City of Warman

Strategic Asset Management Plan

December 2018

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1. EXECUTIVE SUMMARY

Context

The City of Warman is responsible for the acquisition, operation, maintenance, renewal and disposal of an extensive range of physical assets with a replacement value of approximately $284,563,000.

These assets include buildings, land improvements, parks, roads, stormwater drainage systems, sanitary sewer, water, and associated operating assets and provide service essential to our community's quality of life.

This Strategic Asset Management Plan (SAMP) takes the organizational objectives in our Strategic Plan and Official Community Plan, develops the asset management objectives, principles, framework and strategies required to achieve our organizational objectives. This plan summarizes activities and expenditure projections from individual Asset Management Plans (AM Plans) to achieve the asset management objectives.

The planning period in this document is 10 years. However, several projections are made out to 20 years. The projections in years 10-20 have high uncertainty but are included to serve as a first approximation to be updated in the future.

This document and all related AM Plans are first drafts and are subject to regular review and revision to increase our confidence in the information and to improve the alignment with Council's long-term vision.

Current situation

Our aim is to achieve a 'core' maturity for asset management activities in 2021 and continue maturity improvement where the benefits exceed the costs. Improvement tasks have been identified and documented in Table 7.2.

What does it Cost?

Operating Outlays (excluding depreciation)

The projected operating outlays necessary to provide the services covered by this SAMP includes operations and maintenance of existing assets over the 10-year planning period is $12,480,000 on average per year.

Capital Outlays

The projected required capital outlays including renewal/replacement and upgrade of existing assets and acquisition of new assets over the 10-year planning period is $9,724,000 on average per year.

We have balanced the projected expenditures in the SAMP with financial outlays in the Long-Term Financial Plan (LTFP) involving:

- Estimates of desirable and affordable levels of service for the community
- balancing service performance, risk and cost in a trade-off of projects and initiatives
- considering the impact of trade-offs and accepting the service and risk consequences
- borrowings of approximately 22.7M to finance high priority capital renewal and upgrade/new projects in in the 5 years.

Note that at the time of writing we do not have a formal LTFP document developed. All references to the LTFP throughout this document are currently referring to our unofficial financial plan made up of various documents and capital plans.

What we will do

Our aim is to provide the services needed by the community in a financial sustainable manner. Achieving financial sustainability requires balancing service levels and performance with cost and risk.

It may not be possible to meet all expectations for services within current financial resources. We will continue to engage with our community to ensure that needed services are provided at appropriate levels of service at an affordable cost while managing risks.

What we have deferred

We do **not** have enough funding to provide all services at the desired service levels or provide new services. Major initiatives and project that are deferred for the next 10 years under LTFP funding levels are:

- Lagoon - long term improvements. Details yet to be determined (possible SAGR system). We do not currently have funding for this project. We will consider funding sources in the short term but if we cannot secure funding, this work may be deferred for the next 10 years.
- 2nd Arena – new area is subject to external funding. We will attempt to secure funding but if unsuccessful, this project may be deferred.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified initiatives and projects. We have identified major risks as:

- Lagoon – over capacity, may not meet regulations. Potential for environmental impact if not meeting lagoon regulations.
- Internal buildings (Public works, City Hall, RCMP) over capacity, limitations for service delivery and growth.

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

- Consider upgrade of lagoon in short term and consider external funding sources. Regular monitoring of Lagoon.
- Planning to conduct needs assessment of buildings in short term.

Confidence Levels

This SAMP is based on low-medium level of confidence information.

The Next Steps

The actions resulting from this SAMP are:

- implement the improvement plan in Section 7.2
- further develop 'SMART' Asset Management objectives
- improve consultation methods to increase awareness of service performance, risk and cost pressures we are facing
- investigate actions to extend the life of assets without affecting performance and risk
- review asset renewal and replacement options to reduce service delivery lifecycle costs

2. ASSET MANAGEMENT STRATEGY

2.1 Asset Management System

Asset management enables an organization to realise value from assets in the achievement of organizational objectives, while balancing financial, environmental and social costs, risk, quality of service and performance related to assets.[1]

An asset management system (AMS) is a set of interrelated and interacting elements of an organization to establish the asset management policy and asset management objectives, and the processes, needed to achieve those objectives. An AMS is more than 'management information system' software. The AMS provides a means for:

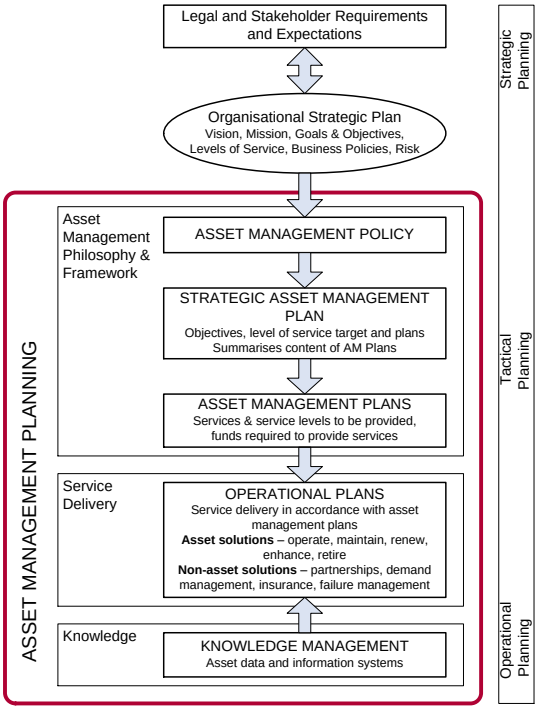
- coordinating contributions from and interactions between functional units within an organization,[2] and
- consistent application of the asset management processes to achieve uniform outcomes and objectives.

The AMS includes:

- The asset management policy
- The asset management objectives
- The strategic asset management plan
- The asset management plans, which are implemented in
    - operational planning and control
    - supporting activities
    - control activities
    - other relevant processes.[3]

The AMS fits within the organization's strategic planning and delivery process as shown in Figure 1.

Figure 1: Strategic Asset Management Plan fit in Planning Process



[1] ISO, 2014, ISO 55000, Sec 2.2, p 2
[2] ISO, 2014, ISO 55000, Sec 2.5.1, p 5
[3] ISO, 2014, ISO 55002, Sec 4.1.1, p 2.

2.1.1 Asset Management Policy

The asset management policy sets out the principles by which the organization intends on applying asset management to achieve its organizational objectives.[4] Organizational objectives are the results the organization plans to achieve, as documented in the City of Warman Strategic Plan and Official Community Plan.

2.1.2 Asset Management Objectives

The asset management objectives, developed in Section 2.4.3 provide the essential link between the organizational objectives and the AM Plans that describe how those objectives are going to be achieved. The asset management objectives transform the required outcomes (product or service) to be provided by the assets, into activities typically described in the AM Plans. Asset management objectives should be specific, measureable, achievable, realistic and time bound (i.e., SMART objectives).[5]

2.1.3 Strategic Asset Management Plan

This SAMP is to document the relationship between the organizational objectives set out in the City of Warman Strategic Plan and the asset management (or service) objectives and define the strategic framework required to achieve the asset management objectives.[6]

The asset management objectives must be aligned with the organization's strategic objectives set out in the Strategic Plan.

This SAMP encompasses the following services:

- Water: provide safe and reliable water services to the community.
- Sanitary: provide safe and reliable disposal of sanitary waste for the community.
- Transportation: facilitate the movement of people and goods. To provide a safe, accessible and cost-effective transportation network.
- Stormwater: provide safe and reliable drainage of stormwater for the community.
- Municipal Buildings & Equipment: provide community, cultural and recreation services.
- Parks & Land Improvements: provide community, cultural and recreation services.

The strategic asset management framework incorporates strategies to achieve the asset management objectives. The strategies are developed in 4 steps:

- What assets do we have?
- Our assets and their management.
- Where do we want to be?
- How will we get there?[7]

2.1.4 Asset Management Plans

Supporting the SAMP are AM Plans for major service/asset categories. The AM Plans document the activities to be implemented and resources to be applied to meet the asset management objectives. The SAMP summarizes the key issues from following AM Plans:

- Water Network Asset Management Plan
- Sanitary Network Asset Management Plan
- Transportation Network Asset Management Plan
- Stormwater Network Asset Management Plan
- Municipal Buildings & Equipment Asset Management Plan
- Parks & Land Improvements Asset Management Plan

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[4] ISO, 2014, ISO 55002, Sec 5.2, p 7.
[5] ISO, 2014, ISO 55002, Sec 6.2.1, p 9.
[6] ISO, 2014, ISO 55002, Sec 4.1.1, p 2.
[7] LGPMC, 2009, Framework 2, Sec 4.2, p 4.

The SAMP is part of the organization's strategic and annual planning and reporting cycle.

2.2 What Assets do we have?

We manage many assets to provide services to our community. The assets provide the foundation for the community to carry out its everyday activities, while contributing to overall quality of life. A summary of the assets in our portfolio is provided in Table 2.2. Refer to the individual AM Plans for further details on any asset class.

