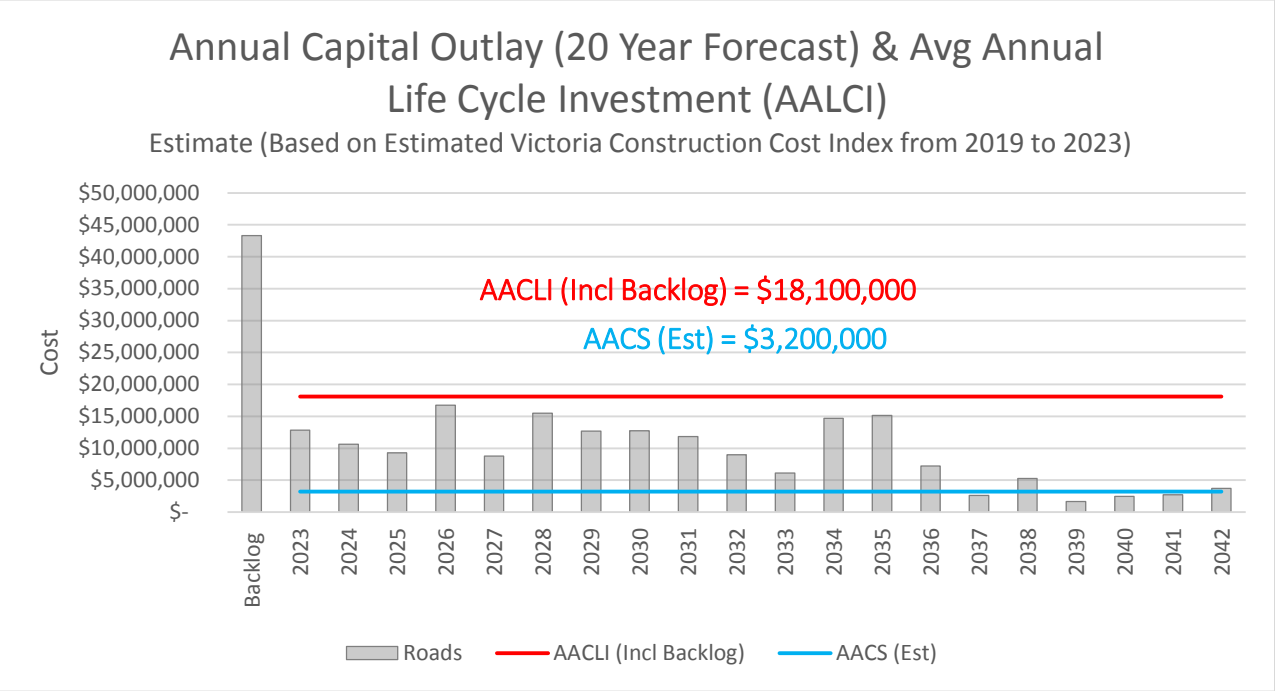
The Municipality lacks a standardized approach to risk and condition assessment and a standardized process for adjusting asset useful life based on this information.

In 2019, the Municipality contracted with Urban Systems to prepare information on the linear assets, their value, replacement cost and average annual required spending. This information has been updated to reflect changes in construction costs. The data presented below for linear assets (roads, sewer mains, water mains, storm drains) is based on a Victoria Construction Cost Index estimated based on the Vancouver Construction Cost adjusted for recent construction bids on southern Vancouver Island.

Roads
North Cowichan has over 300 km of roads with a replacement cost of $405 million. Based on the estimated useful life of those roads (not complete condition assessments) there is a backlog of approximately $43.3 million. Clearing this backlog over ten years while keeping up with required replacements results in an Average Annual Lifecycle Cost (AALCI) of $18.1 million per year.

When COVID began, Council reduced the amount of property taxes allocated to capital projects to keep the tax increase as low as possible. This resulted in less funds being allocated to the roads program each year. Council has committed to increasing the tax contribution to capital up to a minimum of 15% over the next four years, resulting in additional road funding. The roads program has also benefitted from almost all the annual gas tax received yearly. Despite these measures, the average annual capital spending (AACS) for roads is only approximately $3.2 million.

