# Asset Management Plan

Village of Westport

2021

This Asset Management Program was prepared by:


Empowering your organization through advanced asset management, budgeting & GIS solutions

# Key Statistics

Replacement cost of asset portfolio
$50.5 million

Replacement cost of infrastructure per household
$116,000 (2016)

Percentage of assets in fair or better condition
55%

Percentage of assets with assessed condition data
35%

Annual capital infrastructure deficit
$469k

Recommended timeframe for eliminating annual infrastructure deficit
10 Years

Target reinvestment rate
1.9%

Actual reinvestment rate
0.9%

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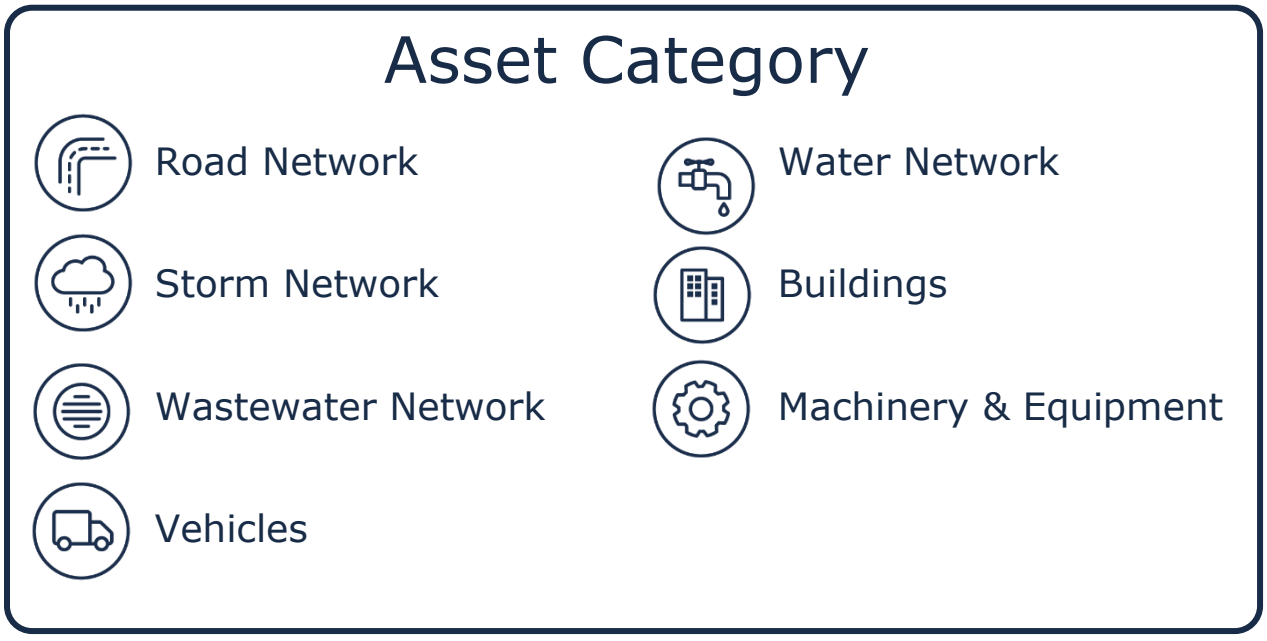
# Executive Summary

Municipal infrastructure provides the foundation for the economic, social, and environmental health and growth of a community through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. This involves the development and implementation of asset management strategies and long-term financial planning.

## Scope

This AMP identifies the current practices and strategies that are in place to manage public infrastructure and makes recommendations where they can be further refined. Through the implementation of sound asset management strategies, Westport can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This AMP include the following asset categories:



With the development of this AMP The Village of Westport has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by July 1, 2024. There are additional requirements concerning proposed levels of service and growth that must be met by July 1, 2025.

# Findings

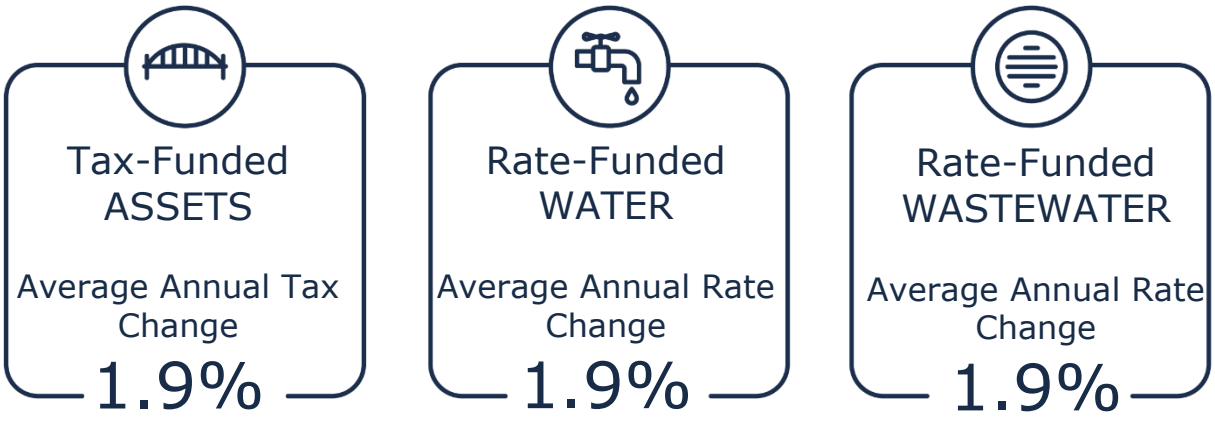
The overall replacement cost of the asset categories included in this AMP totals $50.5 million. 55% of all assets analysed in this AMP are in fair or better condition and assessed condition data was available for 35% of assets. For the remaining 65% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP.
The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (paved roads) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, Westport's average annual capital requirement totals $945 thousand. Based on a historical analysis of sustainable capital funding sources, Westport is committing approximately $476 thousand towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $469 thousand.

It is important to note that this AMP represents a snapshot in time and is based on the best available processes, data, and information at The Village of Westport. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

# Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax/rate change required to eliminate Westport's infrastructure deficit based on a 10-year plan for both tax-funded and rate-funded assets:




Recommendations to guide continuous refinement of Westport's asset management program. These include:

- Review data to update and maintain a complete and accurate dataset
- Develop a condition assessment strategy with a regular schedule
- Review and update lifecycle management strategies
- Development and regularly review short- and long-term plans to meet capital requirements
- Measure current levels of service and identify sustainable proposed levels of service

# 1 Introduction & Context

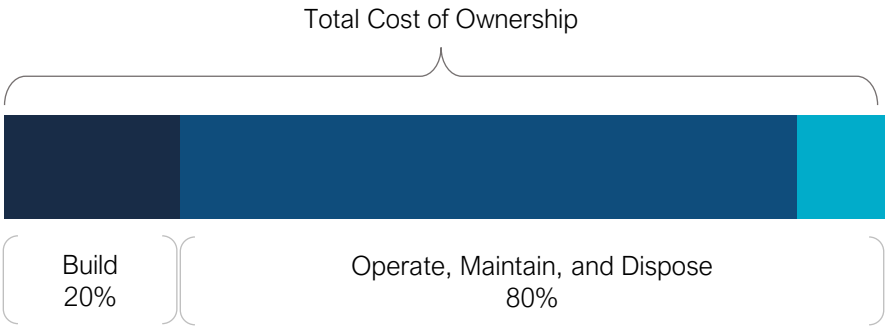
## Key Insights

- The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio
- Westport's asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management
- An asset management plan is a living document that should be updated regularly to inform long-term planning
- Ontario Regulation 588/17 outlines several key milestone and requirements for asset management plans in Ontario between July 1, 2022, and 2025

# 1.1 An Overview of Asset Management

Municipalities are responsible for managing and maintaining a broad portfolio of infrastructure assets to deliver services to the community. The goal of asset management is to minimize the lifecycle costs of delivering infrastructure services, manage the associated risks, while maximizing the value ratepayers receive from the asset portfolio.

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% derives from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.




These costs can span decades, requiring planning and foresight to ensure financial responsibility is spread equitably across generations. An asset management plan is critical to this planning, and an essential element of broader asset management program. The industry-standard approach and sequence to developing a practical asset management program begins with a Strategic Plan, followed by an Asset Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

This industry standard, defined by the Institute of Asset Management (IAM), emphasizes the alignment between the corporate strategic plan and various asset management documents. The strategic plan has a direct, and cascading impact on asset management planning and reporting.

### 1.1.1 Asset Management Policy

An asset management policy represents a statement of the principles guiding Westport's approach to asset management activities. It aligns with the organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

### 1.1.2 Asset Management Strategy

An asset management strategy outlines the translation of organizational objectives into asset management objectives and provides a strategic overview of the activities required to meet these objectives. It provides greater detail than the policy on how Westport plans to achieve asset management objectives through planned activities and decision-making criteria.

### 1.1.3 Asset Management Plan

The asset management plan (AMP) presents the outcomes of Westport's asset management program and identifies the resource requirements needed to achieve a defined level of service. The AMP typically includes the following content:

- State of Infrastructure
- Asset Management Strategies
- Levels of Service
- Financial Strategies

The AMP is a living document that should be updated regularly as additional asset and financial data becomes available. This will allow Westport to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

## 1.2 Key Concepts in Asset Management

Effective asset management integrates several key components, including lifecycle management, risk management, and levels of service. These concepts are applied throughout this asset management plan and are described below in greater detail.

### 1.2.1 Lifecycle Management Strategies

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation and replacement. The following table provides a description of each type of activity and the general difference in cost.

| Lifecycle Activity | Description | Example (Roads) | Cost |
|---|---|---|---|
| Maintenance | Activities that prevent defects or deteriorations from occurring | Crack Seal | $ |
| Rehabilitation/ Renewal | Activities that rectify defects or deficiencies that are already present and may be affecting asset performance | Mill & Re-surface | $$ |
| Replacement/ Reconstruction | Asset end-of-life activities that often involve the complete replacement of assets | Full Reconstruction | $$$ |

Depending on initial lifecycle management strategies, asset performance can be sustained through a combination of maintenance and rehabilitation, but at some point, replacement is required. Understanding what effect these activities will have on the lifecycle of an asset, and their cost, will enable staff to make better recommendations.

Westport's approach to lifecycle management is described within each asset category outlined in this AMP. Developing and implementing a proactive lifecycle strategy will help staff to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

### 1.2.2 Risk Management Strategies

Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal. Some are more important than others, and their failure or disrepair poses more risk to the community than that of others. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road. These high-value assets should receive funding before others.

By identifying the various impacts of asset failure and the likelihood that it will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused. This AMP includes a high-level evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation and replacement strategies for critical assets.

### 1.2.3 Levels of Service

A level of service (LOS) is a measure of what Westport is providing to the community and the nature and quality of that service. Within each asset category in this AMP, technical metrics and qualitative descriptions that measure both technical and community levels of service have been established and measured as data is available.

These measures include a combination of those that have been outlined in O. Reg. 588/17 in addition to performance measures identified by Westport as worth measuring and evaluating. Westport measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

## Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories (roads, bridges and culverts, water, wastewater, stormwater) the Province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For non-core asset categories, Westport has determined the qualitative descriptions that will be used to determine the community level of service provided. These descriptions can be found in the Levels of Service subsection within each asset category.

## Technical Levels of Service

Technical levels of service are a measure of key technical attributes of the service being provided to the community. These include mostly quantitative measures and tend to reflect the impact of Westport's asset management strategies on the physical condition of assets or the quality/capacity of the services they provide.

For core asset categories (roads, bridges and culverts, water, wastewater, stormwater), the province, through O. Reg. 588/17, has provided technical metrics that are required to be included in this AMP. For non-core asset categories, Westport has determined the technical metrics that will be used to determine the technical level of service provided. These metrics can be found in the Levels of Service subsection within each asset category.

## Current and Proposed Levels of Service

This AMP focuses on measuring the current level of service provided to the community. Once current levels of service have been measured, Westport plans to establish proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17.

Proposed levels of service should be realistic and achievable within the timeframe outlined by Westport. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals and long-term sustainability. Once proposed levels of service have been established, and prior to July 2025, Westport must identify a lifecycle management and financial strategy which allows these targets to be achieved.

# 1.3 Ontario Regulation 588/17

As part of the *Infrastructure for Jobs and Prosperity Act, 2015*, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17). Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

The diagram below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

**2019**

Strategic Asset Management Policy

**2022**

Asset Management Plan for Core Assets with the following components:

1. Current levels of service
2. Inventory analysis
3. Lifecycle activities to sustain LOS
4. Cost of lifecycle activities
5. Population and employment forecasts
6. Discussion of growth impacts

**2024**

Asset Management Plan for Core and Non-Core Assets (same components as 2022) and Asset Management Policy Update

**2025**

Asset Management Plan for All Assets with the following additional components:

1. Proposed levels of service for next 10 years
2. Updated inventory analysis
3. Lifecycle management strategy
4. Financial strategy and addressing shortfalls
5. Discussion of how growth assumptions impacted lifecycle and financial

### 1.3.1 O. Reg. 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to meet by July 1, 2024. Next to each requirement a page or section reference is included in addition to any necessary commentary.

| Requirement | O. Reg. Section | AMP Section Reference | Status |
|---|---|---|---|
| Summary of assets in each category | S.5(2), 3(i) | 4.1.1 - 5.2.1 | Complete |
| Replacement cost of assets in each category | S.5(2), 3(ii) | 4.1.1 - 5.2.1 | Complete |
| Average age of assets in each category | S.5(2), 3(iii) | 4.1.3 - 5.2.3 | Complete |
| Condition of core assets in each category | S.5(2), 3(iv) | 4.1.2 – 5.2.2 | Complete |
| Description of municipality's approach to assessing the condition of assets in each category | S.5(2), 3(v) | 4.1.2 – 5.2.2 | Complete |
| Current levels of service in each category | S.5(2), 1(i-ii) | 4.1.6 - 5.2.6 | Complete |
| Current performance measures in each category | S.5(2), 2 | 4.1.6 - 5.2.6 | Complete |
| Lifecycle activities needed to maintain current levels of service for 10 years | S.5(2), 4 | 4.1.4 - 5.2.4 | Complete |
| Costs of providing lifecycle activities for 10 years | S.5(2), 4 | Appendix B | Complete |
| Growth assumptions | S.5(2), 5(i-ii) S.5(2), 6(i-vi) | 6.1-6.2 | Complete |

# 2 Scope and Methodology

## Key Insights

- This asset management plan includes 7 asset categories and is divided between tax-funded and rate-funded categories
- The source and recency of replacement costs impacts the accuracy and reliability of asset portfolio valuation
- Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life

## 2.1 Asset Categories Included in this AMP

This asset management plan for the Village of Westport is produced in compliance with Ontario Regulation 588/17. The July 2024 iteration of the Asset Management Plan requires analysis of both core and non-core assets.

The AMP summarizes the state of the infrastructure for the Village's asset portfolio, establishes current levels of service and the associated technical and customer oriented key performance indicators (KPIs), outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

| Asset Category | Source of Funding |
|---|---|
| Road Network | Tax Levy |
| Storm Network | |
| Buildings | |
| Vehicles | |
| Machinery & Equipment | |
| Water Network | User Rates |
| Wastewater Network | |

## 2.2 Deriving Replacement Costs

There are a range of methods to determine the replacement cost of an asset, and some are more accurate and reliable than others. This AMP relies on two methodologies:

- **User-Defined Cost and Cost/Unit**: Based on costs provided by municipal staff which could include average costs from recent contracts; data from engineering reports and assessments; staff estimates based on knowledge and experience
- **Cost Inflation/CPI Tables**: Historical cost of the asset is inflated based on Consumer Price Index or Non-Residential Building Construction Price Index

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that Westport incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

## 2.3 Estimated Useful Life

The estimated useful life (EUL) of an asset is the period over which Westport expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset in this AMP was assigned according to the knowledge and expertise of municipal staff and supplemented by existing industry standards when necessary.