Table 2.2: Assets covered by this Plan

Asset Class/Category	Dimensions*
Water	Water mains: 64.8km Water service pipes: 36.7km Water stations / reservoirs: 4 reservoirs (30 listings) Hydrants: 361 hydrants (269 listings) Water meters: 5,591 meters (297 listings) Water valves: 684 valves (503 listings) Curb stops: 4,249 curb stops (382 listings) Corporation stops: 3,391 corporation stops (313 listings)
Sanitary	Sanitary Mains: 59.3km Force Mains: 21.7km Sanitary Service Pipes: 4.6km Manholes: 527 listings Pump Stations: 8 stations Lagoon: 4 cells + expansion
Transportation	Asphalt structure: 63.3km Asphalt surface: 61.8km Gravel roads: 3.3km Curb: 77.4km Sidewalks: 92.0km Lights, signals, signs: 25 listings
Stormwater	Stormwater mains: 30.0km Catch basins: 661 catch basins (449 listings) Catch basin leads: 9.2km Stormwater manholes: 306 listings Lift stations: 2 listings Stormwater pond, drainage ditch, pump, components: 8 listings
Municipal Buildings & Equipment	Buildings (Individual): 317 listings Buildings (Grouped): 24 listings Vehicles (Individual): 76 listings Machinery & Equipment (Individual): 180 listings
Parks & Land Improvements	Individual Land Improvements (Park components, Trails, Cemetery, Playground structures, Sports fields, Irrigation System, Parking lots, etc.): 96 listings Grouped Land Improvements (Outdoor lighting, fences): 11 listings

*Note: * There is uncertainty in several dimensions of assets. Refer to individual AM Plans for documentation of the uncertainties in the scope of assets.*

2.3 Our Assets and their management

2.3.1 Asset Values

The infrastructure assets covered by this SAMP are shown in Table 2.3.1. These assets are used to provide various services to the community.

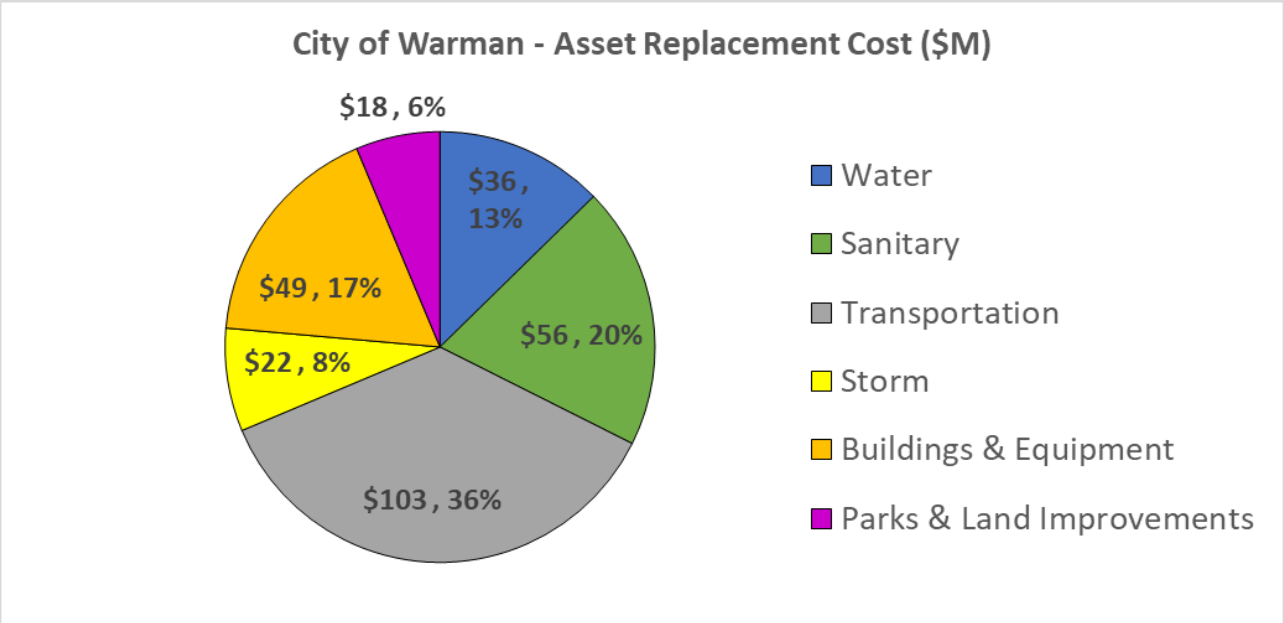
Table 2.3.1: Assets covered by this Plan

Asset Class/Category	Gross Replacement Cost	Carrying Value*	Annual Depreciation*
Water	36,428,000	27,090,000	537,000
Sanitary	55,777,000	41,803,000	862,000
Transportation	102,931,000	65,459,000	3,205,000
Stormwater	22,397,000	18,918,000	307,000
Municipal Buildings and Equipment	48,607,000	34,831,000	1,602,000
Parks and Land Improvements	18,423,000	15,084,000	740,000
TOTAL	**284,563,000**	**203,185,000**	**7,253,000**

*Note: * Carrying Value and Depreciation may not be accurate. These values may be updated once a review is completed on asset useful lives.*

Figure 2 shows the gross replacement value of our assets.

Figure 2: Asset Replacement Values



Section 2.3 demonstrates the significance of the City's investment in infrastructure. An objective for this SAMP is to demonstrate how value is to be obtained from the $284 million investments in providing services to the community. The investment in infrastructure is being consumed at approximately $7 million per annum.

2.3.2 Asset Condition, Function and Capacity

The state of the assets report monitors the performance of the assets under three community service indicators:

- condition/quality – how good is the service?
- function - does it meet users' needs?
- capacity/utilization – is the service usage appropriate to capacity?

At the time of writing, we have not quantified the function and capacity/utilization of assets. In the future, these measures will be included in this section. We are currently quantifying condition by using year of construction and remaining useful lives of assets as a proxy.

The criteria for approximating condition rating using a 1 – 5 grading system is outlined in in Table 2.3.2.

Table 2.3.2: Simple Condition Grading Model

Condition Grading	Percent of Remaining Asset Useful Life
0	Not Rated
1	80-100%
2	60-79%
3	40-59%
4	20-39%
5	<20%

Figure 3 shows the condition of the assets based on their replacement value.

Figure 3: Condition of the Assets

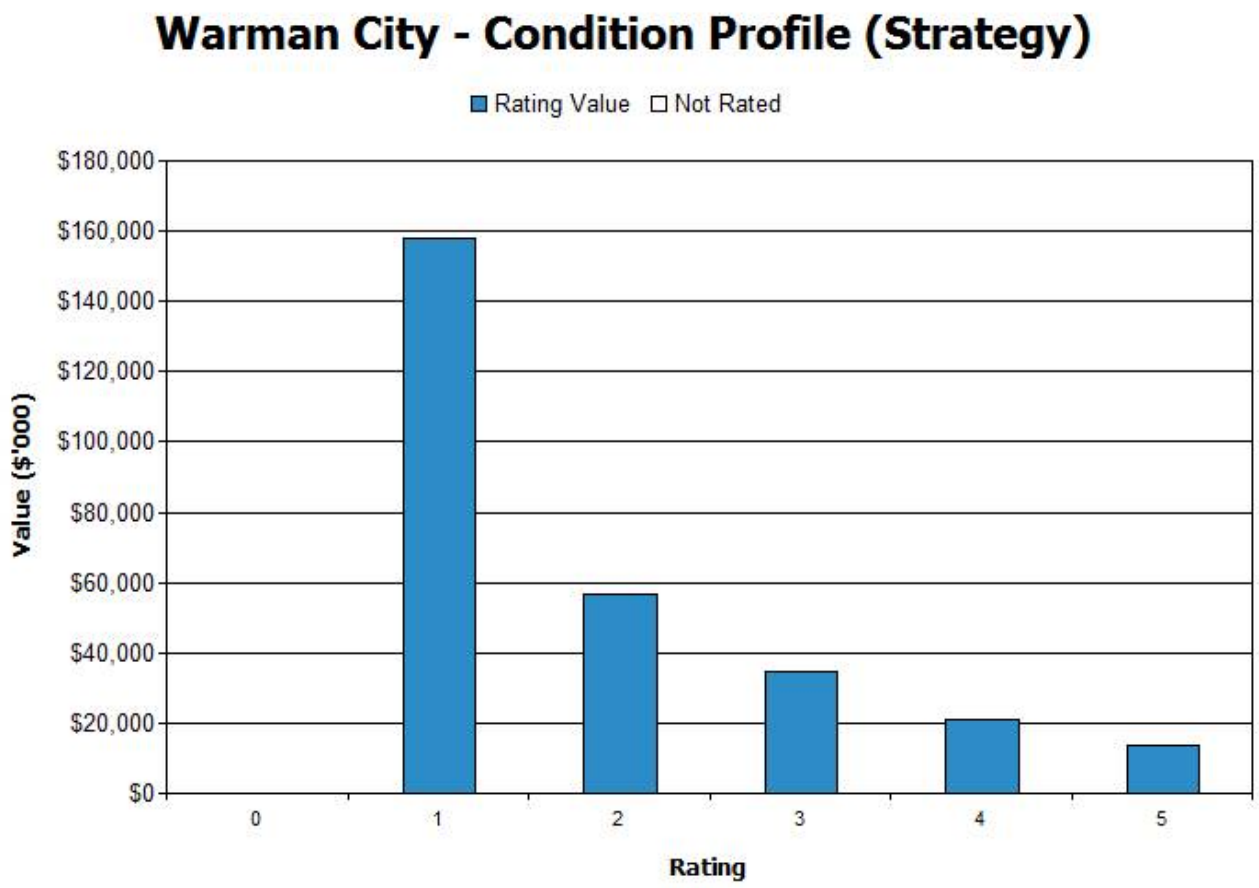


Figure 3 shows the assessment of performance of assets under the condition (quality) indicator. Most of our assets are in good to very good condition (Rating 1 & 2) based on remaining useful lives. We will need to review and update remaining useful lives and focus on assets that are reaching or passed their policy useful lives to better understand potentially poor and failing assets.

2.3.3 Lifecycle Costs

Lifecycle costs (or whole of life costs) are the average annual costs that are required to sustain the service levels over the longest asset life. Lifecycle costs include operations and maintenance expenditures plus asset consumption (depreciation). Life cycle costs can be compared to lifecycle expenditure to give a comparison of current expenditures to lifecycle costs of services.

Lifecycle expenditures include operations and maintenance expenditures (excluding depreciation) plus capital renewal expenditure. The capital renewal component of lifecycle expenditure can vary depending on the timing of asset renewals.

The lifecycle costs and expenditures averaged over the 10-year planning period are shown in Table 2.3.3.