Should the roads program be fully funded, an additional $14.9 million per year would be required.



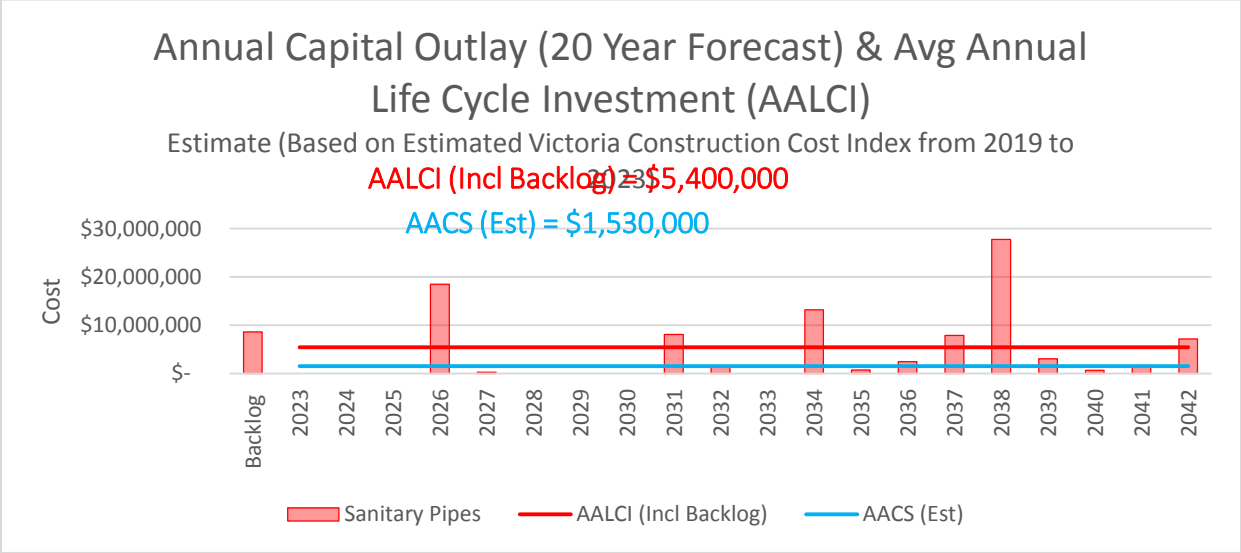
Sidewalk Curb and Gutter

There are approximately $14.6 million of sidewalks, curbs and gutters. Generally, sidewalks, curbs and gutters are replaced only when major road works require moving the sidewalk. Sidewalks are repaired when specific issues are reported. These repairs are financed through the annual maintenance budget. There is no specific reserve for sidewalk curb and gutter replacement. Instead, it is funded through the same budget as roads. The data in the chart above does not include the cost of sidewalk replacements.

Sanitary

The Municipality maintains four sanitary systems with 150 km of sanitary mains. The cost to replace just the linear assets (pipes) is estimated at $354 million. Based strictly on the useful life of the assets, there is a backlog of $8.6 million. Clearing the backlog while keeping current with asset replacement results in an AALCI of $5.4 million annually.