## 2.4 Reinvestment Rate

As assets age and deteriorate they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost.

By comparing the actual vs. target reinvestment rate Westport can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

$$Target\ Reinvestment\ Rate = \frac{Annual\ Capital\ Requirement}{Total\ Replacement\ Cost}$$

$$Actual\ Reinvestment\ Rate = \frac{Annual\ Capital\ Funding}{Total\ Replacement\ Cost}$$

## 2.5 Deriving Asset Condition

An incomplete or limited understanding of asset condition can mislead long-term planning and decision-making. Accurate and reliable condition data helps to prevent premature and costly rehabilitation or replacement and ensures that lifecycle activities occur at the right time to maximize asset value and useful life.

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across Westport's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

| Condition | Description | Criteria | Service Life Remaining (%) |
|---|---|---|---|
| Very Good | Fit for the future | Well maintained, good condition, new or recently rehabilitated | 80-100 |
| Good | Adequate for now | Acceptable, generally approaching mid-stage of expected service life | 60-80 |
| Fair | Requires attention | Signs of deterioration, some elements exhibit significant deficiencies | 40-60 |
| Poor | Increasing potential of affecting service | Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration | 20-40 |
| Very Poor | Unfit for sustained service | Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable | 0-20 |

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition. Appendix E includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

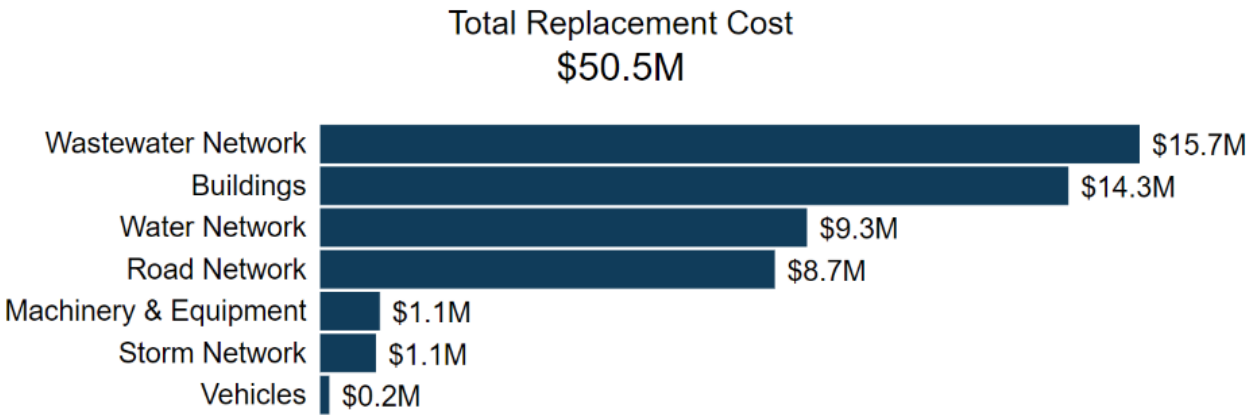
# 3 Portfolio Overview

## Key Insights

- The total replacement cost of Westport's asset portfolio is $50.5 million
- Westport's target re-investment rate is 1.9%, and the actual re-investment rate is 0.9%
- 55% of all assets are in fair or better condition
- Average annual capital requirements total $945,000 per year across all assets

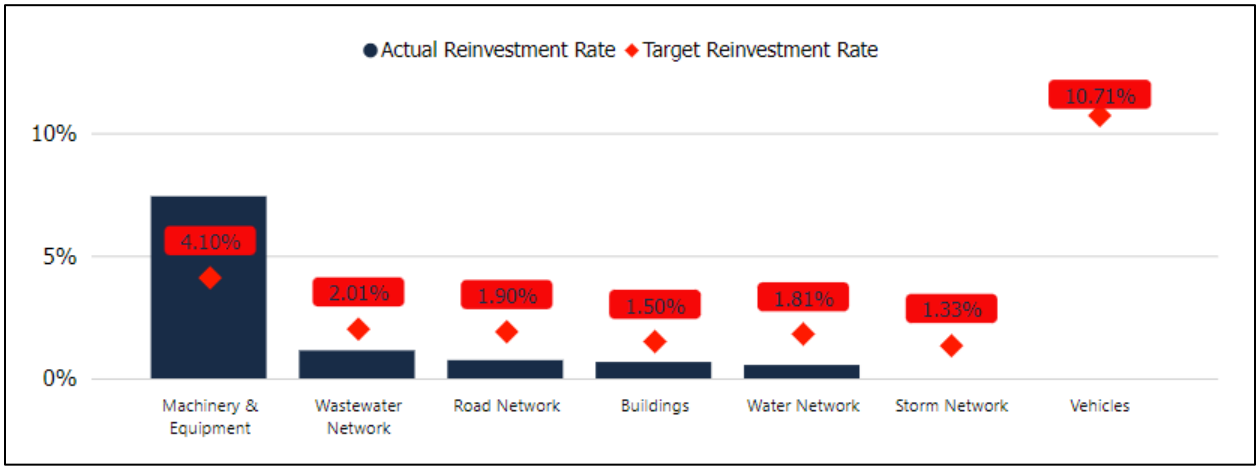
## 3.1 Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total replacement cost of $50.5 million based on inventory data from 2021. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



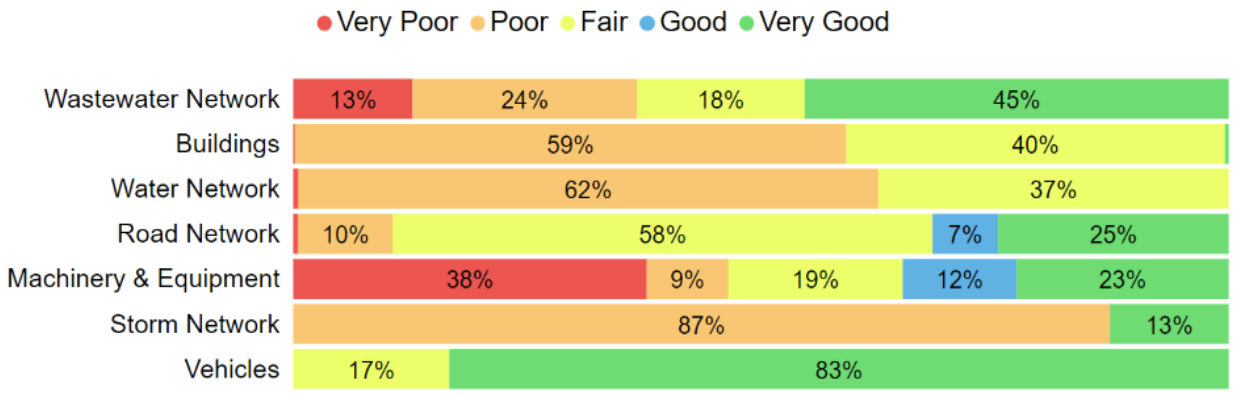

## 3.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, Westport should be allocating approximately $945,000 annually, for a target reinvestment rate of 1.9%. Actual annual spending on infrastructure totals approximately $476,000, for an actual reinvestment rate of 0.9%.



# 3.3 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 55% of assets in Westport are in fair or better condition. This estimate relies on both age-based and field condition data.



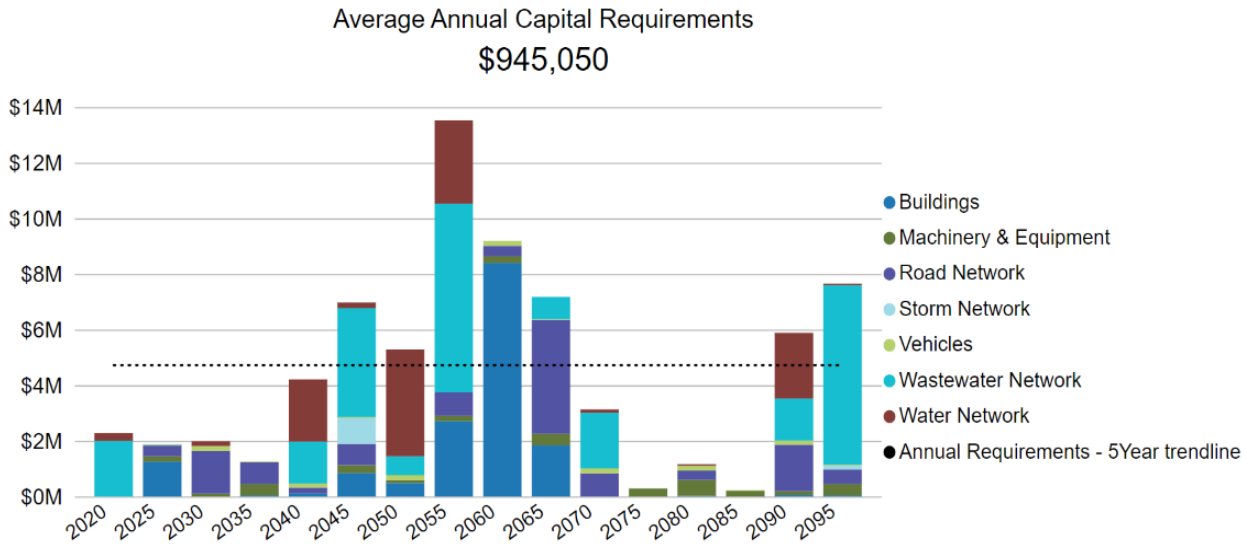

This AMP relies on assessed condition data for 35% of assets; for the remaining portfolio, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

| Asset Category | Asset Segment | % of Assets with Assessed Condition | Source of Condition Data |
|---|---|---|---|
| Road Network | All | 67% | Staff Assessments |
| Storm Network | All | 0% | Age-based |
| Buildings | All | 26% | Insurance Appraisal/ Staff Assessments |
| Machinery & Equipment | All | 56% | Staff Assessments |
| Vehicles | All | 0% | Age-based |
| Water Network | All | 61% | Staff Assessments |
| Wastewater Network | All | 13% | Staff Assessments |
| | **Total** | **35%** | |

# 3.4 Forecasted Capital Requirements

The development of a long-term capital forecast should include both asset rehabilitation and replacement requirements. With the development of asset-specific lifecycle strategies that include the timing and cost of future capital events, Westport can produce an accurate long-term capital forecast.

The following graph identifies capital requirements over the next 75 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.



# 4 Analysis of Tax-funded Assets

## Key Insights

- Tax-funded assets are valued at $25.4 million
- 57% of tax-funded assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for tax-funded assets is approximately $461 thousand
- Critical assets should be evaluated to determine appropriate risk mitigation activities and treatment options

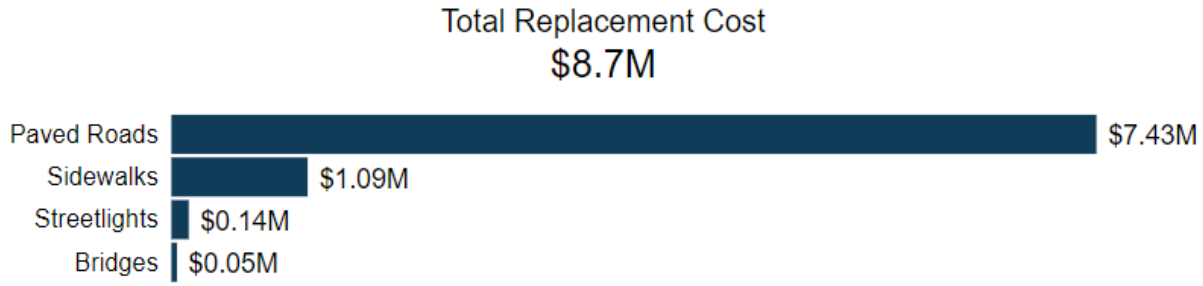
# 4.1 Road Network

The road network is a critical component of the provision of safe and efficient transportation services. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure including sidewalk and streetlights. Westport's roads are maintained by the Public Works department.

## 4.1.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Westport's road network inventory.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Bridges[1] | 1 | User-Defined | $45,000 |
| Paved Roads | 3.6 kms | Cost/Unit | $7,431,996 |
| Sidewalks | 5.4 kms | Cost/Unit | $1,094,060 |
| Streetlights | 146 | User-Defined | $139,150 |
| Unpaved Roads | 0.1 kms | Not Planned for Replacement | |
| | | | **$8,710,806** |




Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

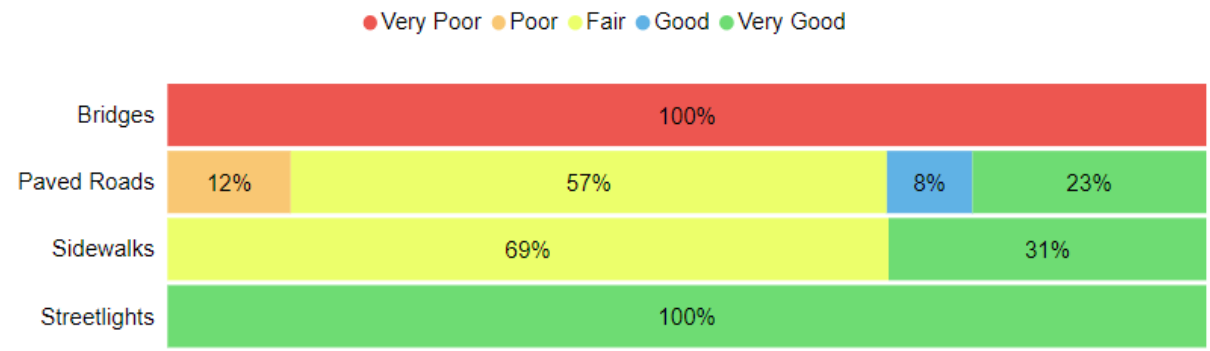
[1] This asset is a pedestrian bridge that staff are considering decommissioning in future years.

## 4.1.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Bridges | 17% | Very Poor | 100% Assessed |
| Paved Roads | 61% | Good | 78% Assessed |
| Sidewalks | 59% | Fair | Age-Based |
| Streetlights | 90% | Very Good | Age-Based |
| | **61%** | **Good** | **66% Assessed** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.




To ensure that Westport's continues to provide an acceptable level of service, Westport should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the road network.

## Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- A road needs assessment and sidewalk evaluation is completed every 5-7 years.
- Staff conduct annual internal assessment on roads in accordance with Minimum Maintenance Standards (MMS)
- Sidewalk deficiency testing is conducted internally on a semi-annual basis.
- Other road appurtenances are visually inspected as required.