Table 2.3.3: Asset Lifecycle Costs

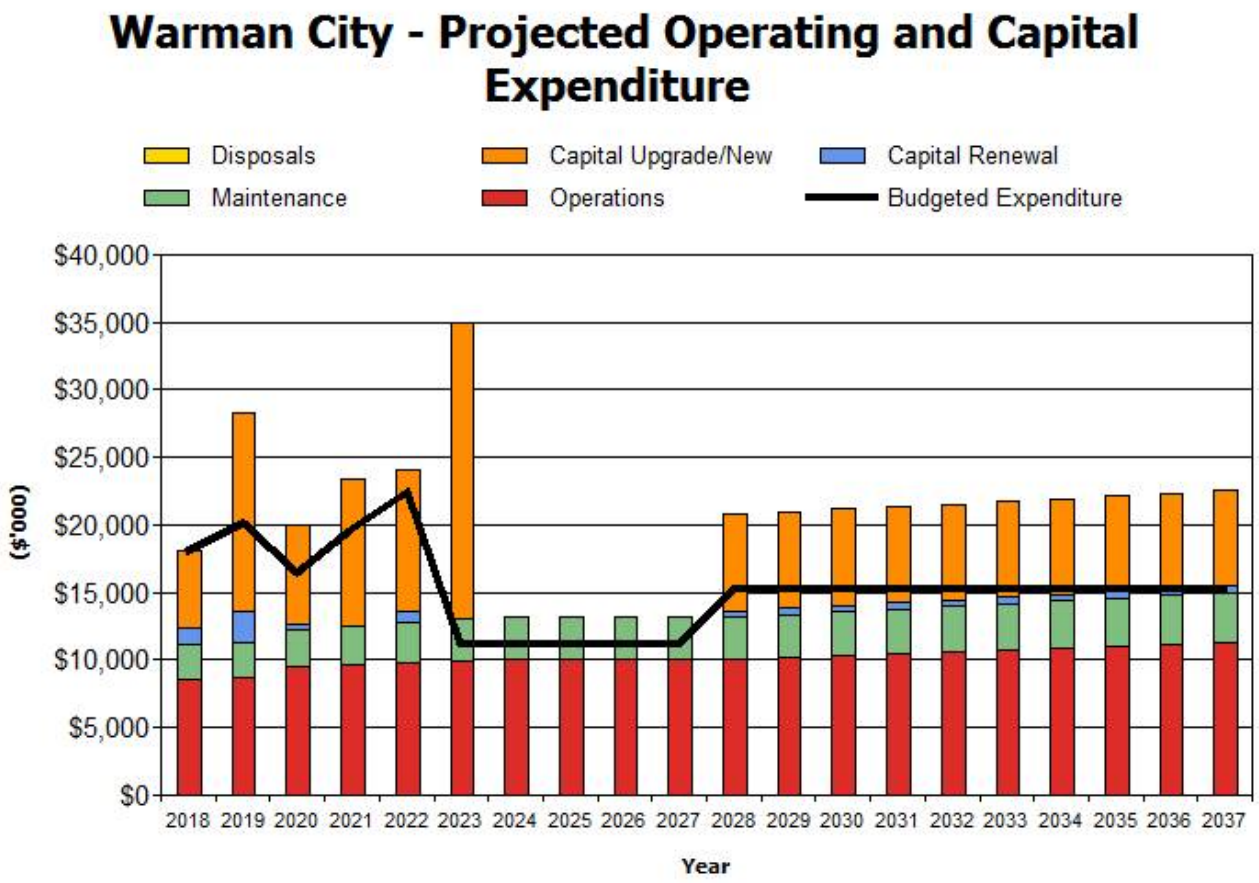
Asset Class/Category	Lifecycle Cost ($/year)	Lifecycle Expenditure ($/year)	Lifecycle Expenditure Indicator
Water	3,836,000	3,299,000	0.86
Sanitary	1,526,000	549,000	0.36
Transportation	4,981,000	1,697,000	0.34
Stormwater	458,000	148,000	0.32
Buildings and Equipment	7,227,000	4,966,000	0.69
Parks and Land Improvements	1,814,000	844,000	0.46
TOTAL	**19,843,000**	**11,502,000**	**0.58**

Total lifecycle expenditure may reasonably be higher/lower than lifecycle costs in periods of above/below average asset renewal/replacement activity. The lifecycle indicator is a measure of estimated need over the long-term. It is dependent on the age profile of the assets, with older assets expected to have a higher LC indicator and newer assets a lower LC indicator. Section 5.4 gives a more accurate indicator of renewal/replacement funding needs over the period of the SAMP.

2.3.4 Asset Management Indicators

An asset management objective is to provide the services that the community needs at the optimum lifecycle cost in a financially sustainable manner. Figure 4 shows the projected operations, maintenance, capital renewal, capital upgrade/new expenditure balanced with financial outlays in the 10-year LTFP. Where the budget levels are lower than the costs of planned work, we are planning to seek funding for the projects in the short term. If we cannot secure funding, those projects may be deferred to subsequent years.

Figure 4: Projected Operating and Capital Expenditure



The purpose of this SAMP is to develop the strategies to achieve the asset management objectives through balancing of asset service performance, cost and risk.

Figure 4 shows the results of balancing of service performance, risk and cost in the AM Plans and LTFP to achieve an agreed and affordable position on service level and costs. This includes additional borrowings to finance urgent and critical renewal and new capital works in the next 5 years. We continue to seek funding for unfunded work shown in Figure 4 and if the funds cannot be secured and work must be deferred, we have identified the associated risks and impacts to levels of service.

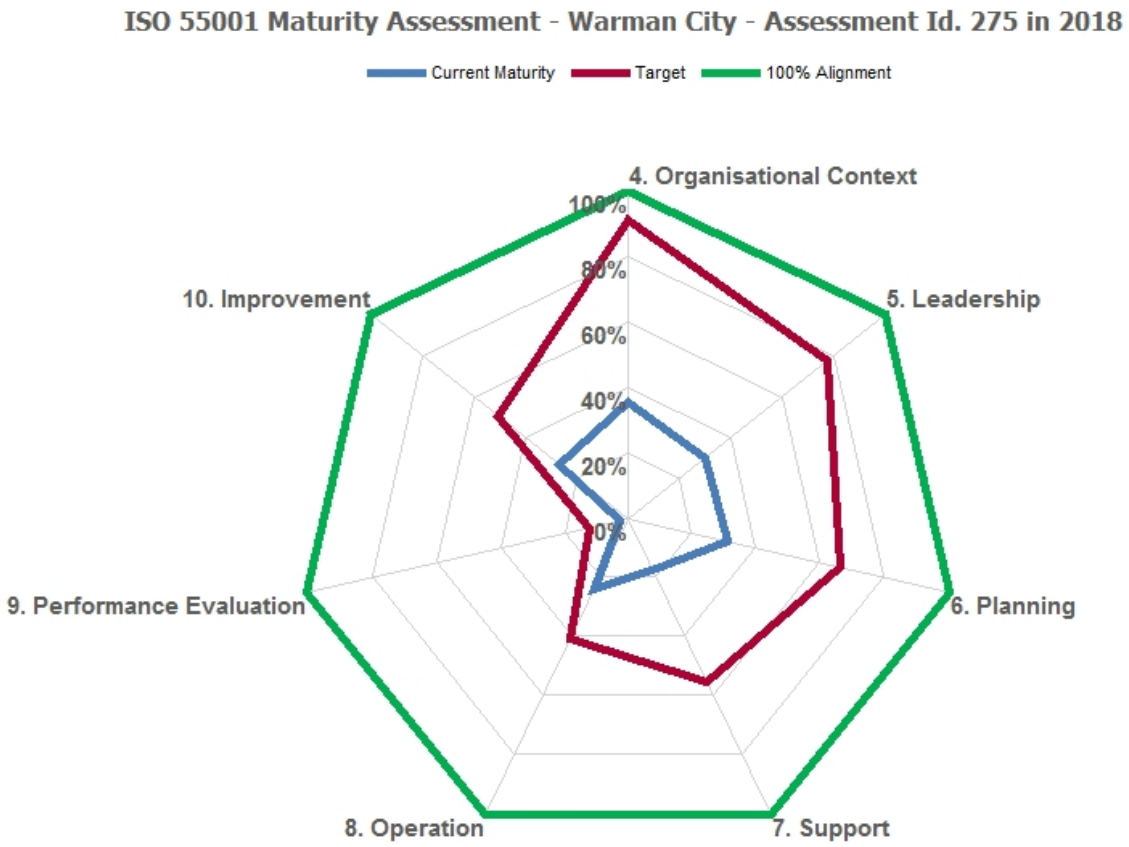
2.3.5 Opportunities and Risks

Opportunities are identified in the community objectives in Section 2.4.2. Risks are summarized in Section 5.2. The individual AM Plans contain risk summaries as well.

2.3.6 Asset and Financial Management Maturity

We have taken steps to improve our asset and financial management performance including assessing alignment of our asset management maturity with IS0 55001 Asset Management – Management Systems – Requirements. This maturity assessment is our first draft and will be subject to review and revision going forward. Figure 5 shows the current and target alignments with the seven elements of ISO 55001.