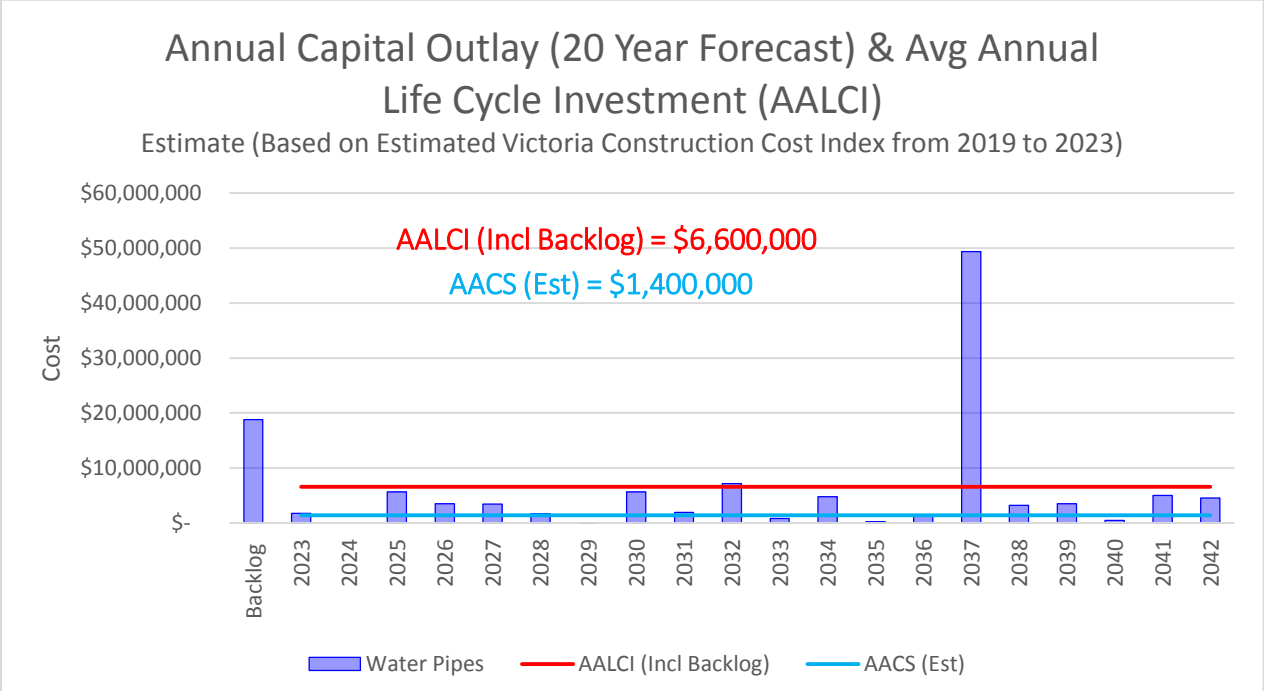
Each sanitary system is funded solely by the users of that system through parcel taxes and user fees. The average annual capital spending on linear assets of the four sewer utilities is $1.5 million. Should the replacement of sewer linear assets be fully funded, an additional $3.9 million per year would be required.



Water

The Municipality maintains three water systems with 240km of water mains. The cost to replace just the linear assets (pipes) is estimated at $390 million. Based strictly on the useful life of the assets, there is a backlog of $18.8 million. Clearing the backlog while keeping current with asset replacement results in an AALCI of $6.6 million annually.

Each water system is funded solely by the users of that system through parcel taxes and user fees. The average annual capital spending on linear assets of the three water utilities is $1.4 million. Should the replacement of water linear assets be fully funded, an additional $5.2 million per year would be required.