# 4.1.3 Estimated Useful Life & Average Age

The Estimated Useful Life for road network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Bridges | 75 | 62 |
| Paved Roads | 35 | 29.8 |
| Sidewalks | 60 | 27.3 |
| Streetlights | 40 | 4 |
| | | **26.75** |

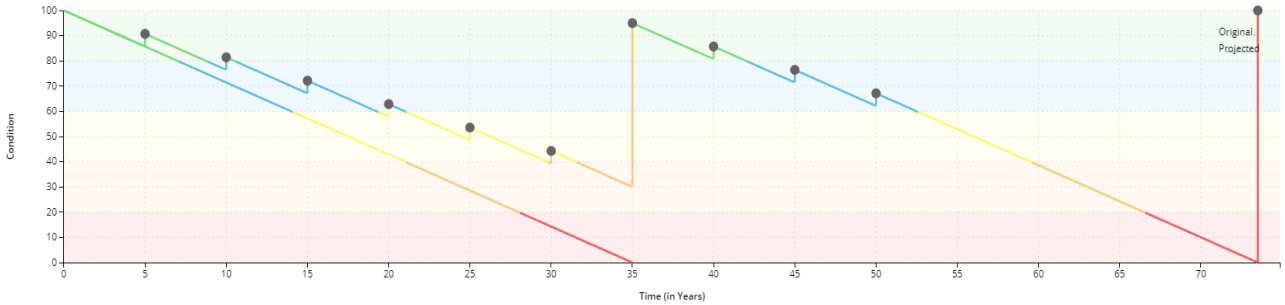
Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

## 4.1.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment.

Currently, Westport's lifecycle management strategy is mostly reactive with the goal of replacing roads when they reach end-of-life. The following proposed lifecycle strategies have been developed as a proactive approach to managing Westport's paved roads. Instead of allowing the roads to deteriorate until replacement is required, strategic rehabilitation is expected to extend the service life of roads at a lower total cost.

| Paved Roads | | |
|---|---|---|
| **Event Name** | **Event Class** | **Event Trigger** |
| Patching | Maintenance | 5 Years (Repeated) |
| Mill & Pave | Rehabilitation | 30%-40% Condition |
| Full Reconstruction | Replacement | 0%-30% Condition |

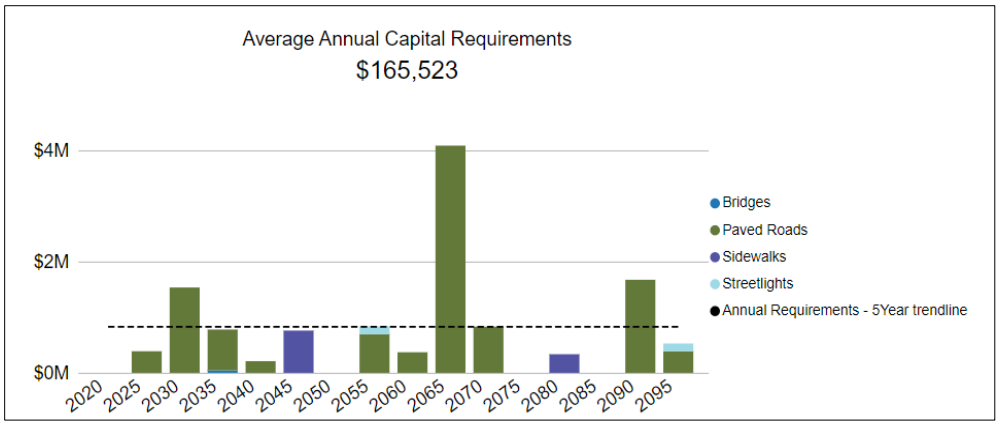


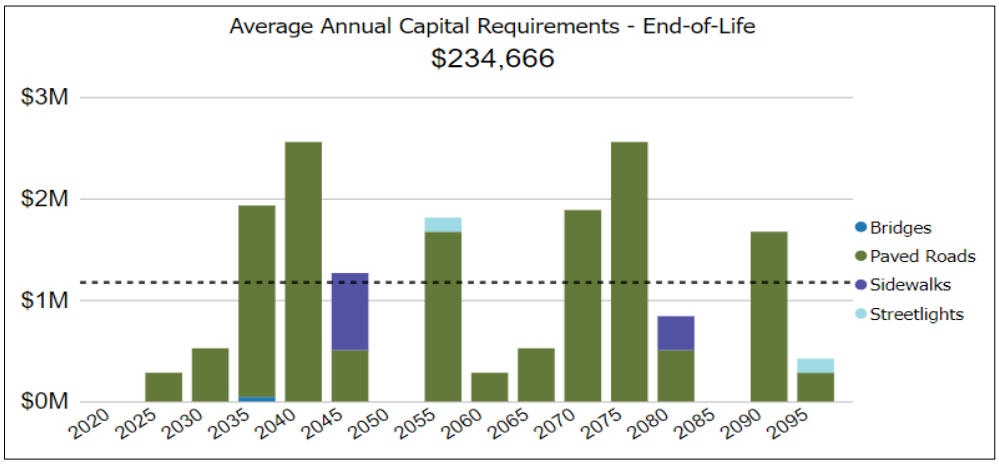
## Forecasted Capital Requirements

Based on the lifecycle strategies identified previously for paved roads, and assuming the end-of-life replacement of all other assets in this category, the following graph forecasts capital requirements for the road network.

The following graphs forecast the long-term capital requirements for the road network. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graphs identify capital requirements over the next 75 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.

The first graph shows the capital requirements based on the proactive/proposed lifecycle strategy for paved roads, whereas the graph labelled "End-of-Life" shows the capital requirements based on letting roads run to failure. When comparing the forecasts, the proactive lifecycle strategy is more staggered and achievable compared to the end-of-life strategy.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

### 4.1.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Capital Funding**

Funding is a constant challenge to the overall maintenance of the road network. Staff sometimes can only complete minor maintenance activities as opposed to more extensive work due to lack of funding. However, developing a proactive and strategic capital forecast is essential to minimize hidden road failures and risks.

**Lifecycle Management Strategies**

The current lifecycle management strategy for roads is considered more reactive than proactive. It is a challenge to find the right balance between maintenance, capital rehabilitation, and the reconstruction of roads. Staff hope to formally adopt better defined strategies as defined above that will replace inferior infrastructure design, extend pavement lifecycle, and lower total cost. These strategies will require sustainable annual funding to minimize the deferral of capital works.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of the road network are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |
| Drainage Adequacy | Traffic Counts (Operational) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

## 4.1.6 Levels of Service

The following tables identify Westport's current level of service for the road network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that Westport has selected for this AMP.

### Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the road network and bridges.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| | Description, which may include maps, of the road network in the municipality and its level of connectivity | See Appendix B |
| Scope | Description of the traffic that is supported by municipal bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists) | The Village owns and operates one pedestrian bridge that supports the patrons and visitors of the Westport Harbour. |
| Quality | Description or images that illustrate the different levels of road class pavement condition | All road assets have an assigned pavement condition index (PCI) which is reviewed internally on a yearly basis. Condition ratings are broken into the following ranges:<br><br>0-19 – Very Poor (Immediate replacement required)<br>20-39 – Poor (Failure of road is imminent within 2-4 years)<br>40-59 – Fair (Roads have moderate physical deficiencies. Rehabilitation is recommended)<br>60-79 – Good (Preventative maintenance activities are recommended to extend the life of the roads)<br>80-100 - Very Good (Excellent condition, no activities required) |

| | |
|---|---|
| Description or images of the condition of bridges and how this would affect use of the bridges | The bridge is in very poor condition and will be reaching the end of its estimated useful life (EUL) shortly. External assessments have indicated that a full reconstruction will need to be completed in the near future. |

## Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the road network.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Scope | Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km$^2$) | 0 km / 2.2 km$^2$ |
| | Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km$^2$) | 0 km / 2.2 km$^2$ |
| | Lane-km of local roads (MMS classes 5 and 6) per land area (km/km$^2$) | 7.5 km / 2.2 km$^2$ |
| | % of bridges in the municipality with loading or dimensional restrictions | 0% |
| Quality | Average pavement condition index for paved roads in the municipality | 58.4 |
| | Average surface condition for unpaved roads in the municipality (e.g. excellent, good, fair, poor) | Fair |
| | Average bridge condition index value for bridges in the municipality | 20 (Very Poor) |

### 4.1.7 Recommendations

## Asset Inventory

- Continue to refine and update attribute information to supplement the risk and lifecycle strategies.
- Update replacement costs based on recent project prices on a regular basis, every 1-2 years.
- Update condition information regularly, as it becomes available, to ensure capital forecasts are reliable.

## Lifecycle Management Strategies

- Implement the identified lifecycle management strategies for paved roads to realize potential cost avoidance and maintain a high quality of road pavement condition.
- Evaluate the efficacy of Westport's lifecycle management strategies at regular intervals to determine the impact cost, condition and risk.

## Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

## Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that Westport believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.2 Storm Network

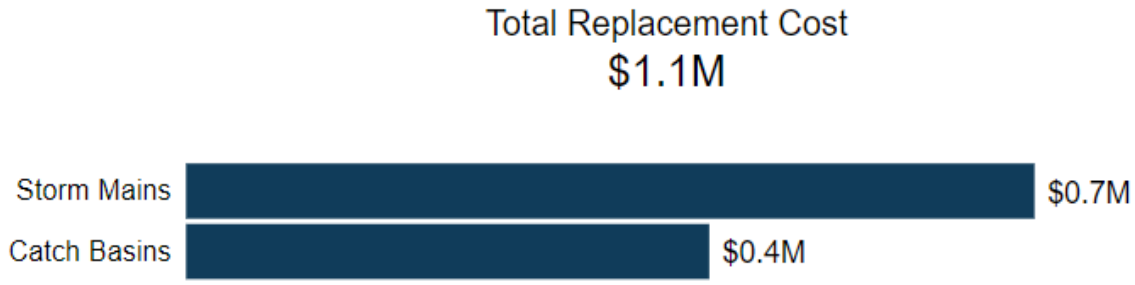
The Village of Westport is responsible for owning and maintaining the storm network which is comprised of catch basins, storm mains, and other supporting infrastructure.

Staff are working towards improving the accuracy and reliability of the storm network inventory to assist with long-term asset management planning.

## 4.2.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in Westport's storm network inventory.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Catch Basins | 42 | Cost/Unit | $408,702 |
| Storm Mains | 0.6 kms | User-Defined | $662,776 |
| | | | **$1,071,478** |



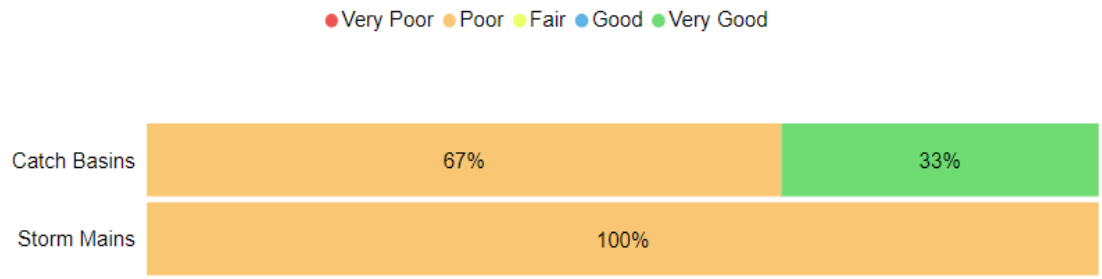

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 4.2.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Catch Basins | 55% | Fair | Age-Based |
| Storm Mains | 33% | Poor | Age-Based |
| | **42%** | **Fair** | **Age-Based** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.




To ensure that Westport's stormwater network continues to provide an acceptable level of service, it should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the stormwater network.

### Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- There are currently no formal condition assessment programs in place for the storm network. Storm mains are CCTV inspected on an as-needed basis and typically in preparation for replacement.
- Catchbasins are visually inspected on a regular ad-hoc basis.
- As Staff refine their asset inventory for the storm network, a regular assessment cycle will be established.

### 4.2.3 Estimated Useful Life & Average Age

The Estimated Useful Life for stormwater network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Catch Basins | 75 | 33.7 |
| Storm Mains | 75 | 50 |
| | | **34.1** |

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

### 4.2.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

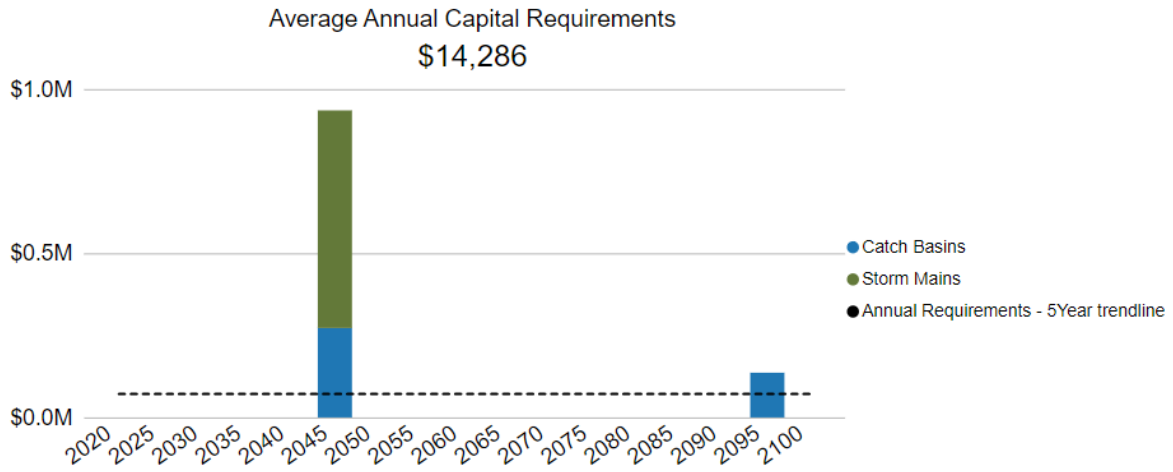
The following table outlines Westport's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Maintenance activities are completed to a lesser degree compared to other underground linear infrastructure |
| | CCTV inspections will be completed going forward as Westport has purchased the necessary cameras. This information will help the Village better manage its storm network by providing more accurate information (e.g., inflow & infiltration) on monitored assets |
| Rehabilitation /Replacement | Replacement of storm network assets are done in conjunction with road and other underground assets projects. |
| | Without the availability of up-to-date condition assessment information replacement activities are mostly reactive in nature |

## Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 80 years.

This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

### 4.2.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Asset Data & Information**

There is a lack of confidence in the available inventory data and condition data. Staff plan to prioritize data refinement efforts to increase the accuracy and reliability of asset data and information. Once completed, staff can confidently develop data-driven strategies to address infrastructure needs. Staff are also seeking to optimize information gathered from CCTV inspections and they hope to develop better defined strategies that will extend the network's lifecycle, increase capacity for growth, and the lower total cost.

**Climate Change & Extreme Weather Events**

The storm network comprises of mains, catch basins, and other supporting infrastructure. In recent years, Westport has experienced more extreme rainfall events. The risk of surface flooding and road washouts will increase with these events if the system is not maintained adequately. Incorporating a monitoring and maintenance program for all storm network infrastructure into the asset management plan can further support infrastructure resiliency and reduce risk.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the storm network are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

## 4.2.6 Levels of Service

The following tables identify Westport's current level of service for the stormwater network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that Westport has selected for this AMP.

### Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the stormwater network.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| Scope | Description, which may include map, of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater system | TBD |

### Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the stormwater network.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Scope | % of properties in municipality resilient to a 100-year storm | TBD |
| | % of the municipal stormwater management system resilient to a 5-year storm | TBD |

### 4.2.7 Recommendations

## Asset Inventory

- Westport's stormwater network inventory remains at a basic level of maturity and staff do not have a high level of confidence in its accuracy or reliability. The development of a comprehensive inventory of the stormwater network should be priority.

## Condition Assessment Strategies

- The development of a comprehensive inventory should be accompanied by an assessment of the condition of all storm mains through CCTV inspections.
- Staff should investigate the resilience of their storm network and the design specifications that they system was built to.

## Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.
- Staff should consider conducting a stormwater system resiliency assessment and/or connect with conservation authorities to capture flood plain mapping information and better understand the resilience of their properties against severe storms (i.e. 100-year storms)

## Lifecycle Management Strategies

- Document and review lifecycle management strategies for the stormwater network on a regular basis to achieve the lowest total cost of ownership while maintaining adequate service levels.

## Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that Westport believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.3 Buildings

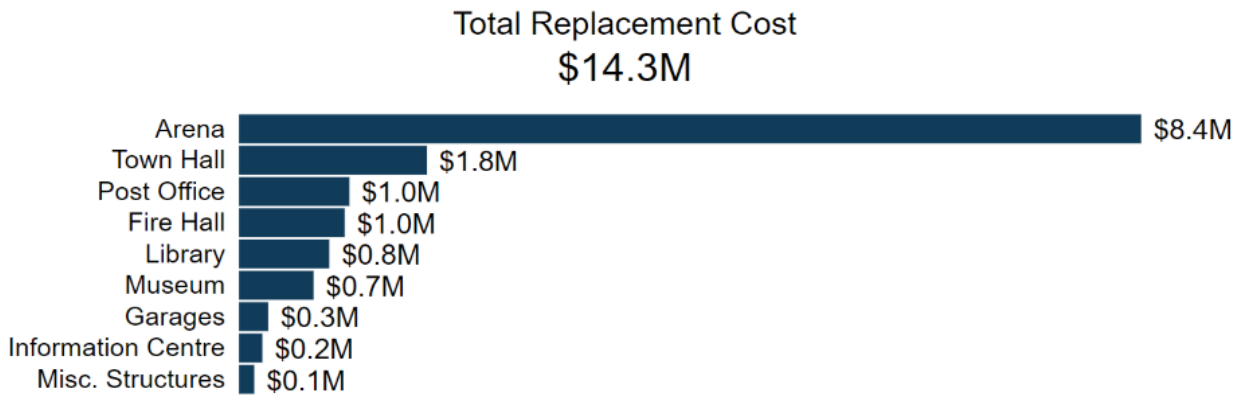
Westport owns and maintains key facilities and recreation centres that provide crucial services to the community. These include:

- Post office
- Town Hall
- Fire hall
- Public library
- Museum
- Information Centre
- Arena

## 4.3.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in Westport's buildings inventory.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Arena | 1 | User-Defined | $8,400,000 |
| Fire Hall | 1 | CPI | $984,077 |
| Garages | 2 | User-Defined | $272,500 |
| Information Centre | 1 | CPI | $218,642 |
| Library | 1 | User-Defined | $841,600 |
| Misc. Structures | 4 | 68% User-Defined<br>32% CPI | $143,007 |
| Museum | 1 | User-Defined | $695,400 |
| Post Office | 1 | CPI | $1,027,678 |
| Town Hall | 1 | User-Defined | $1,750,000 |
| | | | **$14,332,904** |



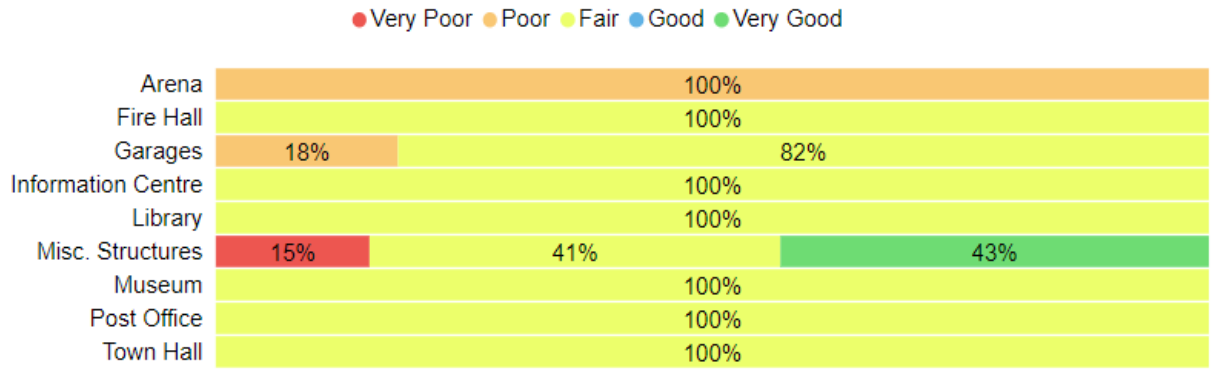

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 4.3.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Arena | 37% | Poor | Age-Based |
| Fire Hall | 44% | Fair | Age-Based |
| Garages | 45% | Fair | Age-Based |
| Information Centre | 50% | Fair | Assessed |
| Library | 42% | Fair | User-Defined |
| Misc.Structures | 56% | Fair | 68% User-Defined<br>32% CPI |
| Museum | 50% | Fair | User-Defined |
| Post Office | 50% | Fair | CPI |
| Town Hall | 50% | Fair | User-Defined |
| | **43%** | **Fair** | **31% Assessed** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.




To ensure that Westport's buildings and facilities continues to provide an acceptable level of service, Westport should monitor the average condition of all assets. If the

average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the buildings and facilities.

## Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- No formal condition assessments currently exist for the village
- Prioritization of assessments are based on staff expertise
- Staff indicated that only the post office has been externally assessed (2022)

### 4.3.3 Estimated Useful Life & Average Age

The Estimated Useful Life for buildings and facilities assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Arena | 75 | 47 |
| Fire Hall | 75 | 42 |
| Garages | 60 | 36.5 |
| Information Centre | 60 | 67 |
| Library | 60 | 35 |
| Misc. Structures | 25-50 | 22.75 |
| Museum | 75 | 162 |
| Post Office | 75 | 84 |
| Town Hall | 75 | 162 |
| | | **58.9** |

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

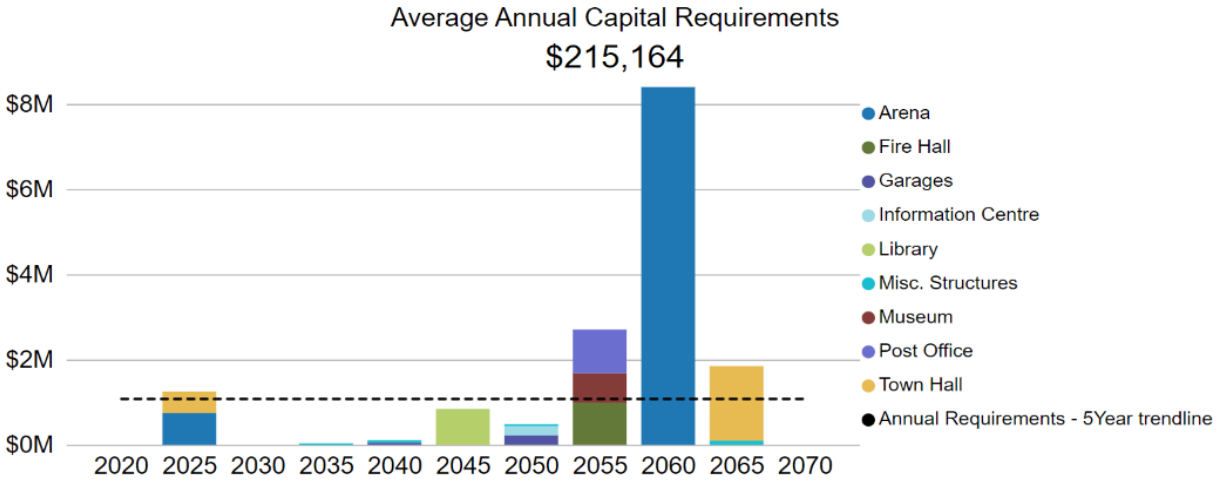
### 4.3.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines Westport's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance / Rehabilitation | Staff have indicated that buildings do not receive a regular, scheduled visual inspection. Going forward, Westport hopes to remedy this by addressing staffing issues |
| Replacement | As buildings begin to reach the end of their estimated useful life, Westport aims to have third party assessments completed to determine whether replacement or rehabilitation is appropriate |

## Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

### 4.3.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Staff Capacity**

As is the case for many municipalities, but especially those below a population of 5,000 people, Staff have many competing demands and priorities that limit them from completing all necessary activities on time. Westport's facility staff is mostly comprised of part-time employees, making it even more difficult to balance competing demands such as conducting condition inspections of building assets or performing preventative maintenance/rehabilitation activities. As such, building assets are managed more reactively than would be ideal.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of buildings are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |
| | Function (Operational) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

## 4.3.6 Levels of Service

### Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Westport's buildings.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| Scope | List of facilities that meet AODA standards and any work that has been undertaken to achieve alignment | TBD |
| | Description of monthly and annual facilities inspection | TBD |
| Quality | Description of the current condition of municipal facilities and the plans that are in place to maintain or improve the provided level of service | An external condition assessment was completed on the post office in early 2022.<br><br>Westport hall received a new roof in 2019. Westport hall will also be going under major rehabilitation in the coming years to address accessibility issues along with electrical and HVAC work.<br><br>The arena is planned for expansion in the near future to address lighting and accessibility issues. It has reached capacity and will become a multi-purpose facility. |

## Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Westport's buildings.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Scope | # Of unplanned facility closures (>3+ days) | TBD |
| | % Of all facilities that meet AODA standards | TBD |
| Quality | % Of facilities that are in good or very good condition | 41% |
| | % Of facilities that are in poor or very poor condition | 59% |

### 4.3.7 Recommendations

## Asset Inventory

- Westport's asset inventory contains a single record for all facilities. Facilities consist of several separate capital components that have unique estimated useful lives and require asset-specific lifecycle strategies. Staff should work towards a component-based inventory of all facilities to allow for component-based lifecycle planning.

## Replacement Costs

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

## Condition Assessment Strategies

- Westport should implement regular condition assessments for all facilities to better inform short- and long-term capital requirements.

## Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

## Levels of Service

- Begin measuring current levels of service in accordance with the metrics that Westport has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

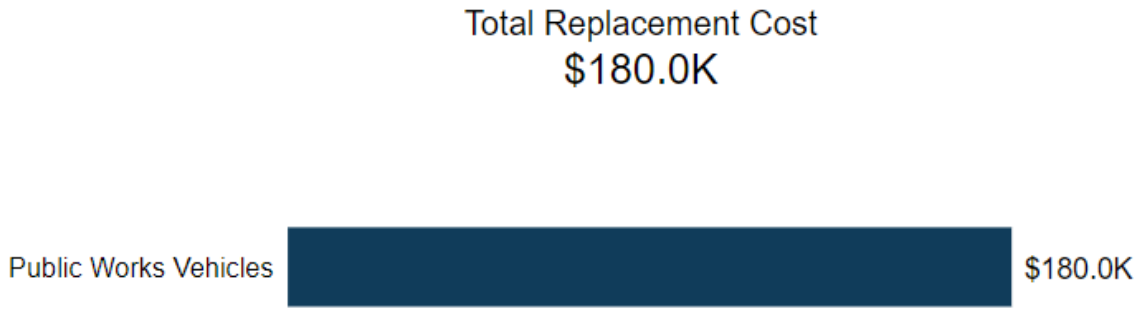
# 4.4 Vehicles

Vehicles allow staff to efficiently deliver municipal services and personnel. Westport's inventory is comprised of two multi-purpose public works vehicles.

## 4.4.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in Westport's vehicles.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Public Works Vehicles | 2 | User-Defined | $180,000 |
| | | | **$180,000** |




Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 4.4.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Public Works Vehicles | 74% | Good | Age-Based |
| | **74%** | **Good** | **Age-Based** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.


To ensure that Westport's Vehicles continue to provide an acceptable level of service, Westport should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the vehicles.

### Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- Staff conduct daily visual inspections of vehicles to ensure they are in state of adequate repair prior to operation

## 4.4.3 Estimated Useful Life & Average Age

The Estimated Useful Life for vehicles assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Public Works Vehicles | 7-10 | 3 |
| | | **3** |

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

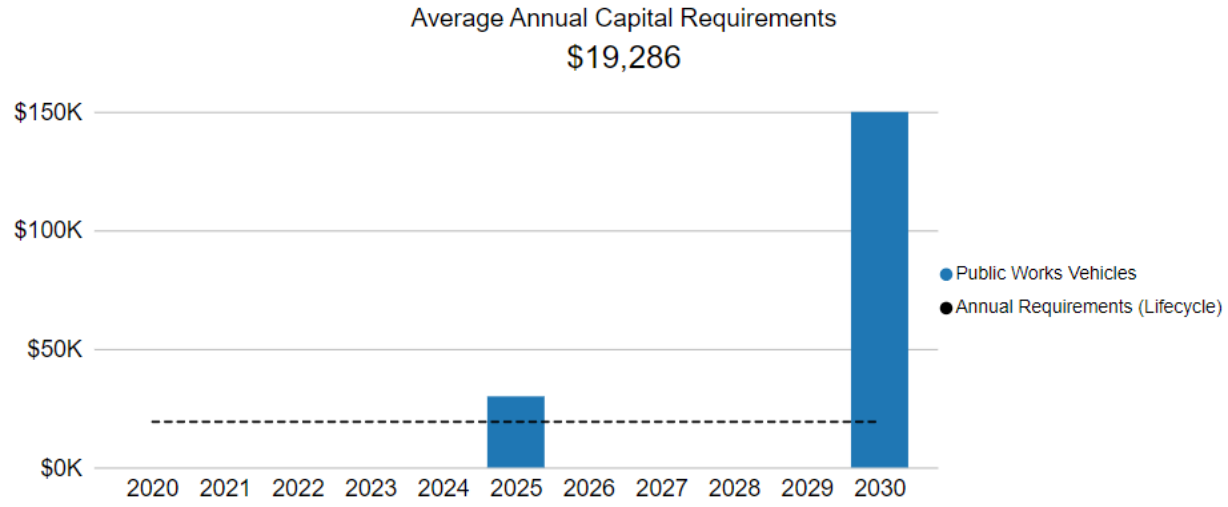
### 4.4.4 Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines Westport's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance / Rehabilitation | Visual inspections completed and documented daily |
| Replacement | Vehicle renewals and replacements are performed based on mechanic recommendations and in compliance with regulatory requirements |
| | Vehicle age, kilometres and annual repair costs are taken into consideration when determining appropriate treatment options |

## Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 10 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

## 4.4.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Capital Funding Strategies**

Staff indicated that lead time is an issue for the village. Necessary funding for new vehicles will not be readily available until 2025. Consequently, current multi-purpose public works vehicles will deteriorate and reach their respective estimated useful lives (EUL) sooner.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of vehicles are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

## 4.4.6 Levels of Service

### Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Westport's vehicles.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| Quality | Description of the current condition of municipal vehicles and the plans that are in place to maintain or improve the provided level of service | Westport's vehicles are in good condition. Vehicles receive daily inspection by internal staff and are examined by an external mechanic on a scheduled basis |

### Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Westport's buildings.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Quality | % Of vehicles that are in good or very good condition | 100% |
| | % Of vehicles that are in poor or very poor condition | 0% |

### 4.4.7 Recommendations

## Replacement Costs

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

## Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk equipment.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

## Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

## Levels of Service

- Begin measuring current levels of service in accordance with the metrics that Westport has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 4.5 Machinery & Equipment

Westport owns and operates various types of machinery and equipment assets. This includes:

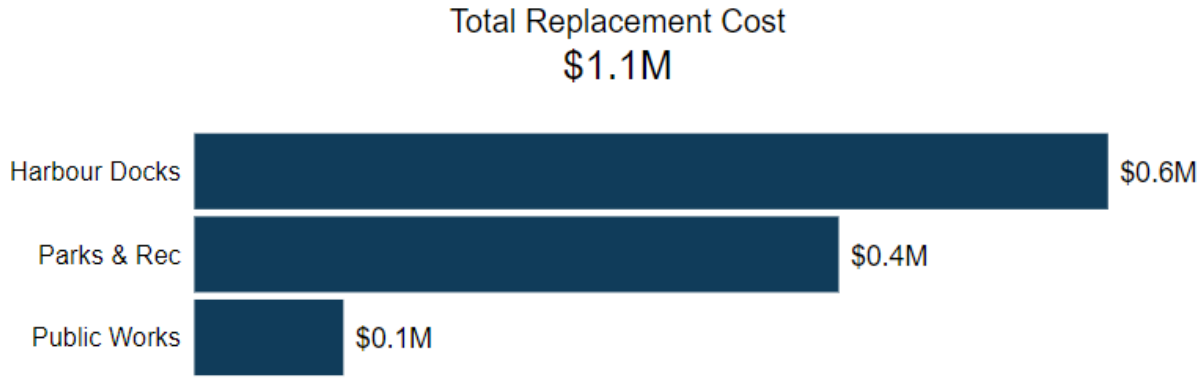
- Parks and recreational equipment (fields, courts, playgrounds)
- Harbour docks

Keeping machinery & equipment in an adequate state of repair is important to maintain a high level of service.