Figure 5: Maturity Assessment



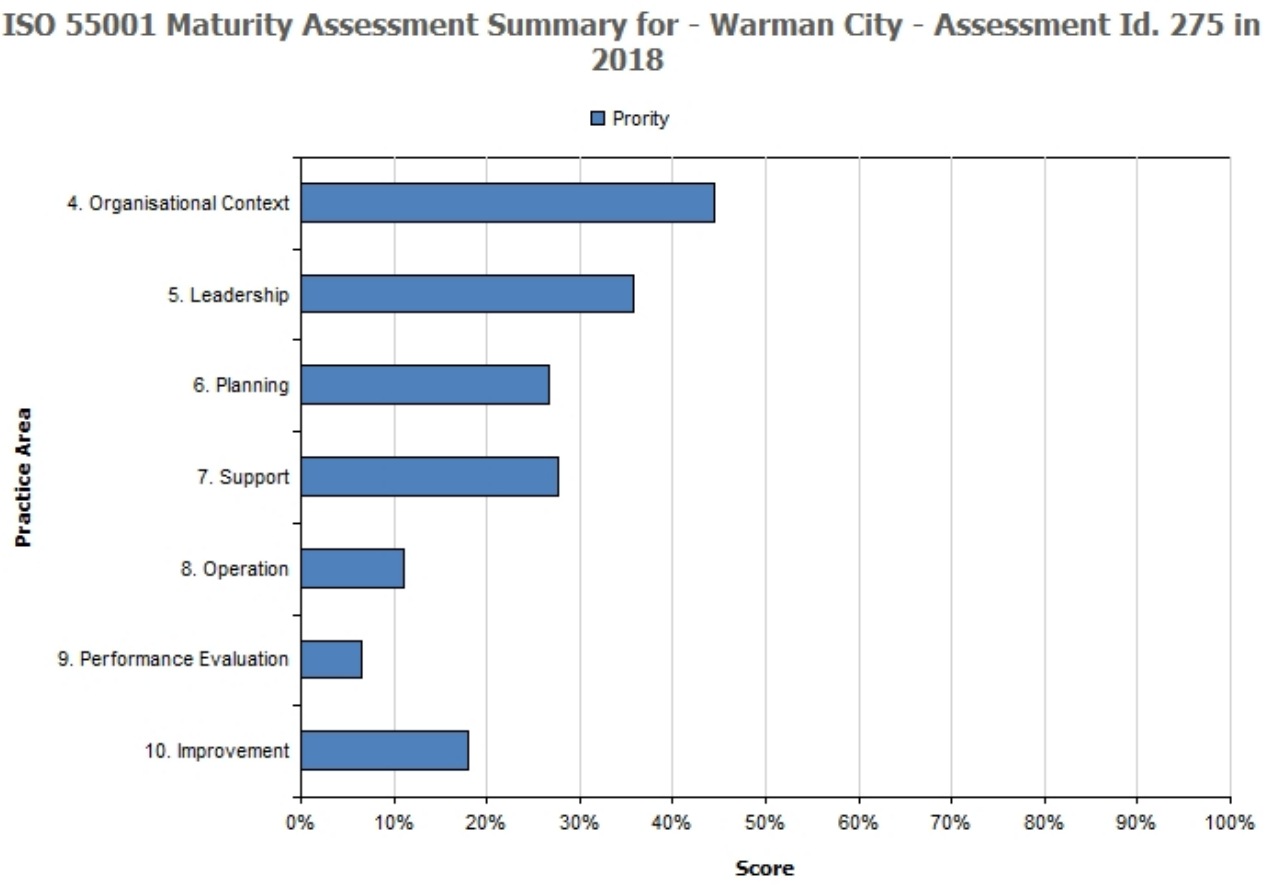
Improvement in maturity is indicated by movement of the blue (current maturity) line to the red (target maturity) and green line (full alignment with ISO 55001 requirements).

Elements with low maturity scores are:

- Performance evaluation (low maturity, but low target level)
- Support
- Organizational context (higher maturity, but large gap between current and target levels)
- Operation

The risk to the organization from the current maturity and priorities are shown in Figure 6.

Figure 6: Maturity Risk Assessment / Priorities



The priority for ISO 55001 maturity risk reduction is indicated by the length of the blue bars. Elements with highest priority for improvement are:

- Organizational context
- Leadership
- Support
- Planning

For more detailed information, see the City of Warman Asset Management Maturity Assessment document.

Tasks to improve asset and financial management maturity are prioritized and included within the Improvement Plan shown in Section 7.2.

2.3.7 Strategy Outlook

1. We are unable to maintain current levels of service for the next ten years based on current knowledge and projections in AM Plans and the LTFP. We must increase our current funding levels to maintain desired service levels.

2. Funding of current infrastructure lifecycle costs is considered adequate for the next 10 years but below long-term needs. Review of services, service levels and costs will need to be carried out over the next 10 years to identify and monitor changes in demand for services and affordability over the longer-term.

3. Our current asset and financial management maturity is below 'core' level and investment is needed to improve information management, lifecycle management, service management and accountability and strategic direction.

2.4 Where do we want to be?

2.4.1 Community Expectations

We have estimated community expectations for service levels to be generally consistent with current levels of service. We have gauged community expectations through in-person, phone, and online feedback. We recognize that more structured feedback would be desirable in the short-medium term to ensure we are providing appropriate services to our stakeholders. Community engagement is necessary to ensure that informed decisions are made on future levels of service and costs and that service and risk consequences are known and accepted by stakeholders.

2.4.2 Organizational Objectives

The organization objectives are developed in the City of Warman Strategic Plan under Vision, Mission, Values and Priority Areas as shown below.

Vision:

The Community of Warman seeks to promote and support a high quality of livability and opportunities for its stakeholders. Through thoughtful leadership and a diverse team approach, we envision a safe and caring community. Our citizens with their pride and commitment to our community, will always be central to our success.

Mission:

Warman's leadership group is committed to progressively building a community through the strength of partnerships in a fiscally responsible and visionary approach, in order that we continue to grow in a managed fashion while preserving and enhancing the unique features that make Warman our home.

Statement of Values:

1. The City of Warman endeavours to achieve the highest community standard in an effort to champion principles of leadership, influence and accountability in the municipal field through new ideas, collaboration and creative approaches.

2. The City of Warman values growth opportunities to achieve fiscal stability for the benefit of all citizens. The City will therefore, endeavour to make decisions that provide safe service levels, economic benefits and long-term solutions that promote continuous growth. We are committed to planning for the future and value the provision of infrastructure and maintenance of the facilities within the City of Warman.

3. The City will be cost conscious. As a local government, we will provide stewardship wisely and effectively for the benefit of all.

4. In the City of Warman, all visitors, citizens, and employees will be treated with dignity, respect, and fairness.

5. The City of Warman values fairness through encouragement of ideas through stakeholder input and collaborative discussion to result in effective action, to produce honest, ethical, and transparent decisions.

Priority Areas:

Comprehensive Master Plan

Progressive Services and Community Recreation

Economic Stimulus

Enhanced Communication

Sustainability and Environmental Stewardship

Talent Resource Management

The organization objectives developed for priority areas are shown in Table 2.4.2.

Table 2.4.2: Strategic Priority Areas and Organizational Objectives

Strategic Priority Area	Description of Organizational Objective*
Comprehensive Master Plan	A master plan is an evolving, long-term guide which addresses financial goals and community development toward sustainable growth within the City of Warman. Key elements of the plan will amalgamate civic goals and the public objectives. The action items will identify funding sources and strategies required to build and maintain the various community projects and will also be instrumental in developing a blue print for asset management strategies.
Progressive Services and Community Recreation	Our progressive development over the next few years will be focusing on our recreation parks and development of our services. The City of Warman has included several items that speak to the growth of our community especially in the area of public works and planning and development. To ensure the sustainability of our growing community it is paramount that we not lose focus on maintaining the various services that enhance our City.
Economic Stimulus	The economic development and stimulus will focus on creating an economic environment that supports and encourages business opportunities within the City of Warman. The City will look at investing in physical (hard) infrastructure and in educational and workforce development etc. (soft) infrastructure as it relates to the City's economic realm. In the next few years Warman potential growth opportunities encompass the regeneration and growth
Enhanced Communication	Creating and sending communications in our current business environment is at an ever-increasing rate and through a growing number of channels. Within our enhanced communications initiative we will look at streamlining our internal and external communication. Maintaining and further developing our various partner relationships will also be evident throughout the City of Warman's communication initiative.
Sustainability and Environmental Stewardship	More and more communities are striving for a sustainable environment. Within this initiative, Sustainability and Environmental Stewardship, the City of Warman will look at introducing a Sustainability Charter which will have its foundation in the Four Pillars of Sustainability: Economic, Environmental, Social and Cultural. Additional environmental stewardship practices will encompass the responsible use and protection of the natural environment through recycling, conservation, regeneration and restoration.
Talent Resource Management	The City of Warman will look to support Talent Resource Management (Human Resources). The challenge with growing organizations is that they put tremendous effort into attracting employees to their organization, but invest little time into retaining and developing talent. In this initiative the City of Warman hopes to create an environment that supports the sustainability and retention of its work force.

*Note: * Based on Strategic Plan. More specific objectives would be desirable in this table in future iterations.*

2.4.3 Asset Management Objectives

The asset management objectives (or strategies) translate the organizational objectives into the required service outcomes to be provided by infrastructure assets and activities described in the AM Plans. At the time of writing, our AM objectives are based on previously developed organizational objectives that are specific to infrastructure service delivery. In future iterations, we will consider more specific asset management objectives as well as actions to achieve the objectives with performance targets and timelines. Our current asset management objectives are shown in Table 2.4.3.

Table 2.4.3: Asset Management Objectives

Asset Management Objective
Establish a development strategy which will serve as a framework for the community indicating areas where future development will occur to provide for the orderly and cost-effective development of the community within the financial capabilities of the City of Warman. (Goal 2.1 in OCP)
Relevant Objectives from Chapter 19 of OCP: a) Provide for the orderly development of municipal and provincial utility infrastructure in conformance with local land use policies and environmental regulations. b) Minimize municipal utility and infrastructure costs in the provision of services to new development areas by means of efficient concept plans and site analysis. e) Have necessary corridors, easements and land for public works dedicated during the subdivision and development processes. f) Locate new infrastructure in areas of compatible land use. g) Ensure no negative impacts from the cumulative effects of development on local and regional infrastructure capacity. h) Create an asset management plan which reflects strategies of the community to be prepared for government infrastructure programs and intermunicipal projects. i) Conduct an overall evaluation of infrastructure capacity in a neighbourhood and system service areas to promote growth and monitor the impact of any proposed infill or secondary suite applications.
Foster a co-operative relationship with the R.M. of Corman Park to promote economic prosperity and sustainable development for the region. (Goal 2.5 in OCP) To promote inter-municipal cooperation that facilitates strong partnerships, joint infrastructure and coordinated local development within a strong region. (Goal 21.2 in OCP) To continue working on a regional plan that addresses land use, servicing and transportation. Doing this will help the City find efficiencies and ways to minimize cost while providing a high level of service.