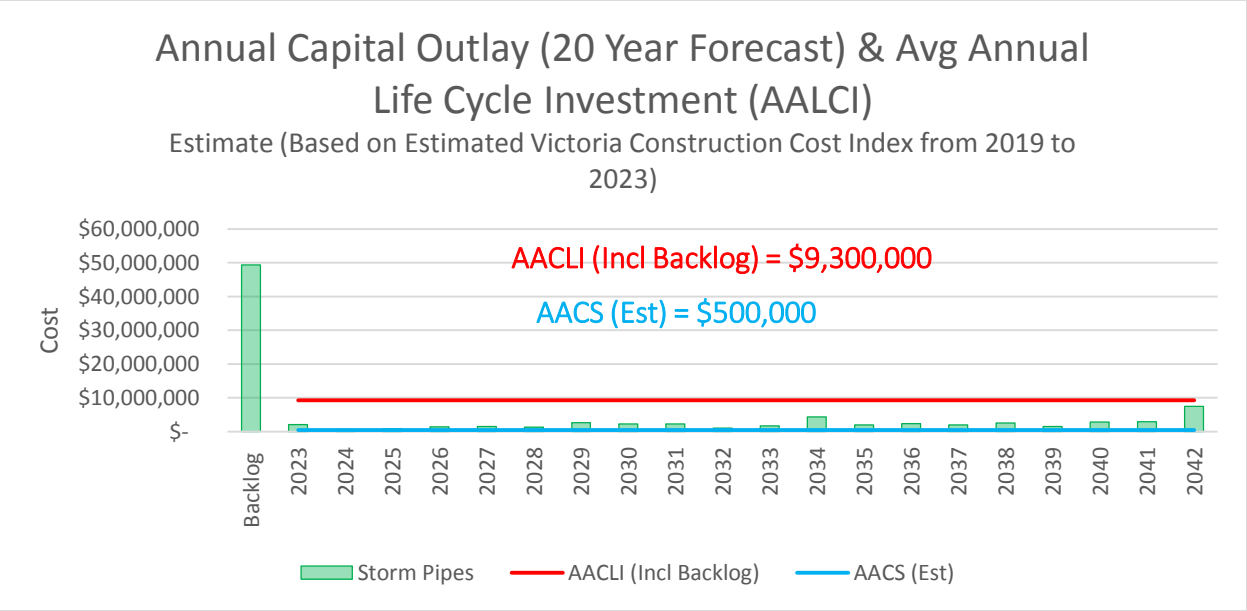
Storm

North Cowichan benefits from several natural creeks and streams that help address stormwater concerns. Approximately $157k is spent annually maintaining ditches, detention ponds and bioswales. These natural assets require regular maintenance but save the municipality money in the long run as they do not require large capital expenditures. Further benefits of creeks and other natural assets are being monetized as part of the current Natural Asset project and are expected to be presented to Council in 2024.

In addition to natural assets, the municipality has about 160 km of storm mains. More than 10% of these are beyond their expected useful life. Staff continue to perform video inspections to determine the condition of the assets, allowing for prioritization of replacement.

The estimated replacement cost of all the storm mains is $401 million, with a backlog of work totalling $49.4 million. Clearing the backlog while keeping current with asset replacement results in an AALCI of $9.3 million per year. Storm infrastructure replacement generally takes a back seat to other infrastructure, such as sewer and water. Thus, the average annual spending on the storm is only $500,000.

Should the replacement of storm assets with other constructed assets be fully funded, an additional $8.8 million per year would be required.



Bridges

A detailed assessment of ten road and pedestrian bridges, five precast concrete culverts and three large steel multi-plate structures was conducted in 2022. The assessment included assigning risk factors to the recommended repairs to develop a detailed listing of requirements in the short term (within five years) and a longer-term capital budget. The replacement cost of these assets totals $21.4 million. Over the next 20 years, almost $15 million will be required to replace and maintain these assets. This is equal to $750,000 per year. There is no reserve specific to these assets, and repair and replacement are generally included as part of the roads budget.

Street Lighting and Traffic Lights

The Municipality owns $6.3 million of street and traffic lights, not including the streetlights rented from BC Hydro. Reasonably good data on streetlights exist, such as their locations, installation dates and required maintenance. With proper maintenance and updates (such as switching to LED lightbulbs), these rarely need to be replaced. The annual maintenance budget of approximately $76,000 annually is sufficient to maintain these assets. Replacement will occur as required through yearly budget allocations.

Buildings

A grant was received to create a formal AM plan for buildings. This will be presented to Council shortly.

Fleet

The Municipality owns 156 fleet vehicles and equipment, with capital replacements provided through the Office Vehicle and the Machinery and Equipment Reserve Funds. Equipment Reserves currently total approximately $1.7 million. An annual contribution to the reserves of $623,000 helps ensure funds are available for required asset replacements. This contribution is derived from a charge to the various projects that use the capital assets so that the project's total cost is represented in the financial statements. North Cowichan's annual capital expenditures for the entire fleet are $600,000-$1 million per year, depending on vehicle needs.