## 4.5.1 Asset Inventory & Replacement Cost

The following table includes the quantity, replacement cost method and total replacement cost of each asset segment in Westport's machinery and equipment inventory.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Harbour Docks | 7 | User-Defined | $612,756 |
| Parks & Rec | 5 | User-Defined | $432,000 |
| Public Works | 1 | User-Defined | $100,000 |
| | | | **$1,144,956** |



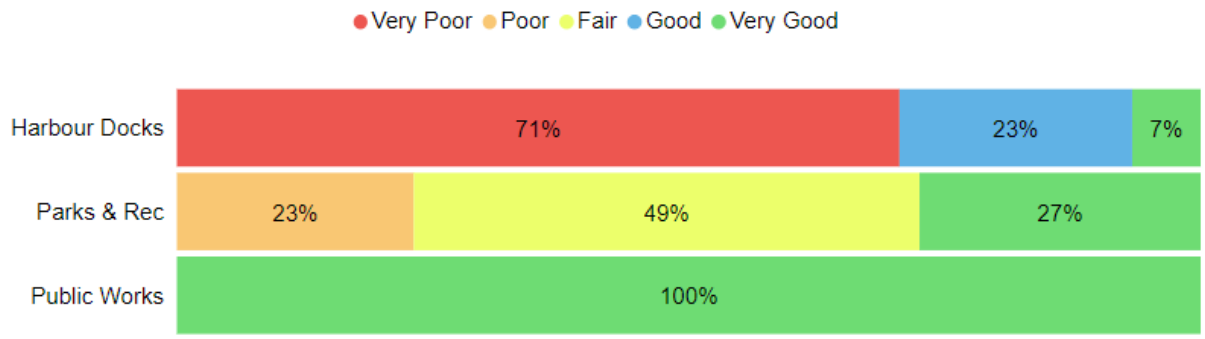

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 4.5.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Harbour Docks | 21% | Poor | 70.6% Assessed |
| Parks & Rec | 56% | Fair | 49.4% Assessed |
| Public Works | 83% | Very Good | Age-Based |
| | **40%** | **Fair** | **56.4% Assessed** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.




To ensure that Westport's machinery and equipment continues to provide an acceptable level of service, Westport should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the machinery and equipment.

## Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- Staff complete visual inspections on an ad-hoc basis for both the harbor docks and playgrounds
    - There are no formal condition assessment programs in place
- Machinery such as the village's Zamboni, receives scheduled servicing which includes an internal inspection as well as an external inspection via a mechanic

# 4.5.3 Estimated Useful Life & Average Age

The Estimated Useful Life for machinery and equipment assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service. Finally, the Average Service Life Remaining represents the difference between the Estimated Useful Life and the Average Age, except when an asset has been assigned an assessed condition rating. Assessed condition may increase or decrease the average service life remaining.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Harbour Docks | 62.5 | 22.1 |
| Parks & Rec | 10-75 | 9 |
| Public Works | 6 | 1 |
| | | **15.5** |

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

## 4.5.4 Lifecycle Management Strategy

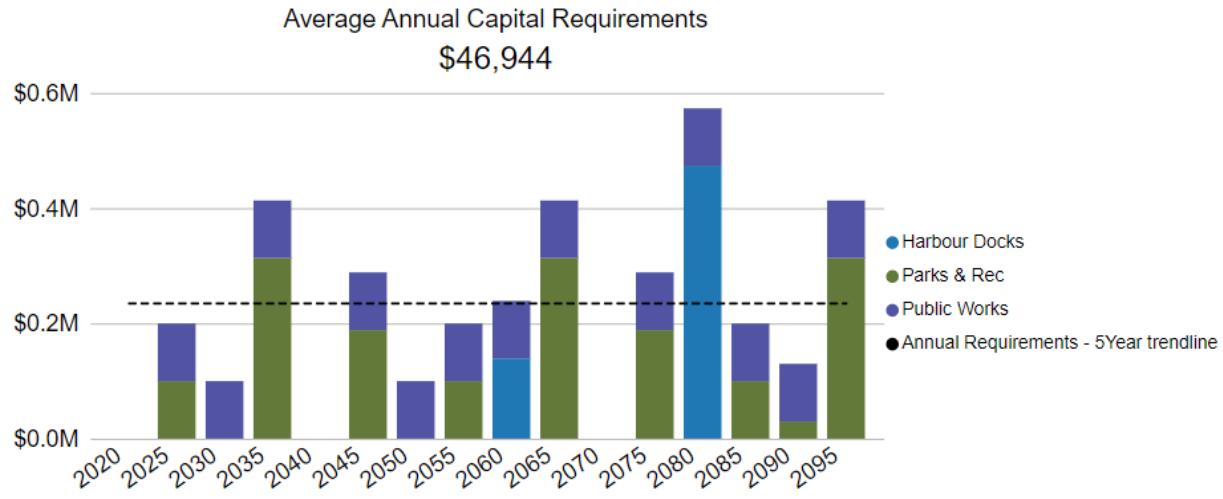
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines Westport's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance/ Rehabilitation | Internal daily inspection of equipment |
| | Ad-hoc visual inspections and repairs of playgrounds and docks as needed |
| Replacement | The replacement of machinery and equipment depends on deficiencies identified by operators that may impact their ability to complete required tasks |

### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 75 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

## 4.5.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Regulatory Compliance**

Playground structures require safety compliance, monitored through the CSA inspections. Staff have indicated that CSA inspections are not conducted. Currently, playgrounds are internally inspected. Going forward, Westport plans on conducting inspections in accordance with CSA.

**Lifecycle Management Strategies**

Current lifecycle management strategies are reactive. Both playgrounds and the harbour docks are internally assessed, as needed. Staff indicated that going forward, inspections need to be done regularly to manage assets effectively. With the most recent external inspection completed in 2017, Westport aims to have an external structural assessment completed in the coming months. A better-defined strategy will in turn extend asset lifecycles and reduce the total maintenance costs.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of the machinery & equipment are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

# 4.5.6 Levels of Service

## Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by Westport's vehicles.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| Quality | Description of the current condition of assets and the plans that are in place to maintain or improve the provided level of service | Overall, the asset portfolio is in good condition. An external structural assessment will be conducted on the harbour dock assets. Westport hopes to conduct playground assessments in accordance with CSA, going forward |

## Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by Westport's buildings.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Quality | % Of machinery and equipment assets that are in good or very good condition | 53.5% |
| | % Of machinery and equipment assets that are in poor or very poor condition | 46.5% |

## 4.5.7 Recommendations

### Replacement Costs

- All replacement costs used in this AMP are based on the inflation of historical costs. Staff should continue to update replacement values whenever more accurate information is available – every 1-2 years.

### Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk equipment.
- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

### Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

### Levels of Service

- Begin measuring current levels of service in accordance with the metrics that Westport has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 5 Analysis of Rate-funded Assets

## Key Insights

- Rate-funded assets are valued at $25 million
- 54% of rate-funded assets are in fair or better condition
- The average annual capital requirement to sustain the current level of service for rate-funded assets is approximately $484 thousand
- Critical assets should be evaluated to determine appropriate risk mitigation activities and treatment options

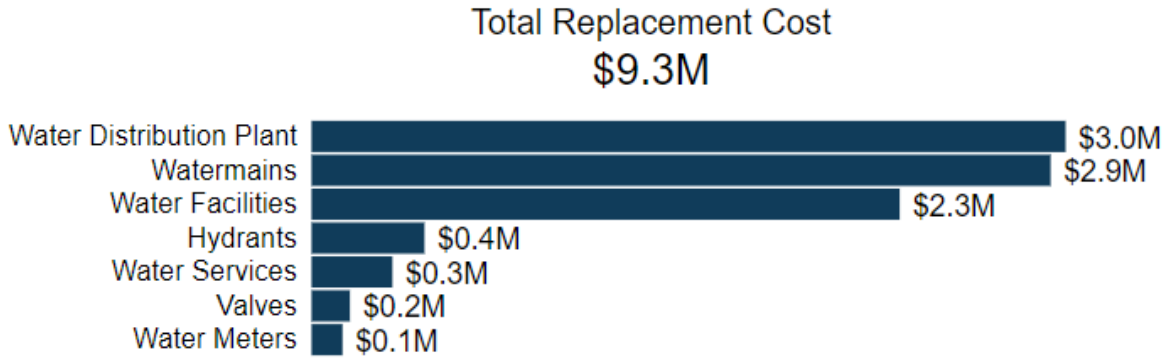
# 5.1 Water Network

The water network is comprised of linear water infrastructure and various vertical assets, including a water distribution plant, wells, and a water tower, to support the service delivery of clean and safe drinking water.

## 5.1.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in Westport's water network inventory.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Hydrants | 86 | Cost/Unit | $449,332 |
| Valves | 56 | Cost/Unit | $152,768 |
| Water Distribution Plant | 1 | User-Defined | $3,000,000 |
| Water Facilities | 4 | User-Defined | $2,340,000 |
| Water Meters | 308 | Cost/Unit | $123,200 |
| Water Services | 308 | User-Defined | $321,754 |
| Watermains | 5.3 kms | Cost/Unit | $2,940,336 |
| | | | **$9,327,380** |



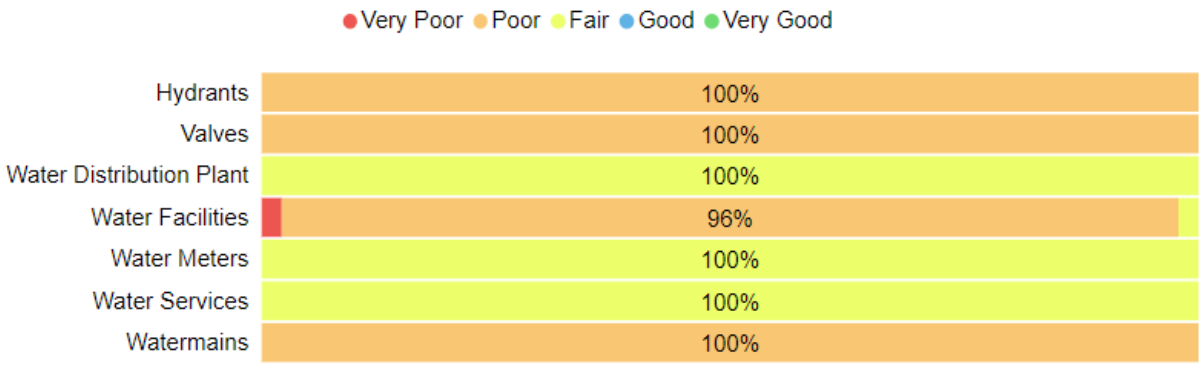

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 5.1.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Hydrants | 39% | Poor | Age-Based |
| Valves | 35% | Poor | Age-Based |
| Water Distribution Plant | 50% | Fair | 100% Assessed |
| Water Facilities | 37% | Poor | 96% Assessed |
| Water Meters | 45% | Fair | 100% Assessed |
| Water Services | 48% | Fair | 100% Assessed |
| Watermains | 39% | Poor | Age-Based |
| | **42%** | **Fair** | **39% Assessed** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.




To ensure that Westport's water network continues to provide an acceptable level of service, Westport should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the water network.

## Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- Staff primarily rely on the age, pipe size, material, and main breaks per segment to determine the projected condition of watermains.
- Point assets such as hydrants and valves are inspected on a regular basis by staff. More critical vertical assets such as the wells and distribution plant are inspected on a frequent basis to comply with health & safety regulations and the Drinking Water Act.

# 5.1.3 Estimated Useful Life & Average Age

The Estimated Useful Life for water network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Hydrants | 80 | 49 |
| Valves | 75 | 49 |
| Water Distribution Plant | 50 | 49 |
| Water Facilities | 50 | 42 |
| Water Meters | 20 | 49 |
| Water Services | 60 | 49 |
| Watermains | 80 | 49 |
| | | **48** |

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

## 5.1.4 Lifecycle Management Strategy

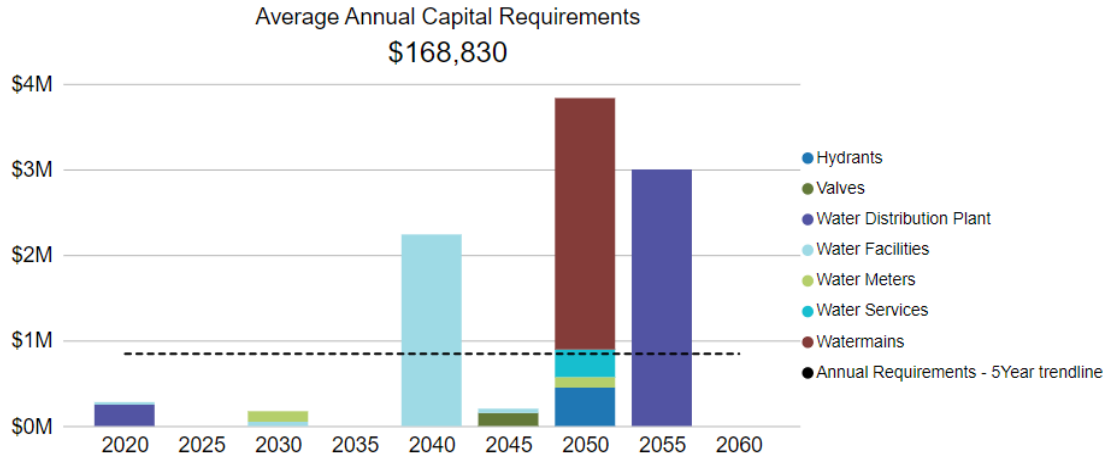
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines Westport's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Main flushing and valve turning is completed on the network annually by staff. |
| Rehabilitation & Replacement | In the absence of mid-lifecycle rehabilitative events, mains are simply maintained with the goal of full replacement once they reach their end-of-life. These assets are often replaced in conjunction with other asset replacements (road reconstruction or other underground linear replacement). |

### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 40 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

### 5.1.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Staff Capacity & Growth**

Staff have indicated that there will be a need to increase staffing capacity as the municipality continues to grow and expand its asset management inventory. Having adequate staff resourcing will allow for more optimal maintenance and rehabilitation schedules, and will allow staff to become more proactive with their inspection program and overall management of the highly-regulated and critical water network.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of the water network are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |
| Breaks per Segment | Pipe Size/Material (Operational) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

## 5.1.6 Levels of Service

The following tables identify Westport's current level of service for water network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that Westport has selected for this AMP.

### Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by water network.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| Scope | Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system | See Appendix B |
| | Description, which may include maps, of the user groups or areas of the municipality that have fire flow | See Appendix B |
| Reliability | Description of boil water advisories and service interruptions | Westport experienced no boil water advisories in 2021. However, water service interruptions may occur due to main breaks, maintenance activities or reconstruction projects. Staff tend to these interruptions and inform residents in a timely manner. |

## Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the water network.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Scope | % Of properties connected to the municipal water system | 70% |
| | % Of properties where fire flow is available | 100%[2] |
| Reliability | # Of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system | 0:333 |
| | # Of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system | 0:333 |

[2] 100% of the properties connected to the municipal water system have fire flow protection.

### 5.1.7 Recommendations

## Asset Inventory

- The water facilities are all listed as pooled line items with no componentization. These critical assets should be broken into the major elements (i.e. HVAC, roofing, plumbing, etc) for more accurate capital forecasting.
- Gather accurate replacement costs and update the database on a regular basis, every 1-2 years, to ensure the accuracy of capital projections.

## Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk water network assets. A building condition assessment should be completed for water facilities on a regular basis, every 10-15 years.

## Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

## Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that Westport believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

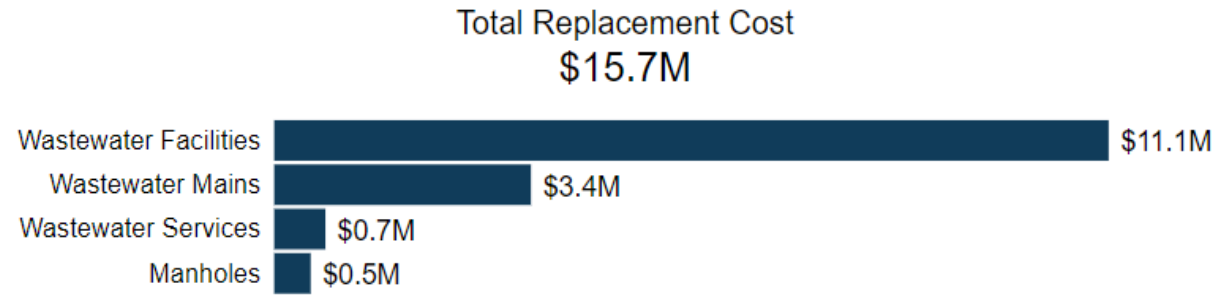
# 5.2 Wastewater Network

The wastewater network is comprised of facilities and linear infrastructure that support the collection and disposal of sewer services. This infrastructure includes sewer mains, manholes, lagoons, and a disposal system.

## 5.2.1 Asset Inventory & Replacement Cost

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in Westport's wastewater network inventory.

| Asset Segment | Quantity | Replacement Cost Method | Total Replacement Cost |
|---|---|---|---|
| Manholes | 74 | Cost/Unit | $486,106 |
| Wastewater Facilities | 6 | User-Defined | $11,109,000 |
| Wastewater Mains | 5.6 kms | Cost/Unit | $3,418,326 |
| Wastewater Services | 308 | User-Defined | $681,946 |
| | | | **$15,695,378** |



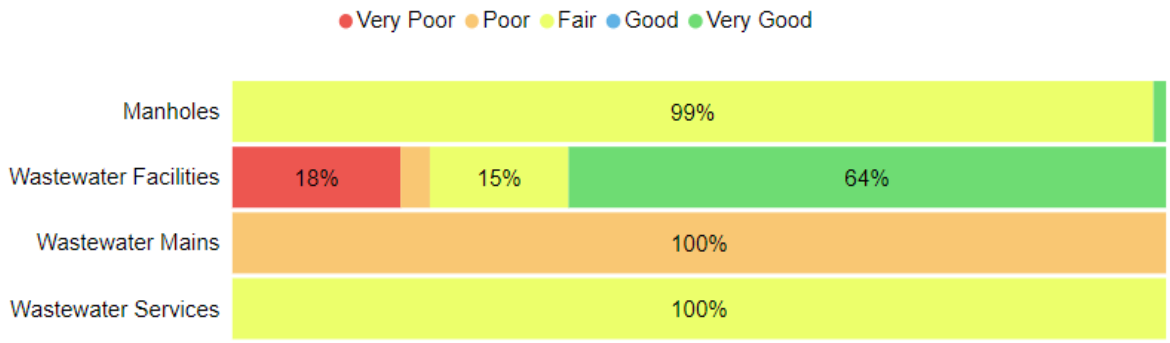

Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

## 5.2.2 Asset Condition

The table below identifies the current average condition and source of available condition data for each asset segment. The Average Condition (%) is a weighted value based on replacement cost.

| Asset Segment | Average Condition (%) | Average Condition Rating | Condition Source |
|---|---|---|---|
| Manholes | 50% | Fair | 99% Assessed |
| Wastewater Facilities | 65% | Good | 7% Assessed |
| Wastewater Mains | 35% | Poor | Age-Based |
| Wastewater Services | 48% | Fair | 100% Assessed |
| | **57%** | **Fair** | **13% Assessed** |

The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.




To ensure that Westport's wastewater network continues to provide an acceptable level of service, Westport should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the wastewater network.

## Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to more confidently determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes Westport's current approach:

- CCTV inspections are completed for wastewater mains on an as-needed basis.
- Manholes and other point assets are inspected visually by staff on a regular basis.
- Critical vertical assets such as the lagoons or pumping station are inspected in accordance with the ministry of environment (MOE) and manufacturer recommendations.

# 5.2.3 Estimated Useful Life & Average Age

The Estimated Useful Life for wastewater network assets has been assigned according to a combination of established industry standards and staff knowledge. The Average Age of each asset is based on the number of years each asset has been in-service.

| Asset Segment | Estimated Useful Life (Years) | Average Age (Years) |
|---|---|---|
| Manholes | 75 | 48 |
| Wastewater Facilities | 40-75 | 35 |
| Wastewater Mains | 75 | 49 |
| Wastewater Services | 60 | 49 |
| | | **48** |

Each asset's Estimated Useful Life should be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

## 5.2.4 Lifecycle Management Strategy

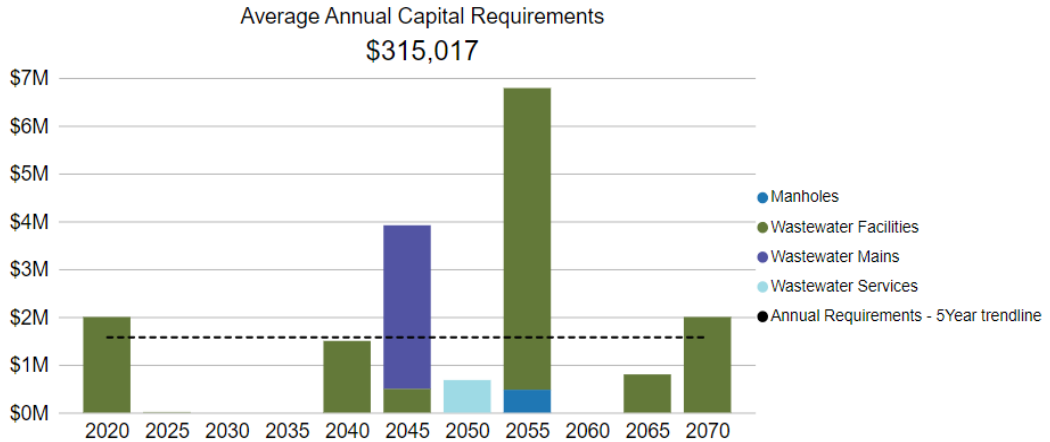
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

The following table outlines Westport's current lifecycle management strategy.

| Activity Type | Description of Current Strategy |
|---|---|
| Maintenance | Main flushing is completed annually using in-house resources |
| Rehabilitation/ Replacement | Trenchless re-lining of mains is completed when viable candidates are identified. However, mains are maintained with the goal of full replacement once they reach end-of-life. Pipes are typically replaced with polyvinyl chloride (PVC) pipes due to their durability and strength. |
| | Point assets and vertical assets are rehabilitated and/or replaced as required. Staff consider the criticality of the assets to operations, funding available, and health and safety concerns when prioritizing lifecycle activities. |

### Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that Westport should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average 5-year capital requirements.




The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

## 5.2.5 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that Westport is currently facing:

**Staff Resources & Capacity**

Staff have indicated that there is a need to increase staffing capacity. This will allow for better maintenance and overall asset management, as the staff indicated that they would like to have quarterly reporting done for the wastewater network. Currently, there is limited time for asset management activities such as data refinement and lifecycle strategy development.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of the wastewater network are documented below:

| Probability of Failure (POF) | Consequence of Failure (COF) |
|---|---|
| Condition | Replacement Cost (Financial) |
| | Pipe size/material (Operational) |

The identification of critical assets allows Westport to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

## 5.2.6 Levels of Service

The following tables identify Westport's current level of service for wastewater network. These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that Westport has selected for this AMP.

### Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by wastewater network.

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| Scope | Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system | See Appendix B |
| Reliability | Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes | N/A |
| | Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches | N/A |
| | Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes | Stormwater can enter into sanitary sewers due to cracks in sanitary mains or through indirect connections (e.g. weeping tiles). In the case of heavy rainfall events, sanitary sewers may experience a volume of water and sewage that exceeds its designed capacity. In some cases, this can cause water and/or sewage to overflow backup into homes. |

| Service Attribute | Qualitative Description | Current LOS (2021) |
|---|---|---|
| | Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration | Westport follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups. |
| | Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system | Effluent refers to water pollution that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants. |

## Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the wastewater network.

| Service Attribute | Technical Metric | Current LOS (2021) |
|---|---|---|
| Scope | % Of properties connected to the municipal wastewater system | 68% |
| Reliability | # Of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system | N/A |
| | # Of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system | 0:308 |
| | # Of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system | 3:308 |

## 5.2.7 Recommendations

### Asset Inventory

- There are a number of pooled sanitary service assets that require further segmentation and length measurements to allow for asset-specific lifecycle planning and costing.
- Vertical assets such as the disposal system or lagoons should be broken into key components (roofing, HVAC, electrical, etc) in order to improve lifecycle planning.

### Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk water network assets. Consider conducting CCTV inspections every 10-15 years on the entire sewer network to maintain accurate data.

### Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

### Lifecycle Management Strategies

- Evaluate the efficacy of Westport's lifecycle management strategies at regular intervals to determine the impact cost, condition and risk.

### Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that Westport believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

# 6 Impacts of Growth

## Key Insights

- Understanding the key drivers of growth and demand will allow Westport to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure
- Moderate population growth is expected, while employment will decline slightly
- The costs of growth should be considered in long-term funding strategies that are designed to maintain the current level of service

## 6.1 Description of Growth Assumptions

The demand for infrastructure and services will change over time based on a combination of internal and external factors. Understanding the key drivers of growth and demand will allow Westport to more effectively plan for new infrastructure, and the upgrade or disposal of existing infrastructure. Increases or decreases in demand can affect what assets are needed and what level of service meets the needs of the community.

### 6.1.1 Westport Official Plan (2006)

The Village of Westport's Official Plan, under the authority of the Planning Act, was adopted by council in March of 2006 and approved by the Ministry of Municipal Affairs in October of the same year.

The intention of the Official Plan is "to set forth the necessary planning policies and principals that would guide both public and private interests in such a manner as to ensure a reasonable and desirable pattern for future land use and development" for the next 20 years (2005-2025).

The Official Plan indicates that Westport is "characterized by an older than average population and an above average proportion of 65+ population (29.4%)". With an older population, Westport's Official Plan helps to establish the necessary policies as well as designates land for the development of required community facilities. Westport is currently in the process of updating its Official Plan in 2022.

### 6.1.2 United Counties of Leeds and Grenville (2015)

The United Counties of Leeds and Grenville Official Plan was adopted by Counties Council on July 23, 2015, by By-law No. 15-47. It was modified by the Minister of Municipal Affairs and Housing, and approved February 19, 2016, and consolidated March 1, 2021.

The Counties is responsible for the allocation of growth to the local municipalities, which is based on a combination of local factors including: local planning policy; historic and recent growth trends; market demand; and the capacity to accommodate growth from land supply and servicing perspectives.

The following table outlines the population and employment forecasts allocated to Westport:

| | 2011 | 2021 | 2031 |
|---|---|---|---|
| Total Place of Work Employment Forecasts | 320 | 330 | 310 |
| Historical & Forecast Total Population | 645 | 680 | 710 |

The Village of Westport has a modest projected population increase from 2011-2031, with the decline in employment due to the loss of manufacturing jobs in eastern Ontario being a key factor.

## 6.2 Impact of Growth on Lifecycle Activities

By July 1, 2025, Westport's asset management plan must include a discussion of how the assumptions regarding future changes in population and economic activity informed the preparation of the lifecycle management and financial strategy.

Planning for forecasted population growth may require the expansion of existing infrastructure and services. As growth-related assets are constructed or acquired, they should be integrated into Westport's AMP. While the addition of residential units will add to the existing assessment base and offset some of the costs associated with growth, Westport will need to review the lifecycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to, at a minimum, maintain the current level of service.

# 7 Financial Strategy

## Key Insights

- Westport is committing approximately $476,000 towards capital projects per year from sustainable revenue sources
- Given the annual capital requirement of $945,000, there is currently a funding gap of $469,000 annually
- For tax-funded assets, we recommend increasing tax revenues by 1.9% each year for the next 10 years to achieve a sustainable level of funding
- For the wastewater network, we recommend increasing rate revenues by 1.9% annually for the next 10 years to achieve a sustainable level of funding
- For the water network, we recommend increasing rate revenues by 1.9% annually for the next 10 years to achieve a sustainable level of funding

# 7.1 Financial Strategy Overview

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Village of Westport to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels (none identified for this plan)
    d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Reserves
    d. Debt
    e. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Gas tax
    b. Annual grants

Note: Periodic grants are normally not included due to Provincial requirements for firm commitments. However, if moving a specific project forward is wholly dependent on receiving a one-time grant, the replacement cost included in the financial strategy is the net of such grant being received.

If the financial plan component results in a funding shortfall, the Province requires the inclusion of a specific plan as to how the impact of the shortfall will be managed. In determining the legitimacy of a funding shortfall, the Province may evaluate a Village's approach to the following:

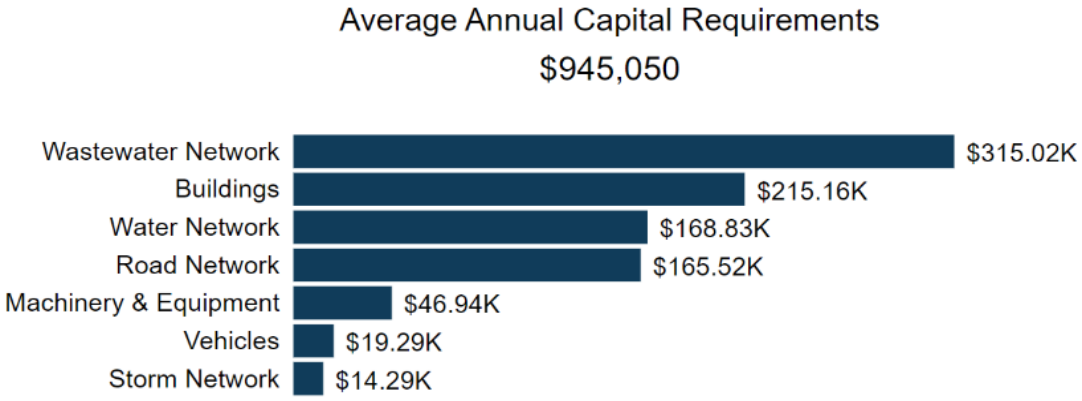
1. In order to reduce financial requirements, consideration has been given to revising service levels downward.

2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.
    b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

# 7.1.1 Annual Requirements & Capital Funding

## Annual Requirements

The annual requirements represent the amount the Village should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs, and achieve long-term sustainability. In total, the Village must allocate approximately $945 thousand annually to address capital requirements for the assets included in this AMP.




For most asset categories the annual requirement has been calculated based on a "replacement only" scenario, in which capital costs are only incurred at the construction and replacement of each asset.

However, for the Road Network, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the Village's roads. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the Road Network:

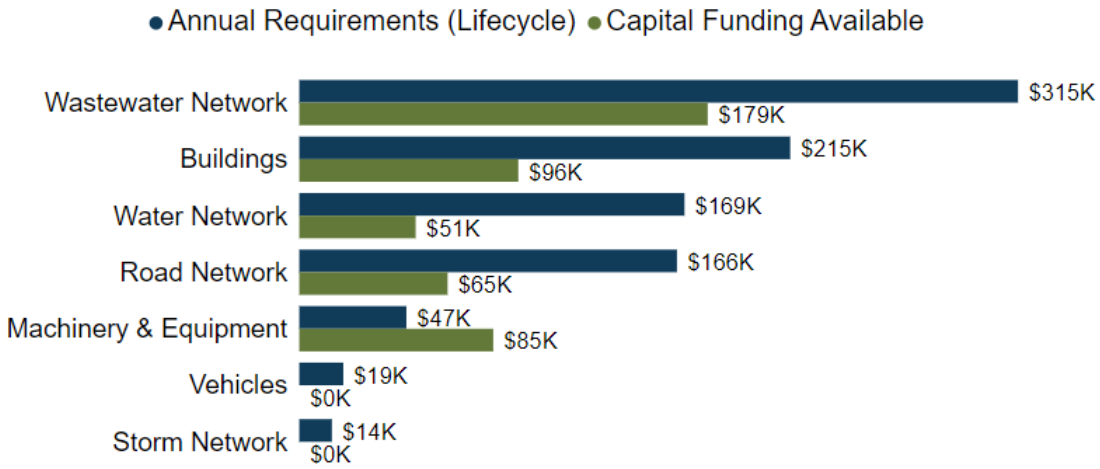
1. **Replacement Only Scenario**: Based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life.
2. **Lifecycle Strategy Scenario**: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

| Asset Category | Annual Requirements (Replacement Only) | Annual Requirements (Lifecycle Strategy) | Difference |
|---|---|---|---|
| Road Network | $234,666 | $165,523 | $69,143 |

The implementation of a proactive lifecycle strategy for roads leads to a potential annual cost avoidance of $69 thousand for the Road Network. This represents an overall reduction of the annual requirements by 29%. As the lifecycle strategy scenario represents the lowest cost option available to the Village, we have used these annual requirements in the development of the financial strategy.

## Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Village is committing approximately $476k towards capital projects per year. Given the annual capital requirement of $945k, there is a surplus of $469k annually.




# 7.2 Funding Objective

We have developed a scenario that would enable Westport to achieve full funding within 1 to 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Storm Network, Buildings, Machinery & Equipment, Vehicles.
2. **Rate-Funded Assets:** Water Network, Wastewater Network

Note: For the purposes of this AMP, we have excluded gravel roads since they are a perpetual maintenance asset and end of life replacement calculations do not normally apply. If gravel roads are maintained properly, they can theoretically have a limitless service life.

# 7.3 Financial Profile: Tax Funded Assets

## 7.3.1 Current Funding Position

The following tables show, by asset category, Westport's average annual asset capital expenditure (CapEx) requirements, current funding positions, and funding increases required to achieve full funding on assets funded by taxes[3].

| Asset Category | Avg. Annual Requirement | Annual Funding Available | | | | Annual Deficit |
|---|---|---|---|---|---|---|
| | | Taxes | Gas Tax | OCIF | Total Available | |
| Buildings | 215,000 | 96,000 | | | 96,000 | 119,000 |
| Road Network | 165,000 | 65,000 | | | 65,000 | 101,000 |
| Storm Network | 14,000 | 0 | | | 0 | 14,000 |
| Machinery & Equipment | 47,000 | 85,000 | | | 85,000 | (38,000) |
| Vehicles | 19,000 | 0 | | | 0 | 19,000 |
| | **460,000** | **246,000** | **0** | **0** | **246,000** | **215,000** |

The average annual CapEx requirement for the above categories is $460 thousand. Annual revenue currently allocated to these assets for capital purposes is $246 thousand leaving an annual deficit of $215 thousand. Put differently, these infrastructure categories are currently funded at 53% of their long-term requirements.

## 7.3.2 Full Funding Requirements

In 2022, the Village of Westport has annual budgeted tax revenues of $1.1 million. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

| Asset Category | Tax Change Required for Full Funding |
|---|---|
| Buildings | 11.2% |
| Road Network | 9.5% |
| Storm Network | 1.3% |
| Machinery & Equipment | -3.6% |
| Vehicles | 1.8% |

[3] Although not included in this analysis, user rates are sometimes used through projects to fund buildings, vehicles and machinery assets.

| | | |
|---|---|---|
| | **Total** | **20.2%** |

The following changes in costs and/or revenues over the next number of years should also be considered in the financial strategy:

a) Westport's debt payments for these asset categories will be decreasing by $1 thousand over the next 5 years, $3 thousand over the next 10 years, $4 thousand and $10 thousand over the next 15 and 20 years respectively.
b) While not included in the annual funding or financial strategy calculations, Westport's Council has committed to $9 thousand annually from property tax towards assets through transfers to an efficiency reserve.

Our recommendations include capturing the above changes and allocating them to the infrastructure deficit outlined above. The table below outlines this concept and presents several options:

| | Without Capturing Changes | | | | With Capturing Changes | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 Years | 10 Years | 15 Years | 20 Years | 5 Years | 10 Years | 15 Years | 20 Years |
| Infrastructure Deficit | 215,000 | 215,000 | 215,000 | 215,000 | 215,000 | 215,000 | 215,000 | 215,000 |
| Change in Debt Costs | n/a | n/a | n/a | n/a | -1,000 | -3,000 | -4,000 | -10,000 |
| **Resulting Infrastructure Deficit:** | 215,000 | 215,000 | 215,000 | 215,000 | 214,000 | 212,000 | 211,000 | 205,000 |
| Tax Increase Required | 20.3% | 20.3% | 20.3% | 20.3% | 20.2% | 20.0% | 19.9% | 19.3% |
| **Annually:** | **3.8%** | **1.9%** | **1.3%** | **1.0%** | **3.8%** | **1.9%** | **1.3%** | **0.9%** |

### 7.3.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 10-year option. This involves full CapEx funding being achieved over 10 years by:

a) when realized, reallocating the debt cost reductions of $3 thousand to the infrastructure deficit as outlined above.
b) increasing tax revenues by 1.9% each year for the next 10 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
c) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
d) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[4].
2. We realize that raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

Although this option achieves full CapEx funding on an annual basis in 15 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available. Current data shows a pent-up investment demand of $22 thousand for Buildings and $432 thousand for Machinery & Equipment assets.

Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

[4] The Village should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

# 7.4 Financial Profile: Rate Funded Assets

## 7.4.1 Current Funding Position

The following tables show, by asset category, Westport's average annual asset CapEx requirements, current funding positions, and funding increases required to achieve full funding on assets funded by rates.

| Asset Category | Avg. Annual Requirement | Annual Funding Available | | | | | Annual Deficit |
|---|---|---|---|---|---|---|---|
| | | Rates | To Operations | OCIF | Gas Tax | Total Available | |
| Water Network | 169,000 | 419,000 | -419,000 | 25,000 | 26,000 | 51,000 | 118,000 |
| Wastewater Network | 315,000 | 426,000 | -322,000 | 75,000 | | 179,000 | 136,000 |
| | **484,000** | **845,000** | **(741,000)** | **100,000** | **26,000** | **230,000** | **254,000** |

The average annual CapEx requirement for the above categories is $484 thousand. Annual revenue currently allocated to these assets for capital purposes is $230 thousand leaving an annual deficit of $254 thousand. Put differently, these infrastructure categories are currently funded at 48% of their long-term requirements.

## 7.4.2 Full Funding Requirements

In 2022, Westport had annual budgeted water revenues of $419 thousand and annual wastewater revenues of $426 thousand. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

| Asset Category | Rate Change Required for Full Funding |
|---|---|
| Water Network | 28.2% |
| Wastewater Network | 31.9% |
| **Total** | **30.1%** |

The following changes in costs and/or revenues over the next number of years should also be considered in the financial strategy:

a) Westport's formula based OCIF grant is scheduled to grow from $50 thousand in 2021 to $100 thousand in 2022.[5]
b) Westport's debt payments for the Water Network will be decreasing by $33 thousand over the next 5 - 20 years respectively.
c) Westport's debt payments for the Wastewater Network will be decreasing $15 thousand over the next 5 years, $51 thousand over the next 10 years, $64 thousand over the next 15 and $100 thousand over the next 20 years respectively.

In the following tables, we have expanded the above scenario to present multiple options. Due to the significant increases required, we have provided phase-in options of up to 20 years:

| Water Network | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | No reallocation of decrease in debt payment | | | | Reallocation of decrease in debt payments | | | |
| | 5 Years | 10 Years | 15 Years | 20 Years | 5 Years | 10 Years | 15 Years | 20 Years |
| Infrastructure Deficit | 118,000 | 118,000 | 118,000 | 118,000 | 118,000 | 118,000 | 118,000 | 118,000 |
| Decrease in debt payments | n/a | n/a | n/a | n/a | -33,000 | -33,000 | -33,000 | -33,000 |
| **Resulting Infrastructure Deficit:** | 118,000 | 118,000 | 118,000 | 118,000 | 85,000 | 85,000 | 85,000 | 85,000 |
| Rate Increase Required | 28.2% | 28.2% | 28.2% | 28.2% | 20.3% | 20.3% | 20.3% | 20.3% |
| **Annually:** | **5.1%** | **2.6%** | **1.7%** | **1.3%** | **3.8%** | **1.9%** | **1.3%** | **1.0%** |

[5] While OCIF will increase in 2022 the program is currently undergoing review by the provincial government. Due to the uncertainty around the review the increase is not captured in the annual funding analysis.

| Wastewater Network | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | No reallocation of decrease in debt payment | | | | Reallocation of decrease in debt payments | | | |
| | 5 Years | 10 Years | 15 Years | 20 Years | 5 Years | 10 Years | 15 Years | 20 Years |
| Infrastructure Deficit | 136,000 | 136,000 | 136,000 | 136,000 | 136,000 | 136,000 | 136,000 | 136,000 |
| Decrease in debt payments | n/a | n/a | n/a | n/a | -15,000 | -51,000 | -64,000 | -100,000 |
| **Resulting Infrastructure Deficit:** | 136,000 | 136,000 | 136,000 | 136,000 | 121,000 | 85,500 | 72,000 | 36,000 |
| Rate Increase Required | 31.9% | 31.9% | 31.9% | 31.9% | 28.4% | 20.0% | 16.9% | 8.5% |
| **Annually:** | **5.7%** | **2.9%** | **1.9%** | **1.4%** | **5.2%** | **1.9%** | **1.1%** | **0.5%** |

### 7.4.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 10-year option for the Water Network and the 10-year option for the Wastewater Network that includes debt cost reallocations. This involves full CapEx funding being achieved by:

a) Increasing rate revenues by 1.9% for water services the next 10 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
b) Increasing rate revenues by 1.9% for wastewater services each year for the next 10 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
c) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
d) allocating the current gas tax and OCIF revenue as outlined previously.
e) allocating the scheduled OCIF grant increases to the infrastructure deficit as they occur.

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. This periodic funding should not be incorporated into an AMP unless there are firm commitments in place.
2. We realize that raising rate revenues for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.
3. Any increase in rates required for operations would be in addition to the above recommendations.

Although this option achieves full CapEx funding on an annual basis in 10 years for the Water Network and 10 years for the Wastewater Network, and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

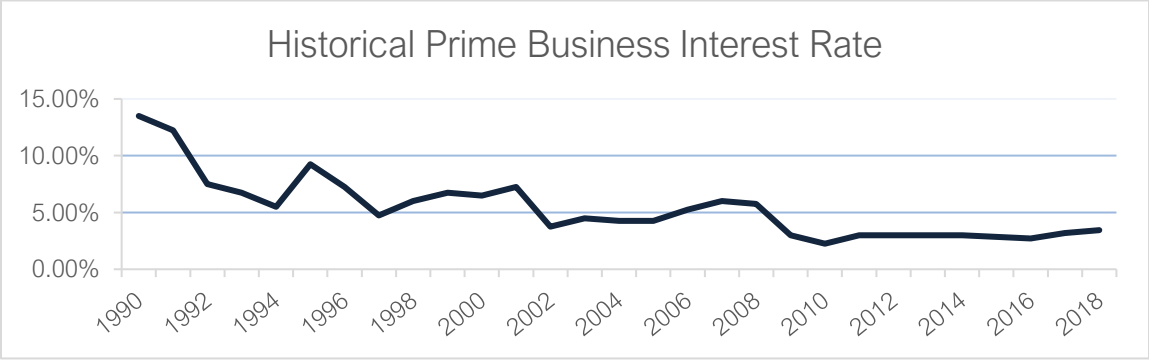
Prioritizing future projects will require the current data to be replaced by condition-based data. Although our recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

# 7.5 Use of Debt

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a $1 million project financed at 3.0%[6] over 15 years would result in a 26% premium or $260 thousand of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

| Interest Rate | Number of Years Financed | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 |
| **7.0%** | 22% | 42% | 65% | 89% | 115% | 142% |
| **6.5%** | 20% | 39% | 60% | 82% | 105% | 130% |
| **6.0%** | 19% | 36% | 54% | 74% | 96% | 118% |
| **5.5%** | 17% | 33% | 49% | 67% | 86% | 106% |
| **5.0%** | 15% | 30% | 45% | 60% | 77% | 95% |
| **4.5%** | 14% | 26% | 40% | 54% | 69% | 84% |
| **4.0%** | 12% | 23% | 35% | 47% | 60% | 73% |
| **3.5%** | 11% | 20% | 30% | 41% | 52% | 63% |
| **3.0%** | 9% | 17% | 26% | 34% | 44% | 53% |
| **2.5%** | 8% | 14% | 21% | 28% | 36% | 43% |
| **2.0%** | 6% | 11% | 17% | 22% | 28% | 34% |
| **1.5%** | 5% | 8% | 12% | 16% | 21% | 25% |
| **1.0%** | 3% | 6% | 8% | 11% | 14% | 16% |
| **0.5%** | 2% | 3% | 4% | 5% | 7% | 8% |
| **0.0%** | 0% | 0% | 0% | 0% | 0% | 0% |

It should be noted that current interest rates are near all-time lows. Sustainable funding models that include debt need to incorporate the risk of rising interest rates. The following graph shows where historical lending rates have been:




[6] Current municipal Infrastructure Ontario rates for 15-year money is 3.2%.

A change in 15-year rates from 3% to 6% would change the premium from 26% to 54%. Such a change would have a significant impact on a financial plan.

The following tables outline how Westport has historically used debt for investing in the asset categories as listed. There is currently $2.3 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $219 thousand, well within its provincially prescribed maximum of $266 thousand.

| Asset Category | Current Debt Outstanding | Use of Debt in the Last Five Years | | | | |
|---|---|---|---|---|---|---|
| | | 2018 | 2019 | 2020 | 2021 | 2022 |
| Buildings | | | | | | |
| Road Network | 96,000 | | | | | |
| Storm Network | | | | | | |
| Machinery & Equipment | | | | | | |
| Vehicles | | | | | | |
| **Total Tax Funded:** | **96,000** | **0** | **0** | **0** | **0** | **0** |
| | | | | | | |
| Water Network | 72,000 | | | | | |
| Wastewater Network | 2,164,000 | 725,000 | 322,000 | | 650,000 | |
| **Total Rate Funded:** | **2,236,000** | **725,000** | **322,000** | **0** | **650,000** | **0** |

| Asset Category | Principal & Interest Payments in the Next Ten Years | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2032 |
| Buildings | | | | | | | |
| Road Network | 10,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 7,000 |
| Storm Network | | | | | | | |
| Machinery & Equipment | | | | | | | |
| Vehicles | | | | | | | |
| **Total Tax Funded:** | **10,000** | **9,000** | **9,000** | **9,000** | **9,000** | **9,000** | **7,000** |
| | | | | | | | |
| Water Network | 33,000 | 34,000 | 34,000 | 9,000 | 0 | 0 | 0 |
| Wastewater Network | 176,000 | 172,000 | 170,000 | 167,000 | 164,000 | 161,000 | 125,000 |
| **Total Rate Funded:** | **209,000** | **206,000** | **204,000** | **176,000** | **164,000** | **161,000** | **125,000** |

The revenue options outlined in this plan allow Westport to fully fund its long-term infrastructure requirements without further use of debt.

# 7.6 Use of Reserves

## 7.6.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:

a) the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
b) financing one-time or short-term investments
c) accumulating the funding for significant future infrastructure investments
d) managing the use of debt
e) normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the reserves currently available to Westport.

| Asset Category | Balance on December 31, 2021 |
|---|---|
| Buildings | 194,000 |
| Road Network | 20,000 |
| Storm Network | 0 |
| Machinery & Equipment | 184,000 |
| Vehicles | 75,000 |
| **Total Tax Funded:** | **473,000** |
| Water Network | 26,000 |
| Wastewater Network | 96,000 |
| **Total Rate Funded:** | **122,000** |

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Village should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should consider when determining their capital reserve requirements include:

a) breadth of services provided
b) age and condition of infrastructure
c) use and level of debt
d) economic conditions and outlook
e) internal reserve and debt policies.