Note: Development of Asset Management Objectives is a requirement if ISO 55001. The Asset Management Objectives shown in Table 2.4.3 are those to be achieved to deliver the agreed level of service performance while managing risk and cost.

All actions and tasks to achieve the asset management objectives are included within operational and capital works plans discussed in Sections 5.3 – 5.6.

2.5 Asset Management Vision

To ensure the long-term financial sustainability of the organization, it is essential to balance the community's expectations for services with their ability to pay for the infrastructure assets used to provide the services. Maintenance of service levels for infrastructure services requires appropriate investment over the whole of the asset life cycle. To assist in achieving this balance, we aspire to:

Develop and maintain asset management governance, skills, process, systems and data to provide the level of service the community needs at present and in the future, in the most cost-effective and fit for purpose manner.

In line with the vision, the objectives of the SAMP are to:

- ensure that our infrastructure services are provided in an economically optimal way, with the appropriate level of service to residents, visitors and the environment determined by reference to our financial sustainability;
- safeguard our assets including physical assets and employees by implementing appropriate asset management strategies and appropriate financial resources for those assets;
- adopt the LTFP as the basis for all service and budget funding decisions;
- meet legislative requirements for all our operations;
- ensure resources and operational capabilities are identified and responsibility for asset management is allocated;
- ensure operational and service delivery risks are adequately managed;
- continually improve our asset, risk and financial management and service delivery performance;
- provide high level oversight of financial and asset management responsibilities through reporting to Council on development and implementation of the SAMP, AM Plans and LTFP.

Strategies to achieve this position are outlined in Section 2.6.

2.6. How will we get there?

The SAMP proposes strategies to enable the organizational objectives and asset management policies to be achieved as shown in Table 2.6.

Table 2.6: Asset Management Strategies

No	Strategy	Desired Outcome
1	Incorporate Year 1 of LTFP revenue and expenditure projections into annual budgets.	Long term financial planning drives budget deliberations and the long-term implications of all services are considered in annual budget deliberations.
2	Report our financial position at Fair Value in accordance with Accounting Standards, financial sustainability and performance against organizational objectives in Annual Reports.	Financial sustainability information is available for Council and the community.
3	Develop and maintain a LTFP covering 10 years incorporating AM Plan expenditure projections with a sustainable funding position outcome.	Sustainable funding model to provide our services.
4	Develop and annually review AM Plans and SAMP covering at least 10 years for all major asset classes.	Identification of services needed by the community and required funding to optimize 'whole of life' costs.
5	Review and update AM Plans, SAMP and LTFPs after adoption of annual budgets. Communicate any consequence of funding decisions on service levels and service risks.	We and the community are aware of changes to service levels and costs arising from budget decisions.
6	Develop and maintain a risk register of operational and service delivery risks showing current risk levels, risk management treatments and report regularly to Council on current high-level risks.	Risk management of operational and service delivery risks is an integral part of governance.
7	Ensure Council decisions are made from accurate and current information in asset registers, on service level performance and costs and 'whole of life' costs.	Improved decision making and greater value for money.
8	Report on our resources and operational capability to deliver the services needed by the community in the annual report.	Services delivery is matched to available resources and operational capabilities.
9	Ensure responsibilities for asset management are identified and incorporated into staff position descriptions.	Responsibility for asset management is defined.
10	Implement an improvement plan to realise 'core' maturity for the financial and asset management competencies within 2 years.	Improved financial and asset management capacity within the organization.
11	Regular reporting to Council on the development and implementation of AM Plans, SAMP and LTFPs.	Oversight of resource allocation and performance.

2.7 Asset Management Improvement Plan

The tasks required for achieving a 'core' financial and asset management maturity are shown in priority order in the asset management improvement plan in Section 7.2

2.8. Consequences if actions are not completed

There are consequences for Council if the improvement actions are not completed. These include:

- Inability to achieve strategic and organizational objectives;
- Inability to achieve financial sustainability for the organization's operations;
- Current risks to infrastructure service delivery are likely to occur and response actions may not be appropriately managed;
- We may not be able to accommodate and/or manage changes in demand for infrastructure services.

3. LEVELS OF SERVICE

3.1 Consumer Research and Expectations

We currently have no formal research on customer expectations. This will be investigated for future updates of the AMS. We have estimated community expectations for service levels to be generally consistent with current levels of service. We have gauged community expectations through in-person, phone, and online feedback. We recognize that more structured feedback would be desirable in the short-medium term to ensure we are providing appropriate services to our stakeholders. Community engagement is necessary to ensure that informed decisions are made on future levels of service and costs and that service and risk consequences are known and accepted by stakeholders.

3.2 Organizational Objectives

Sections 2.4.2 and 2.4.3 of this SAMP reported the organizational objectives from the Strategic Plan and asset management objectives developed from the organizational objectives.

The organizational and asset management objectives provide focus for the community and technical level of service tables in Section 3.4.

3.3 Legislative Requirements

We must meet several legislative requirements, which are detailed in the various AM Plans that are summarized in this document.

3.4 Levels of Service

We have defined service levels in two terms.

Community Levels of Service measure how the community receives the service and whether the organization is providing community value.

Community levels of service measures used in the AM Plans are:

Quality/condition	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilization	Is the service usage appropriate to capacity?

Our current and projected community levels of service for the services covered by this SAMP are shown in the AM Plans summarized in this SAMP.

The community level of service measures provide information on our performance on service delivery. They can indicate areas of possible over and under servicing and potential for reallocation of resources to maximise community value.

Technical Levels of Service - Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organization undertakes to best achieve the desired community outcomes and demonstrate effective organizational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as availability, cleaning, mowing, etc.
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition (e.g., road patching, building and equipment repairs),
- Renewal – the activities that return the service capability of an asset similar to that which it had originally (e.g., road resurfacing and pavement reconstruction, pipeline replacement and building component replacement) or to a lower service level,
- Upgrade/New – the activities to provide a higher level of service (e.g., widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g., a new arena).

Service managers plan, implement and control technical service levels to influence the customer service levels.[8]

Together the community and technical levels of service provide detail on service performance, cost and whether service levels are likely to stay the same, get better or worse.

Our current and projected technical levels of service for the services covered by this SAMP are shown in the AM Plans summarized in this SAMP.

Refer to individual AM Plans for details of the current and desired technical levels of service for services.

[8] IPWEA, 2011, IIMM, p 2.22

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, climate change, vehicle ownership rates, consumer preferences and expectations, government decisions, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilization of assets were identified and are documented in Table 4.3.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and utilization of assets are shown in Table 4.3.

Table 4.3: Demand Drivers, Projections and Impact on Services

Projection	Impact on services
Population Growth	
Likely medium growth (8%) in short term, and a low-high range of 4-10% growth in the long term. Assuming 8% growth, Warman would add 32,000 people over the next 20 years.	Increase in demand for all services. New residential developments require servicing.
Changing Demographics	
Continued trend of growth in the under 40 age group.	Change in desired service levels such as desiring arenas and other services.
Changing Regulations and Standards	
Standards may change in the future.	Potentially increased required level of service.

4.4 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Non-asset solutions focus on providing the required service without the need for the organization to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures[9]. Examples of non-asset solutions include providing joint services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified for demand management are shown in Table 4.4.

[9] IPWEA, 2015, IIMM, Sec 2.3.6, p 2|53.

Table 4.4: Demand Management Plan Summary

Service Impact	Demand Management Plan
Increase in demand for all services. New residential developments require servicing.	Maintain existing infrastructure and encourage infill as much as possible. Develop new infrastructure to accommodate increased demand as required. During the subdivision and development process, discussions will take place with the developer regarding civil infrastructure and asset management. (See OCP Section 19.3, Policy q.) Collaborate with municipalities in the region on projects that enhance local growth opportunities. Encourage development of intermunicipal infrastructure and service delivery. (See OCP Section 21.3, Policy d & f.) Communication with ratepayers via Social Media and newsletters to provide information on how people may reduce their demands on the service especially during high demand periods.
Change in desired service levels such as desiring arenas and other services.	See changing population demand management plan. Encourage public feedback on desired services and willingness to pay to best build infrastructure to meet desired service levels of ratepayers. Continued improvement of asset management practices will help us better understand the full costs for new services.
Potentially increased required level of service.	Monitor changes going forward. Continued improvement of asset management practices will help be better informed if regulations do impact services.

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the organization. New assets constructed/acquired by the organization are discussed in Section 5.5.

Acquiring these new assets will commit the organization to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 6.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the organization plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimizing life cycle costs and managing risks.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this SAMP are shown in Tables 2.2 and 2.3.1.

5.1.2 Asset capacity and performance

The organization's services are generally provided to meet design standards where these are available.