In 2023. Council received a report on electrification of the light duty municipal fleet and committed funds from the Climate Action and Energy Reserve to assist with the additional up-front costs. Further analysis of the life span and replacement cost for the other vehicles and equipment is needed to ensure sufficient funds are available to replace these assets when necessary.

Fire Vehicles and Equipment

The Fire Underwriters Association generally sets out fire vehicle and equipment replacement timelines. While not prohibited, the use of older vehicles results in a lower rating and higher insurance premiums for residents. Council previously approved a $25,000 increase per year in the contribution to the fire vehicle and equipment replacement. Based on current analysis, this plan will provide sufficient funding in the near term (next five years); however, more detailed analysis is required to ensure a longer-term plan is attainable.

Wharves and Docks

The Municipality owns wharves and boat launches with a historical cost of $1.5 million. However, the estimated cost to replace the Maple Bay Wharf on its own is approximately the same amount. During 2024, staff have proposed a review of the Chemainus Wharf that will determine what infrastructure needs to be replaced, when, and how much it will cost. A more fulsome review of the asset management requirements for wharves and docks will be undertaken soon, factoring in the information from the Chemainus Wharf review and revenue received through moorage fees.

Dams and Reservoirs

Routine annual inspections are conducted; however, more work is needed to assess and value these assets in order to plan for their future replacement.

Dikes

Municipal dikes are valued at $8.9 million based on historical cost. These are all quite new and last a very long time, especially with proper maintenance. The annual maintenance budget of approximately $36,000 is currently sufficient for the maintenance of the dikes.

Technology/IT Resources

A detailed replacement plan for IT assets over the next ten years has been compiled. The IT resources are appropriately funded based on current budgeted expenditures and reserve contributions, totalling approximately $500,000 per year.

Parks and Recreation

Initial contributions to capital reserves for the Cowichan Aquatic Centre and Fuller Lake Arena were included in the budgets presented to Council in September.

In 2024, the Parks Department will use asset management software to track capital improvements and maintenance of assets. The software also utilizes risk ratings to help prioritize activities. Having one source for all asset data in a standardized format allows for better planning and provides the information necessary to support future budget requests. Lessons learned through the software pilot will inform a path forward for other asset categories.

Cemetery

The Cemetery service includes capital assets such as irrigation systems, fencing, trails, roads, and a building for storage. The annual maintenance budget supports current service levels, and capital improvements are generally included in the parks budget. In accordance with the *Cemetery and Funeral Services Act* in B.C., the Municipality also maintains a perpetual care fund. Interment and burial fees contain a contribution to the perpetual care fund established for the care and maintenance of the cemetery after the cemetery has reached capacity and revenues are no longer available. Staff will bring forward a review of the cemetery service in 2024 that will consider levels of service and evaluate the adequacy of the perpetual care fund.

IMPLICATIONS

AM is an ongoing process, and staff are continuing to make progress on better understanding municipal assets to develop cost-effective management and replacement strategies for the long term that meet defined levels of service.

The known asset information demonstrates a gap between the AALCIAC and the AACS. As additional information is known about asset conditions, assumptions used in these calculations may be revised. For instance, Council's Capital Asset Policy assumes that building structures last 40 years, but with proper maintenance, a building can last substantially longer than that. Increasing the useful life of an asset extends the amount of time until it needs to be replaced, lowering the AACS.

When creating long-term financial plans, it is important to remember that asset management includes maintenance costs (operating) and capital replacement costs. It is also important to note that there are several funding mechanisms available for capital costs, including property tax, parcel tax, user fees, borrowing and grant funding. Consideration must also be given to intergenerational equity, considering who should pay for the infrastructure, the people who are using it today or the people who will benefit in the future.

Staff will continue to update and refine processes and provide updates to Council regarding specific asset classes and updates on the AM program as a whole.

RECOMMENDATION

This report is for Council's information only.

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Approved to be forwarded to Council:

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Attachments:
(1) Asset Management Policy
(2) Asset Management Strategy and Update