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Westport's judicious use of debt in the past, allows the scenarios to assume that, if required, available reserves and debt capacity can be used for high priority and emergency infrastructure investments in the short- to medium-term.

### 7.6.2 Recommendation

In 2025, Ontario Regulation 588/17 will require Westport to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on reserve balances.

# 8 Appendices

## Key Insights

- Appendix A identifies projected 10-year capital requirements for each asset category
- Appendix B includes several maps that have been used to visualize the current level of service
- Appendix C provides additional guidance on the development of a condition assessment program

# Appendix A: 10-Year Capital Requirements

The following tables identify the capital cost requirements for each of the next 10 years in order to meet projected capital requirements and maintain the current level of service.

| Road Network (End-of-Life) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Bridges | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Paved Roads | $0 | $0 | $0 | $0 | $0 | $283,491 | $0 | $0 | $0 | $0 | $524,425 |
| Sidewalks | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Streetlights | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **Total:** | **$0** | **$0** | **$0** | **$0** | **$0** | **$283,491** | **$0** | **$0** | **$0** | **$0** | **$524,425** |

| Road Network (Proposed Lifecycle Strategies) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Bridges | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Paved Roads | $0 | $0 | $0 | $0 | $0 | $283,491 | $0 | $31,032 | $0 | $73,980 | $0 |
| Sidewalks | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Streetlights | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **Total:** | **$0** | **$0** | **$0** | **$0** | **$0** | **$283,491** | **$0** | **$31,032** | **$0** | **$73,980** | **$0** |

| Storm Network | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Catch Basins | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Storm Mains | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **Total:** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** |

| Buildings | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Arena | $0 | $0 | $0 | $0 | $0 | $750,000 | $0 | $0 | $0 | $0 | $0 |
| Fire Hall | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Garages | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Information Centre | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Library | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Misc. Structures | $22,138 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Museum | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Post Office | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Town Hall | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $500,000 | $0 | $0 |
| **Total:** | **$22,138** | **$0** | **$0** | **$0** | **$0** | **$750,000** | **$0** | **$0** | **$500,000** | **$0** | **$0** |

| Vehicles | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Public Works Vehicles | $0 | $0 | $0 | $0 | $0 | $30,000 | $0 | $0 | $0 | $0 | $150,000 |
| **Total:** | **$0** | **$0** | **$0** | **$0** | **$0** | **$30,000** | **$0** | **$0** | **$0** | **$0** | **$150,000** |

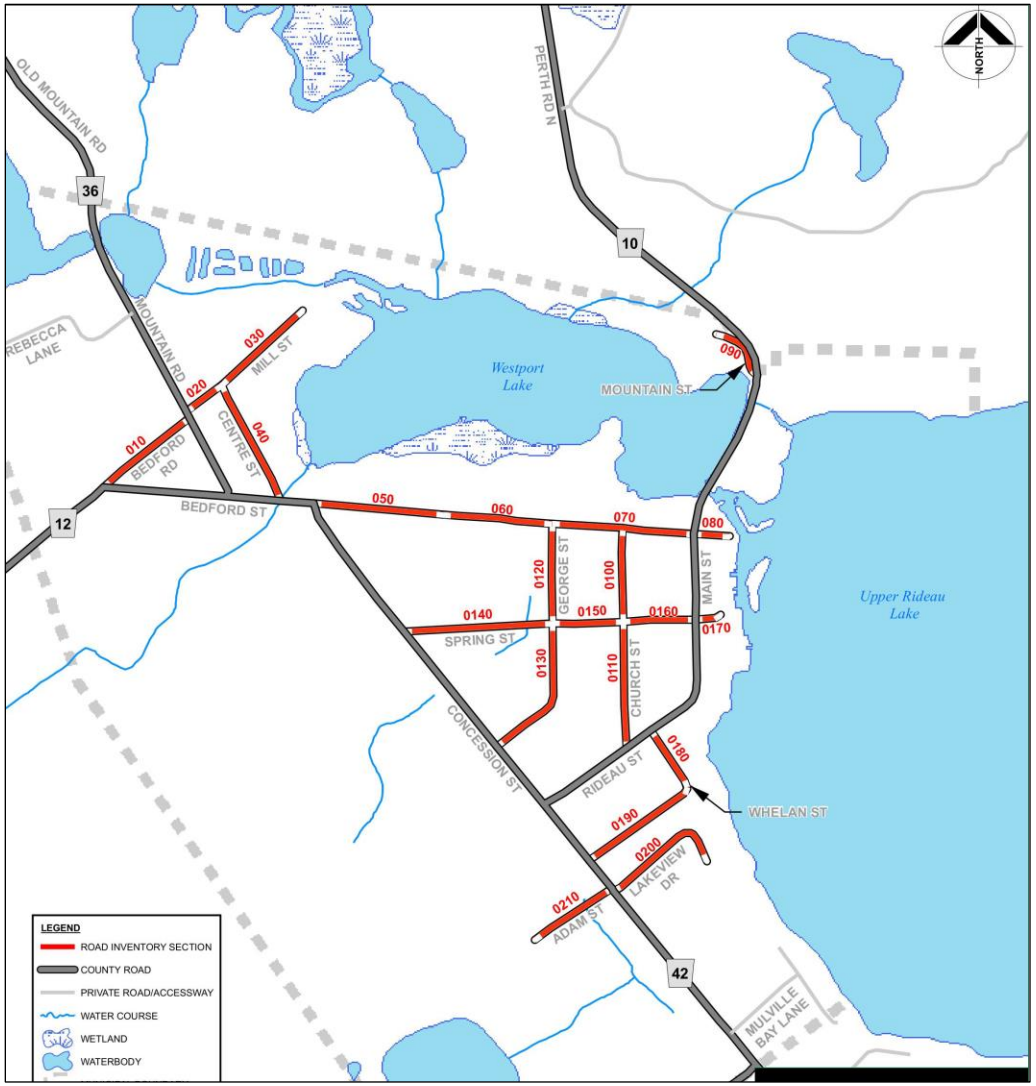
| Machinery & Equipment | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Harbour Docks | $432,480 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Parks & Rec | $0 | $0 | $0 | $0 | $0 | $100,000 | $0 | $0 | $0 | $0 | $0 |
| Public Works | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $100,000 | $0 | $0 | $0 |
| **Total:** | **$432,480** | **$0** | **$0** | **$0** | **$0** | **$100,000** | **$0** | **$100,000** | **$0** | **$0** | **$0** |

| Water Network | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Hydrants | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Valves | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Distribution Plant | $0 | $0 | $100,000 | $150,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Facilities | $0 | $0 | $0 | $30,000 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Meters | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Water Services | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Watermains | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **Total:** | **$0** | **$0** | **$100,000** | **$180,000** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** |

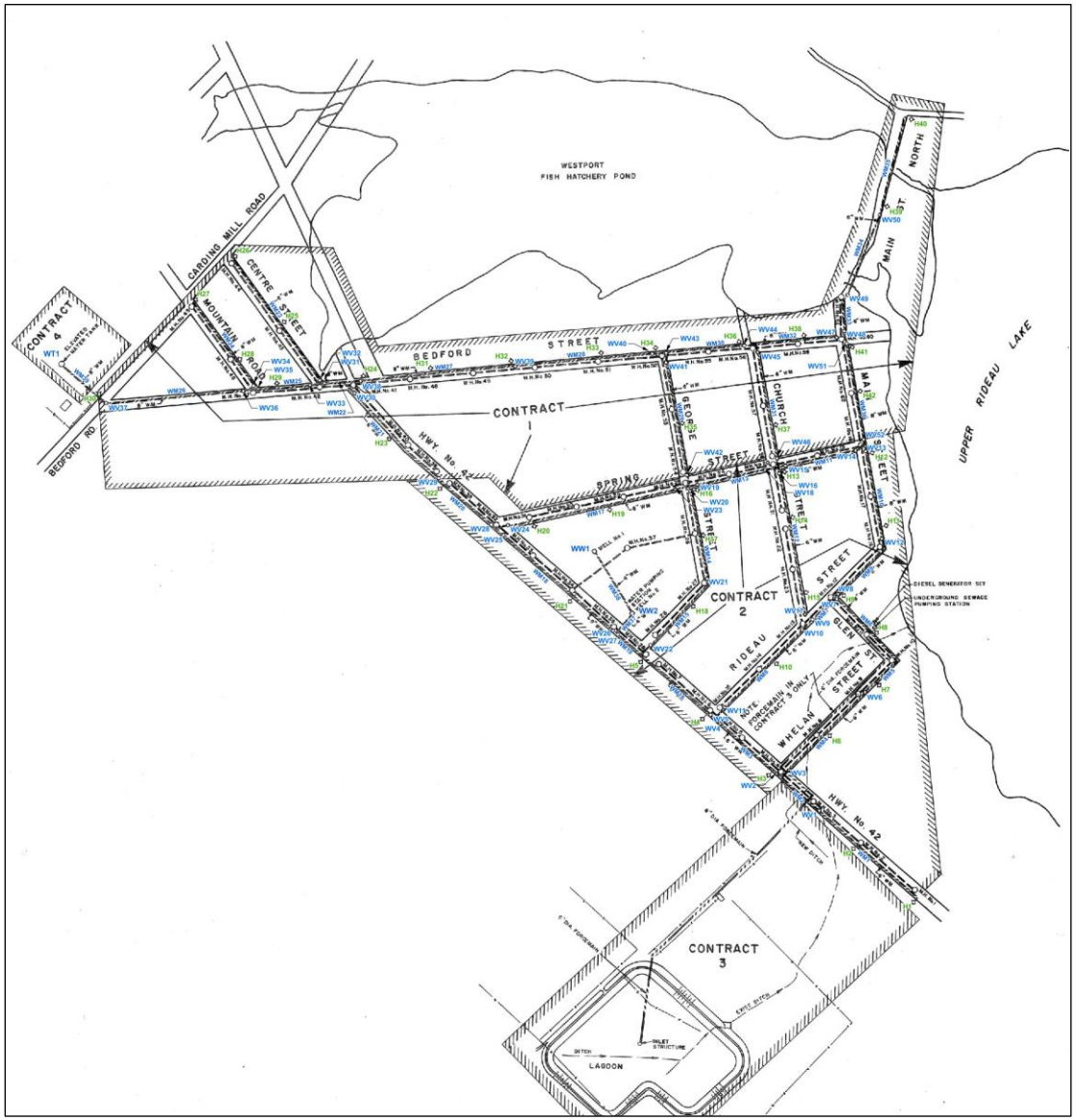
| Wastewater Network | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Segment** | **Backlog** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** |
| Manholes | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Wastewater Facilities | $0 | $0 | $0 | $2,000,000 | $0 | $0 | $0 | $10,000 | $0 | $0 | $0 |
| Wastewater Mains | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Wastewater Services | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| **Total:** | **$0** | **$0** | **$0** | **$2,000,000** | **$0** | **$0** | **$0** | **$10,000** | **$0** | **$0** | **$0** |

# Appendix B: Level of Service Maps

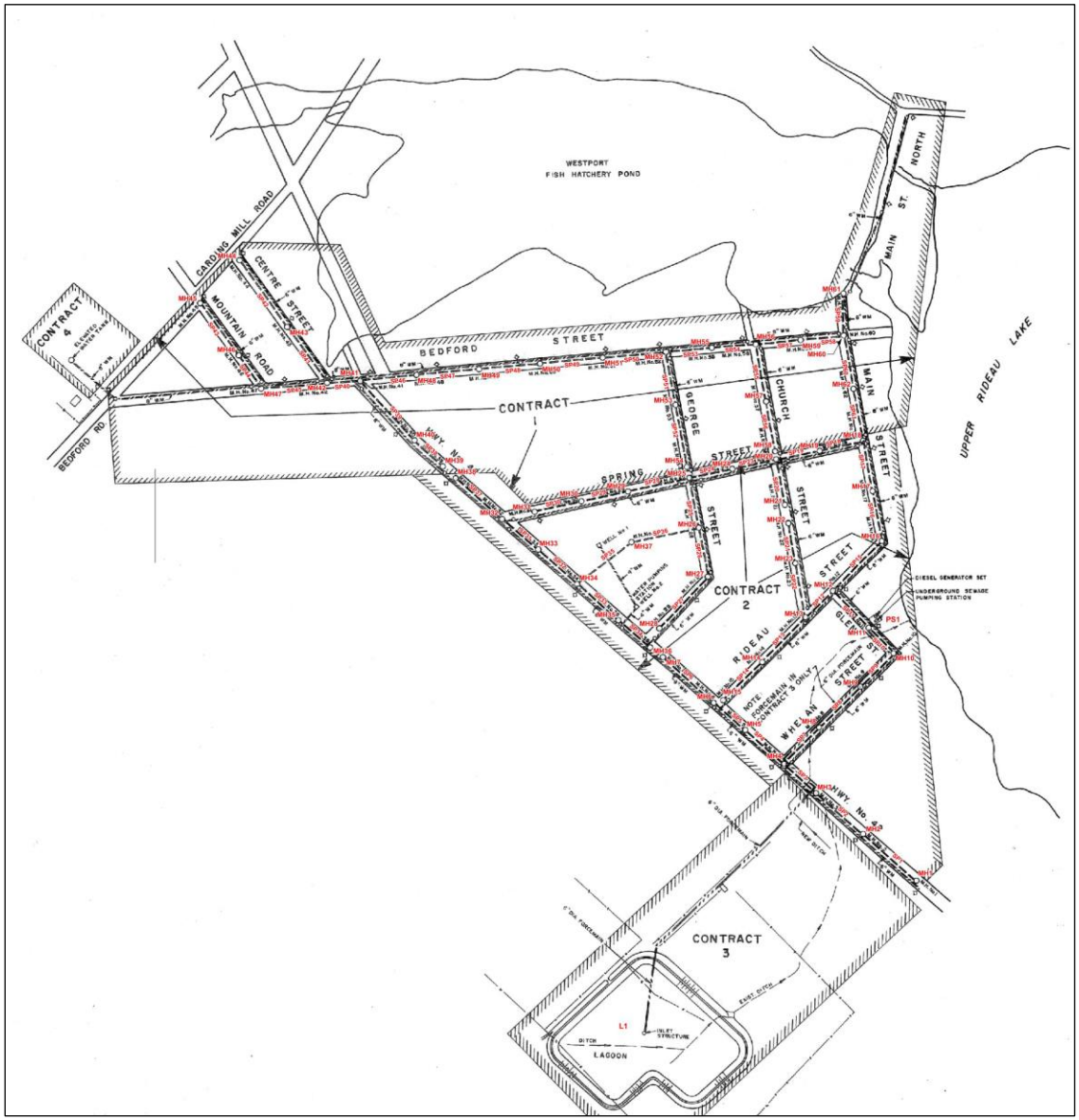
**Road Network Map**



## Water Network Map



## Wastewater Network



# Appendix C: Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.

Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, Westport's condition assessment strategy should outline several key considerations, including:

- The role of asset condition data in decision-making
- Guidelines for the collection of asset condition data
- A schedule for how regularly asset condition data should be collected

## Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows municipal staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts Westport's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, Westport can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of future capital expenditures, Westport can develop long-term financial strategies with higher accuracy and reliability.

## Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of

condition assessments there can be little confidence in the validity of condition data and asset management strategies based on this data.

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project. There are many options available to Westport to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

## Developing a Condition Assessment Schedule

Condition assessments and general data collection can be both time-consuming and resource-intensive. It is not necessarily an effective strategy to collect assessed condition data across the entire asset inventory. Instead, Westport should prioritize the collection of assessed condition data based on the anticipated value of this data in decision-making. The International Infrastructure Management Manual (IIMM) identifies four key criteria to consider when making this determination:

1. **Relevance**: every data item must have a direct influence on the output that is required
2. **Appropriateness**: the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
3. **Reliability**: the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
4. **Affordability**: the data should be affordable to collect and maintain