5.2 Draft Infrastructure Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets conducted for each relevant AM Plan identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to the organization. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritized corrective action identified in the Infrastructure Risk Management Plans of each AM Plan and the adopted treatment plan are summarized in Table 5.2. At the time of writing, there were not a significant number of high risks identified, so risks assessed as 'Medium' are also included in Table 5.2. These risks are regularly reported to management and Council.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan
Water			
Water Reservoirs	Power outage requiring use of backup generator.	M	Ensure generator is maintained. Daily log record.
Main water line from reservoir	Breaks.	M	Staff monitoring flows to anticipate potential issues. Replace line before age begins increasing likelihood of break. Staff educated on repair processes.
Sanitary			
Lagoon	Over capacity / not meet regulations	H	Consider upgrade of lagoon in short term. Regular monitoring of Lagoon.
Lift station	Pump failure	H	Regular routine checks.
Sanitary Lines	Line break	M	Monitor flows.
Transportation			
Arterial roads	Spot failures requiring road closure	M	Regular routine inspections.
Stormwater			
Stormwater Pond	Overcapacity	H	Regular monitoring.
Stormwater mains	Breaks.	H	Staff monitoring flows to anticipate potential issues. Replace line before age begins increasing likelihood of break.
Lift station	Power outage requiring use of backup generator.	M	Ensure generator is maintained. Daily log record.
Lift station	Flooding causing damage or required shut down.	M	Staff monitoring flood risks. Bring in vac trucks during major events to assist.
Municipal Buildings & Equipment			
Internal buildings (Public works, City Hall, RCMP)	Overcapacity – limitations for growth.	H	Planning to conduct needs assessment of buildings in 2019.
Diamond Arena	Concerns with aging structure: potential failures.	M	Planning to conduct building review in medium term.
Parks & Land Improvements			
Pathways	Trip / fall	M	Review paths while cutting grass.

5.3 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g., cleaning, utility services, street sweeping, grass mowing and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

5.3.1 Operations and Maintenance Plan

Operations activities affect service levels including quality and function, such as cleanliness, appearance, etc., through street sweeping and grass mowing frequency, intensity and spacing of street lights and cleaning frequency and opening hours of building and other facilities.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, e.g., road patching but excluding rehabilitation or renewal.

Maintenance expenditure levels are considered to be adequate to meet projected service levels for existing assets, which may be less than or equal to current service levels. The new and upgraded assets will increase our operating and maintenance expenditures required to meets service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in the respective AM Plan and service risks considered in the Infrastructure Risk Management Plan.

5.3.2 Operations and Maintenance Strategies

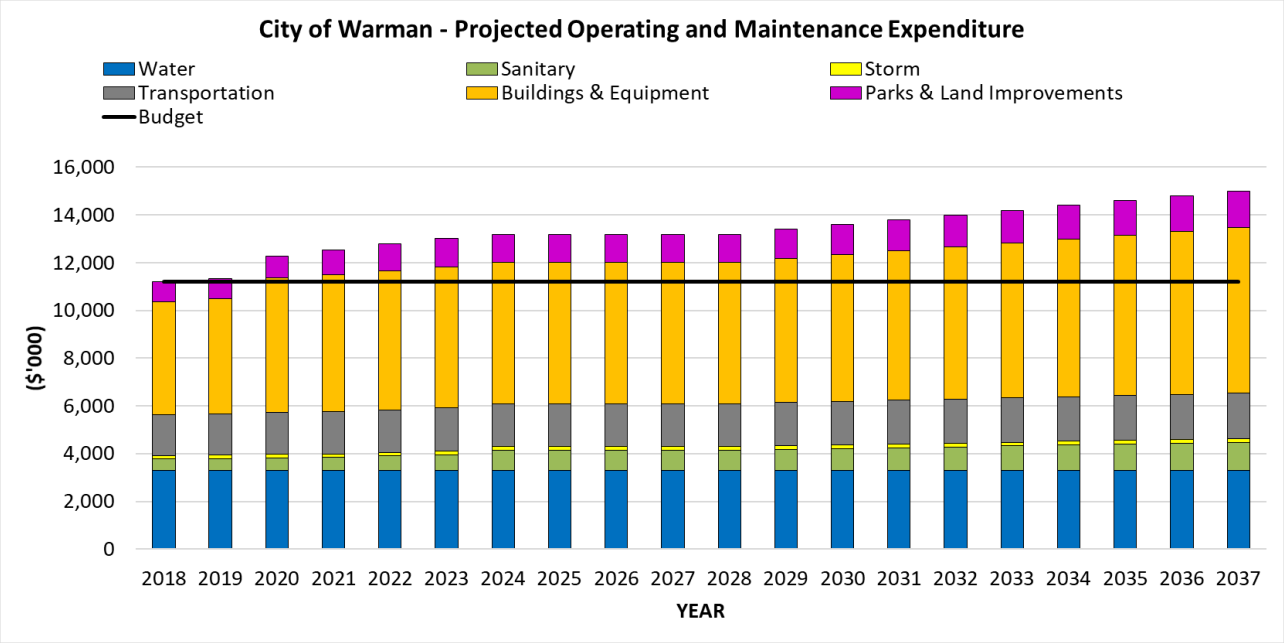
We will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-efficient manner. The operations and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner;
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes. Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities;
- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council;
- Review current and required skills base and implement staff training and development to meet required operations and maintenance needs;
- Review asset utilization to identify underutilized assets and appropriate remedies, and overutilized assets and customer demand management options;
- Maintain a current hierarchy of critical assets and required operations and maintenance activities;
- Develop and regularly review appropriate emergency response capability;
- Review management of operations and maintenance activities to ensure we are obtaining best value for resources used.

5.3.3 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 7. The forecast expenditures have not been accommodated in the organization's LTFP. Note that all costs are shown in current dollar values (i.e., real values).

Figure 7: Projected Operations and Maintenance Expenditure and LTFP Outlays



The consequences of deferred maintenance, i.e., works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in Section 5.2 and in each of the individual AM Plans. We will reconsider planned budgets and attempt to accommodate the increase in operating and maintenance costs in the short-mid term.

5.4 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 Renewal and Replacement Strategies

We will plan capital renewal and replacement projects to meet level of service objectives and minimize infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner;
- Undertaking project scoping for all capital renewal and replacement projects to identify:
    - the service delivery 'deficiency', present risk and optimum time for renewal/replacement;
    - the project objectives to rectify the deficiency;
    - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency;
    - and evaluate the options against evaluation criteria adopted by Council, and;
    - select the best option to be included in capital renewal programs;
- Using *optimal* renewal methods (cost of renewal is less than replacement) wherever possible;
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and report Very High and High risks and Residual risks after treatment to management and Council;
- Review current and required skills base and implement staff training and development to meet required construction and renewal needs;
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required
- Review management of capital renewal and replacement activities to ensure we are obtaining best value for resources used.

Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g., replace a bridge that has a 5-tonne load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g., roughness of a road).

Capital renewal and replacement priorities are indicated by identifying assets or asset groups that:

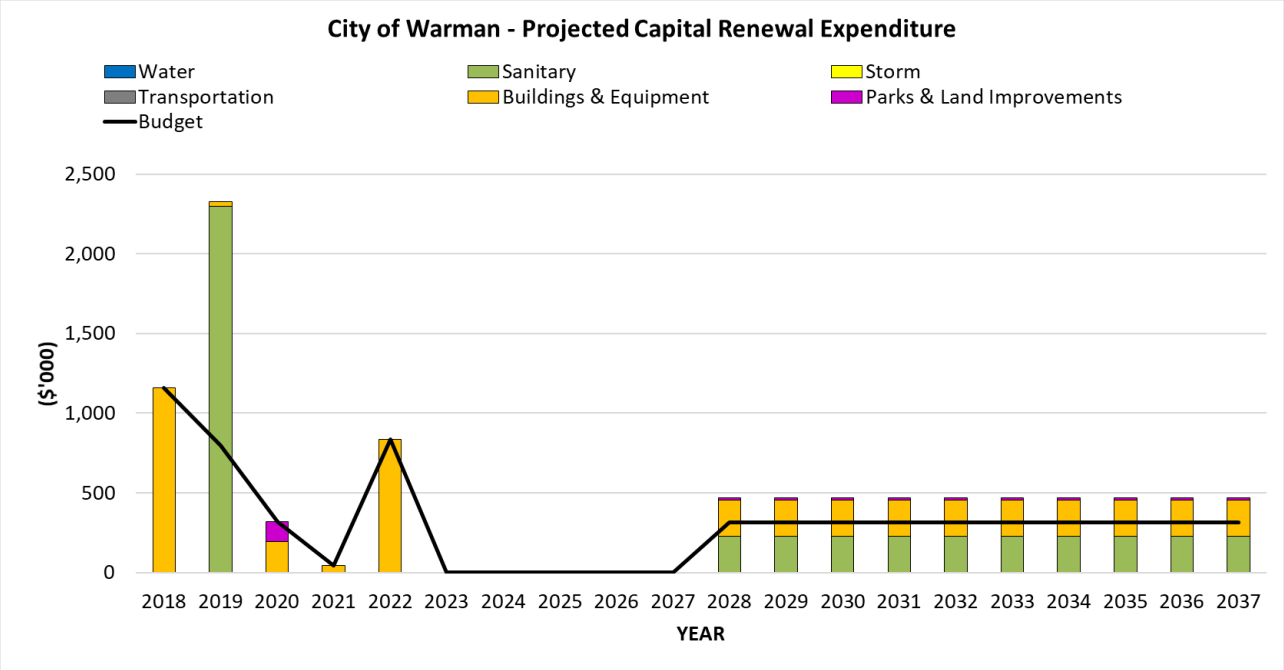
- Have a high consequence of failure;
- Have a high utilization and loss of service would have a significant impact on users;
- Have the highest average age relative to their expected lives;
- Are identified in the AM Plan as key cost factors;
- Have high operational or maintenance costs; and
- Where replacement with modern equivalent assets would yield material savings.

The ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in the respective AM Plans.

5.4.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock ages. The forecast expenditures have not been accommodated in the organization's LTFP as shown in Figure 8. Note that all amounts are shown in real values.

Figure 8: Projected Capital Renewal and Replacement Expenditure and LTFP Outlays



Where renewal projections are based on estimates of asset useful lives, the useful lives are documented in the relevant AM Plans. Most AM Plans did not base renewals on useful lives, suggesting that current useful lives are not sufficiently developed to be used for forecasting. Refer to individual AM Plans for details of the projected capital renewal and replacement programs.

We continue to seek funding for unfunded work shown in Figure 8 and if the funds cannot be secured and work must be deferred, we have identified the associated risks and impacts to levels of service.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the organization from land development. These assets from growth are discussed in Section 4.5.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councilor or community requests, proposals identified by strategic plans or partnerships with other organizations. Candidate proposals are inspected to verify need and to develop a preliminary cost estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programs. The priority ranking criteria is detailed in the respective AM Plans.

5.5.2 Capital Investment Strategies

We will plan capital upgrade and new projects to meet level of service objectives by:

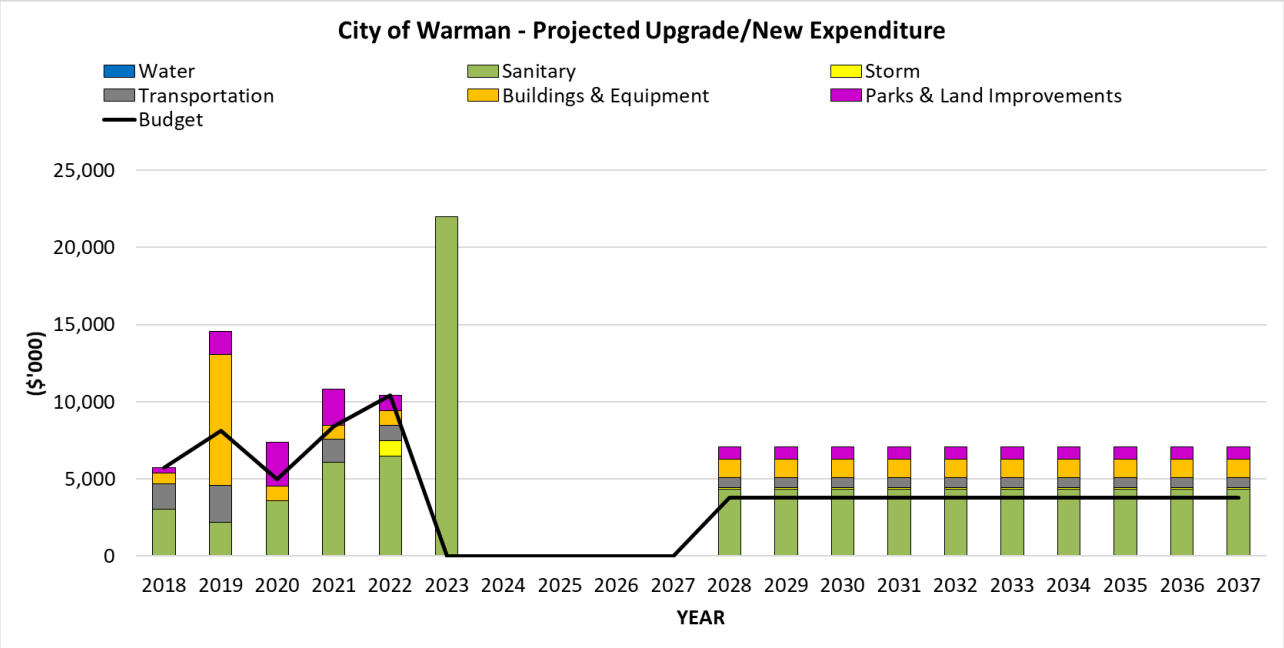
- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner;
- Undertake project scoping for all capital upgrade/new projects to identify:
    - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset;
    - the project objectives to rectify the deficiency including value management for major projects;
    - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency;
    - management of risks associated with alternative options;
    - and evaluate the options against evaluation criteria adopted by Council; and
    - select the best option to be included in capital upgrade/new programs;
- Review current and required skills base and implement training and development to meet required construction and project management needs;
- Review management of capital project management activities to ensure we are obtaining best value for resources used.

Standards and specifications for maintenance of existing assets and construction of new assets and upgrade/expansion of existing assets are detailed in relevant AM Plans.

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures and estimated LTFP outlays are summarized in Figure 9. The forecast expenditures have not been accommodated in the organization's LTFP. Refer to individual AM Plans for details of the projected upgrade/new capital works program. All amounts are shown in real values.

Figure 9: Projected Capital Upgrade/New Asset Expenditure and Budget



The projected upgrade and new assets program includes borrowings to fund high priority items in the next 5 years. We continue to seek funding for unfunded work shown in Figure 9 and if the funds cannot be secured and work must be deferred, we have identified the associated risks and impacts to levels of service. The most significant potential impact of deferred work would be the lagoon improvements that have been identified and projected for 5-10 years in the future (shown in year 2023 in Figure 9).

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in the respective AM Plans.

5.7 Service Consequences and Risks

The organization has prioritized decisions made in adopting the AM Plans summarized in this SAMP to obtain the optimum benefits from its available resources.

The AM Plans are based on balancing service performance, cost and risk to provide an agreed level of service from available resources in our LTFP.

5.7.1 Deferred initiatives and projects

There are some operations and maintenance initiatives and capital projects that have been deferred for the next 10 years. The major initiatives and projects include:

- Lagoon - long term improvements. Details yet to be determined (possible SAGR system). We do not currently have funding for this project. We will consider funding sources in the short term but if we cannot secure funding, this work may be deferred for the next 10 years.
- 2nd Arena – new area is subject to external funding. We will attempt to secure funding but if unsuccessful, this project may be deferred.
- Internal buildings (Public works, City Hall, RCMP) over capacity. No specific work deferred at this time, but this is a known deficiency.

5.7.2 Service consequences

Operations and maintenance initiatives and capital projects that have been deferred will maintain or create service consequences for users. The major service consequences include:

- Potential limited capacity for growth due to lagoon constraints.
- Current arena may be over capacity resulting in lower level of service and availability of service for all stakeholders.
- Internal buildings (Public works, City Hall, RCMP) over capacity, limitations for service delivery and growth.

5.7.3 Risk consequences

The operations and maintenance initiatives and capital projects that cannot be undertaken may maintain or create risk consequences for the organization. The major service risks include:

- Lagoon – over capacity, may not meet regulations. Potential for environmental impact if not meeting lagoon regulations.
- Internal buildings (Public works, City Hall, RCMP) over capacity, limitations for service delivery and growth.

These risks have been included with the infrastructure risk management plan summarized in the relevant AM Plans and risk management plans actions and expenditures included within projected expenditures.

6. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this SAMP. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset performance.

6.1 Financial Indicators and Projections

Asset Renewal Funding Ratio

The Asset Renewal Funding Ratio indicates whether projected capital renewal and replacement expenditure are able to be financed in the LTFP. It is calculated by dividing the projected capital renewal expenditure shown in the AM Plans by the estimated capital renewal budget provided in the LTFP. Over the next 10 years, we are forecasting that we will have 67% of the funds required for the optimal renewal and replacement of assets.

6.2 Funding Strategy

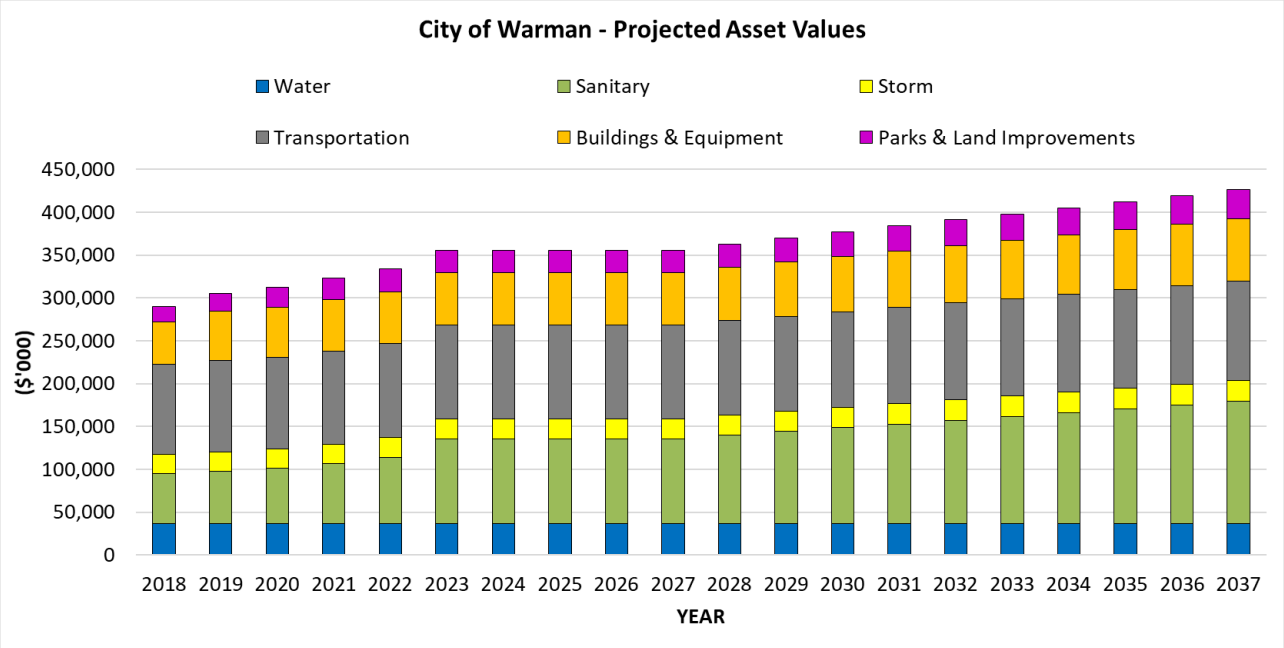
The funding strategy to provide the services covered by this SAMP and supporting AM Plans is contained within the organization's LTFP.

The funding strategy was developed in conjunction with the AM Plans and LTFP. We recognize that we are unable to meet all service demand and have reviewed all service needs and demands and agreed on a trade-off of projects and initiatives to balance service performance, risk and costs. The funding strategy includes borrowings of approximately $22.7 million to finance critical and high priority capital renewal/replacement and upgrade/new projects and initiatives in the next 5 years. Servicing of the borrowings is accommodated within the LTFP.

6.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by the organization and from assets constructed by land developers and others and donated to the organization. Figure 10 shows the projected replacement cost asset values over the planning period in real values.

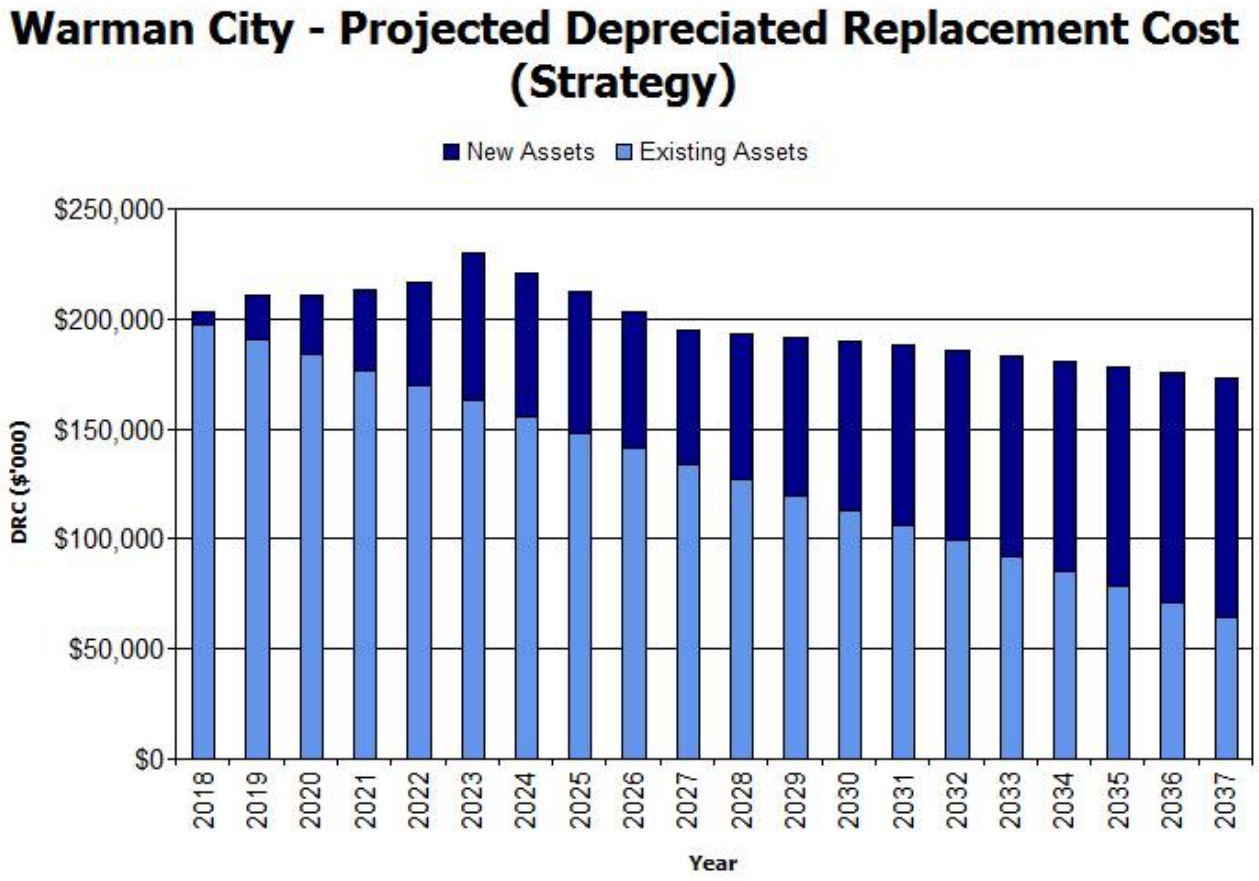
Figure 10: Projected Asset Values



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. As discussed, the projections in years 10-20 have high uncertainty.

Forecasts of the assets' depreciated replacement cost is shown in Figure 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.[10]

Figure 11: Projected Depreciated Replacement Cost



An increase in the projected depreciated replacement cost (carrying value) of infrastructure assets indicates that the organization is maintaining/increasing its infrastructure capital in aggregate. The projection for new and contributed assets is shown by the darker colour. A decrease indicates that aggregate infrastructure capital is being eroded.

Figure 11 indicates that we are not maintaining our infrastructure capital over the 20-year period with a decline in infrastructure capital beginning in approximately 10 years (this assumes we do secure the funding to complete all planned capital work).

This is generally due to the relatively young age profile of infrastructure and is in accordance with our AM and financial plans. At some time in the future, we will need to consider increasing capital renewal funding as the assets age and service performance is expected to decline.

[10] Note; Fair Value for buildings valued at market value is shown as DRC

6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this SAMP and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this SAMP and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in Strategic Asset Management Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Replacement costs are based on indexed historic costs and unit rates from external sources.	Actual replacement costs may be higher than forecast.
Legislative compliance will remain constant.	Changes in legislation & regulation may increase operating and maintenance expenditures or require additional capital investment.
Asset registry is accurate and comprehensive.	Missing asset information may cause an underestimation of future operating, maintenance or capital costs.
Using scenario 1 for renewals, asset replacement timing is based on asset age and the policy asset useful life.	Useful life estimates that are not sufficiently mature may overstate/understate the forecasted renewals as well as depreciated replacement cost.

6.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this SAMP are based on best available data. Currency and accuracy of data is critical to effective asset and financial management.

The estimated confidence level for and reliability of data used in this SAMP is shown in Table 6.5.

Table 6.5: Data Confidence Assessment for AM Plans summarized in Strategic AM Plan

AM Plan	Confidence Assessment	Comment
Water	Low-medium	Confidence Grade C: Uncertain. Asset register segmentation required further review to confirm details.
Sanitary	Low-medium	Confidence Grade C: Uncertain. Asset register segmentation required further review to confirm details.
Transportation	Low-medium	Confidence Grade C: Uncertain. Asset register segmentation required further review to confirm details.
Stormwater	Low-medium	Confidence Grade C: Uncertain. Asset register segmentation required further review to confirm details.
Buildings and Equipment	Low-medium	Confidence Grade C: Uncertain. Asset register segmentation required further review to confirm details.
Parks and Land Improvements	Low-medium	Confidence Grade C: Uncertain. Asset register segmentation required further review to confirm details.

Over all data sources, the data confidence is assessed as low-medium confidence level for data used in the preparation of this SAMP.

Actions to mitigate the adverse effects of data quality are included within Table 7.2 Improvement Plan.

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

Major changes to asset management practices identified in this plan are:

- Begin regular review/revision process of individual AM Plans, SAMP, AM Policy, and AM Maturity Assessment.
- Review and update asset register. Consider software solutions.
- Begin using AM Plan information to support longer term planning and budgeting processes.

7.2 Improvement Plan

The asset management improvement tasks identified from an asset management maturity assessment and preparation of this SAMP are shown in Table 7.2.

Table 7.2: Improvement Plan

Task No	Task	Responsibility*	Resources Required*	Timeline*
1	Review and revise asset register: inconsistent segmentation of assets has been identified, useful lives, current replacement costs and other details require further review to improve data confidence.	Admin.	TBD	TBD
2	Consider software solution for maintaining updated asset register going forward. (Known challenges with updating current Excel version.)	Admin.	TBD	TBD
3	Further develop planned capital renewal and new/upgrades. Particularly for the 5-10-year range.	Admin.	TBD	TBD
4	Review and further develop 'SMART' AM objectives.	Admin.	TBD	TBD
5	Further develop risks and formalize a risk management plan.	Admin.	TBD	TBD
6	Further develop customer and technical levels of service. Seek feedback from community on specific service delivery and costs.	Admin.	TBD	TBD
7	Consider methods to measure asset capacity and performance to develop state of the assets reporting as discussed in Section 2.3.3. (condition/quality, function, capacity/utilization)	Admin.	TBD	TBD
8	Review AM Maturity assessment to identify priority items to focus on for improvement. Various shortcomings identified that may be improved.	Admin.	TBD	TBD

*Note: * Timelines, costs and responsibilities require further consideration.*

7.3 Monitoring and Review Procedures

The SAMP has a life of 4 years (Council election cycle) and is due for complete revision and updating within 1 year of each Council election.

7.4 Performance Measures

The effectiveness of the SAMP can be measured in the following ways:

- The degree to which the required projected expenditures identified in this SAMP are incorporated into the organization's LTFP;
- The degree to which 1-5-year detailed works programs, budgets, business plans and organizational structures consider the 'global' works program trends provided by the summarized AM Plans;
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the organization's Strategic Plan and associated plans;
- The Asset Renewal Funding Ratio achieving the target of 90 - 100%.

8. REFERENCES

City of Warman Asset Management Maturity Assessment.

City of Warman Asset Management Policy.

City of Warman Five Year Capital Works Plan 2018-2022.

City of Warman Municipal Buildings & Equipment Asset Management Plan.

City of Warman Official Community Plan, 2015.

City of Warman Parks & Land Improvements Asset Management Plan.

City of Warman Sanitary Network Asset Management Plan.

City of Warman Stormwater Network Asset Management Plan.

City of Warman Strategic Plan.

City of Warman Transportation Network Asset Management Plan.

City of Warman Water Network Asset Management Plan.

City of Warman Zoning Bylaw, 2016 (DRAFT).

ISO, 2014, ISO 55000, *Asset management – Overview, principles and terminology*, International Organization for Standardization, Geneva.

ISO, 2014, ISO 55001, *Asset management – Management systems - Requirements*, International Organization for Standardization, Geneva.

ISO, 2014, ISO 55002, *Asset management – Management systems – Guidelines for the application of ISO 55001*, International Organization for Standardization, Geneva.

IPWEA, 2014, 'NAMS.PLUS3 Asset Management', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org/namsplus.

IPWEA, 2015, 'Australian Infrastructure Financial Management Manual, Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.

IPWEA, 2011, 2015, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM.