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The Township of Edwardsburgh Cardinal

Asset Management Plan

February 2020

About Us

ENTERPRISE ASSET MANAGEMENT & BUDGETING

RESEARCH

- Public Sector Digest
- Applied Research
- Policy Analysis & Grant Services

CONSULTING

- Asset Management Training
- Asset Management Plan & Program Development
- Climate Change Adaptation Plans

SOFTWARE

- Enterprise Asset Management (EAM)
- CMMS & GIS
- Enterprise Budget Management

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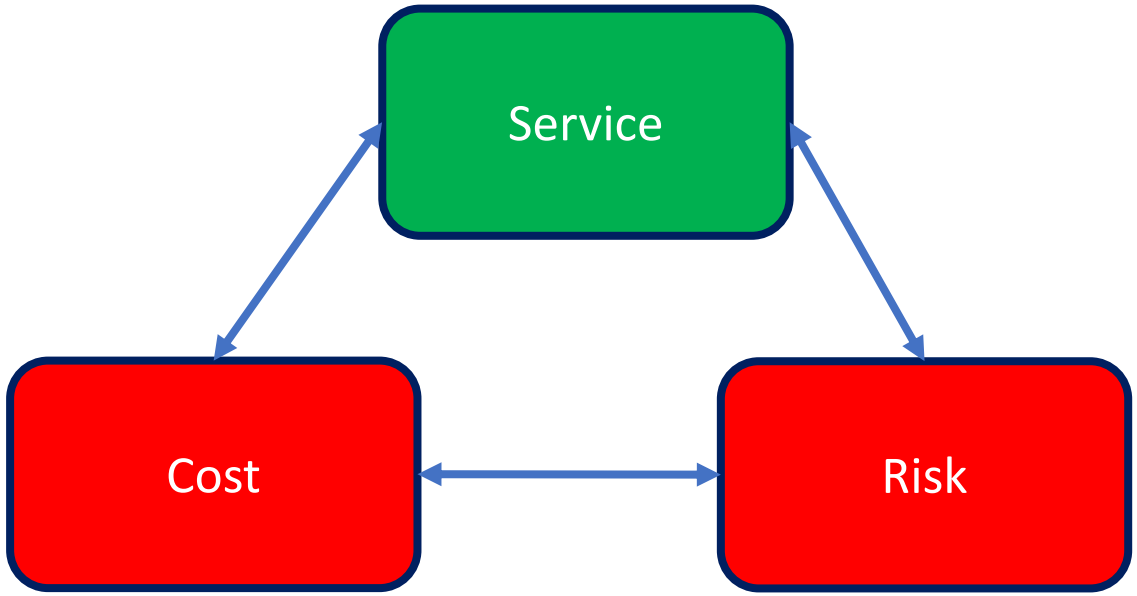
What is Asset Management?

- Definition (ISO 55000):
  - "Coordinated activity of an organization to realize value from assets"
    - Assets exist to provide a service, and should be managed accordingly
    - How do we maximize value and minimize cost/risk?

- The aim of Asset Management



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Asset Management Program Development

1. State of Maturity Report
2. Asset Management Policy
3. Condition Assessment Protocols & Data Capture Tools
4. Risk & Criticality Models
5. Lifecycle Activity Models
6. Financial Strategies
7. Level of Service Framework
8. Asset Management Plan

2-year implementation

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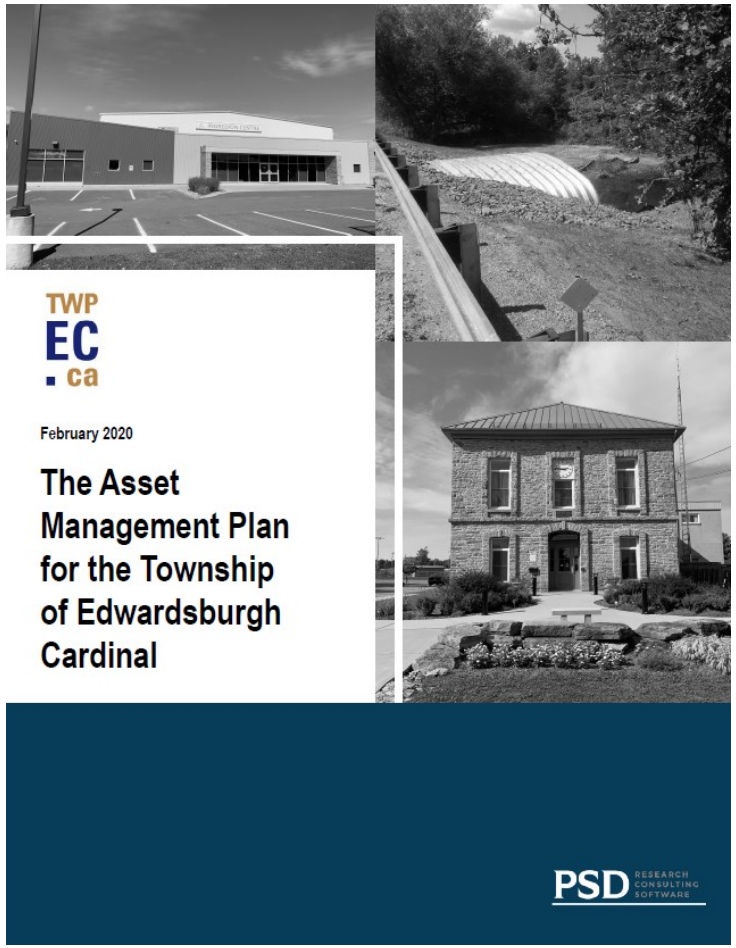
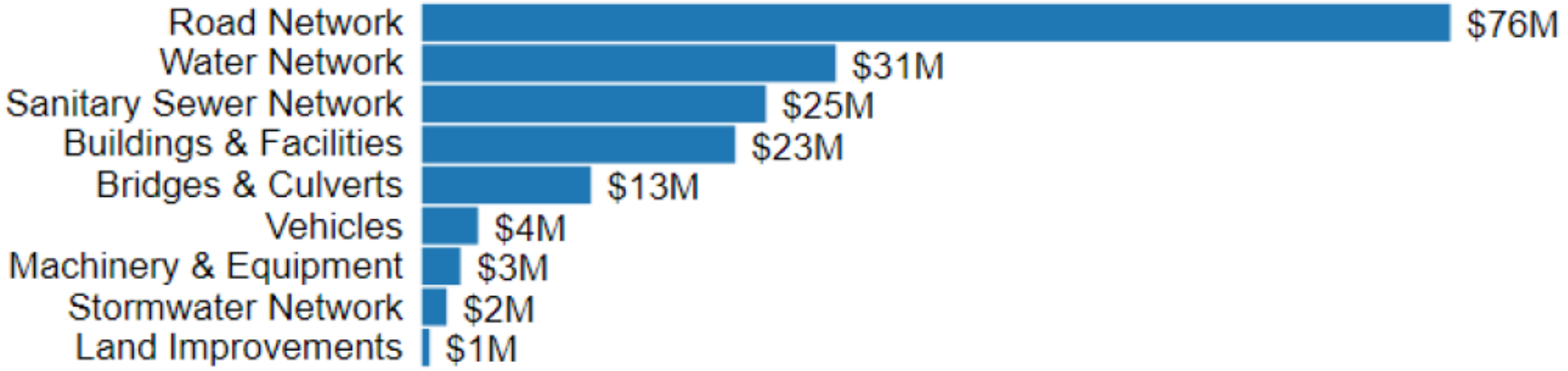
Asset Management Plan

Outlines the state of existing municipal infrastructure and the Town's financial capacity to meet sustainability requirements.



Total Replacement Cost of Asset Portfolio



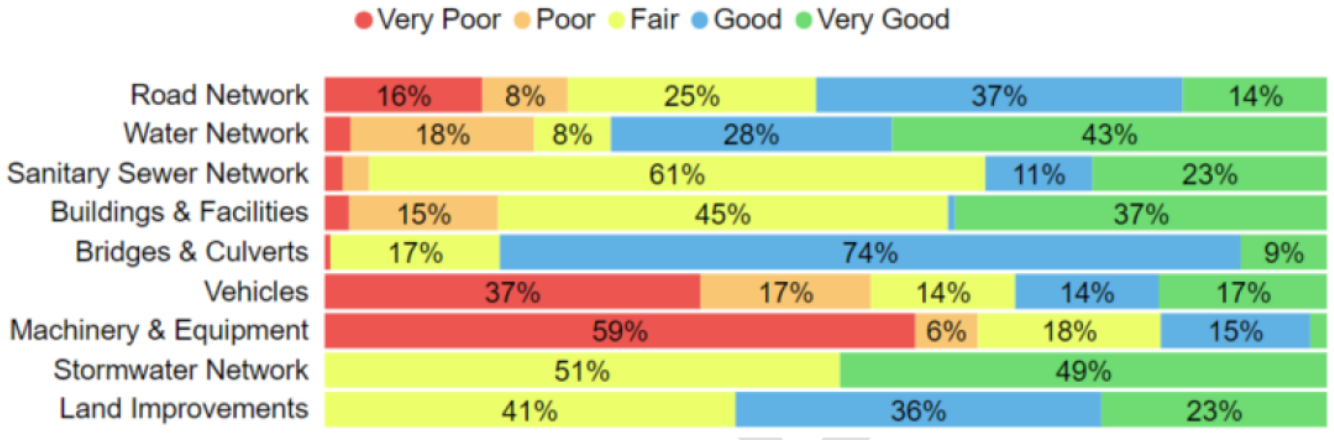
$177.2 million

Replacement cost of asset portfolio

$24,985

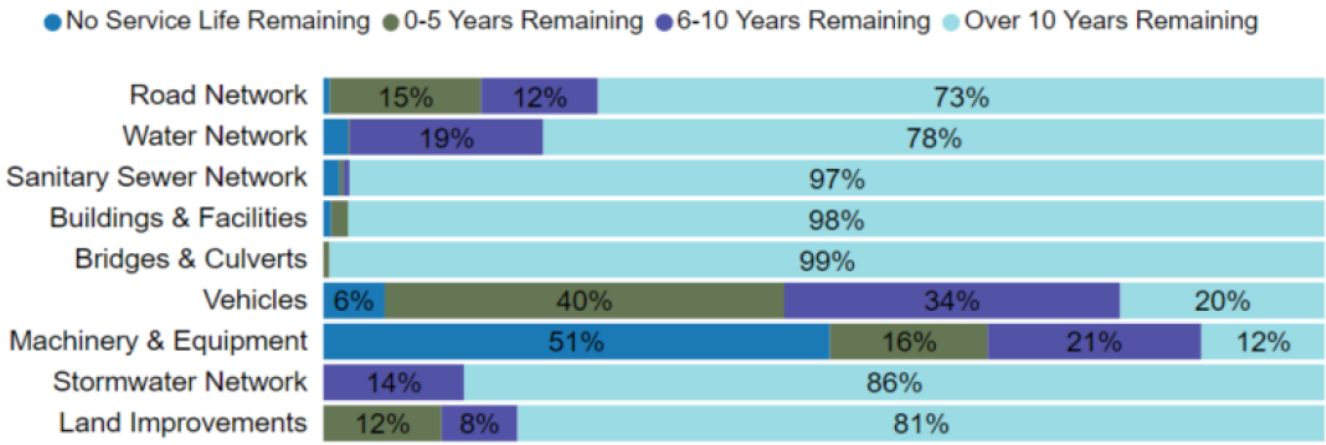
Replacement cost of infrastructure per capita

State of the Infrastructure - Condition



Asset Category	Asset Segment	% of Assets with Assessed Condition	Source of Condition Data
Road Network	Paved Roads	100%	2018/2015 Road Appraisals
Bridges & Culverts	Bridges	100%	2019 OSIM Report
	Structural Culverts	100%	2019 OSIM Report
Stormwater Network	All	0%	N/A
Buildings & Facilities	All	18%	Building Needs Assessment Report / Staff Assessments
Machinery & Equipment	All	40%	Staff Assessments
Vehicles	All	41%	Staff Assessments
Land Improvements	All	43%	Staff Assessments
Water Network	All	8%	Staff Assessments
Sanitary Sewer Network	All	19%	Staff Assessments

State of the Infrastructure – Service Life Remaining



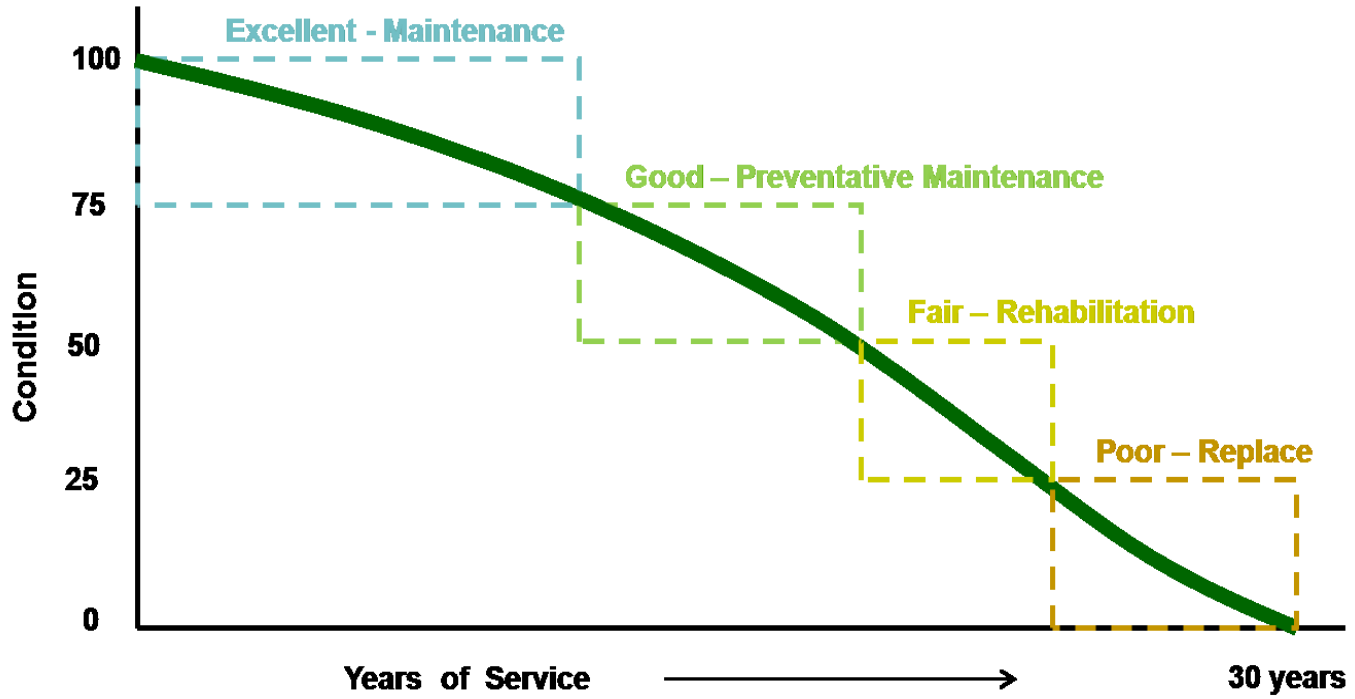
All Asset Categories											
Asset Segment	Backlog	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Road Network	$492,000	$1,453,320	$8,019,450	$207,000	$5,519,490	$20,700	$6,389,850	$1,996,860	$48,750	$295,800	$2,968,380
Bridges & Culverts	$0	$0	$0	$0	$77,610	$0	$0	$0	$0	$0	$0
Stormwater Network	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Buildings & Facilities	$181,420	$0	$0	$0	$0	$0	$391,130	$0	$40,000	$0	$0
Machinery & Equipment	$1,430,511	$25,816	$164,823	$46,667	$136,931	$39,535	$65,294	$240,802	$50,057	$210,118	$104,820
Vehicles	$256,742	$333,769	$66,553	$969,267	$109,834	$216,296	$305,196	$373,521	$0	$456,348	$282,616
Land Improvements	$0	$0	$0	$0	$0	$26,718	$10,608	$79,036	$0	$0	$0
Water Network	$740,444	$22,011	$39,281	$0	$0	$0	$0	$0	$0	$0	$536,945
Sanitary Sewer Network	$378,550	$342,995	$51,608	$0	$0	$0	$83,384	$564,811	$0	$78,126	$86,906
	$3,479,667	**$2,177,911**	**$8,341,715**	**$1,222,934**	**$5,843,865**	**$303,249**	**$7,245,462**	**$3,255,031**	**$138,807**	**$1,040,392**	**$3,979,667**

Asset Requirements & Long Term Financial Analysis

Scenario 1 – End-of-Life Replacement Only

End of Life Scenario:

Based on the assumption that assets deteriorate and without regularly scheduled maintenance and rehabilitation are replaced at the end of their service life.

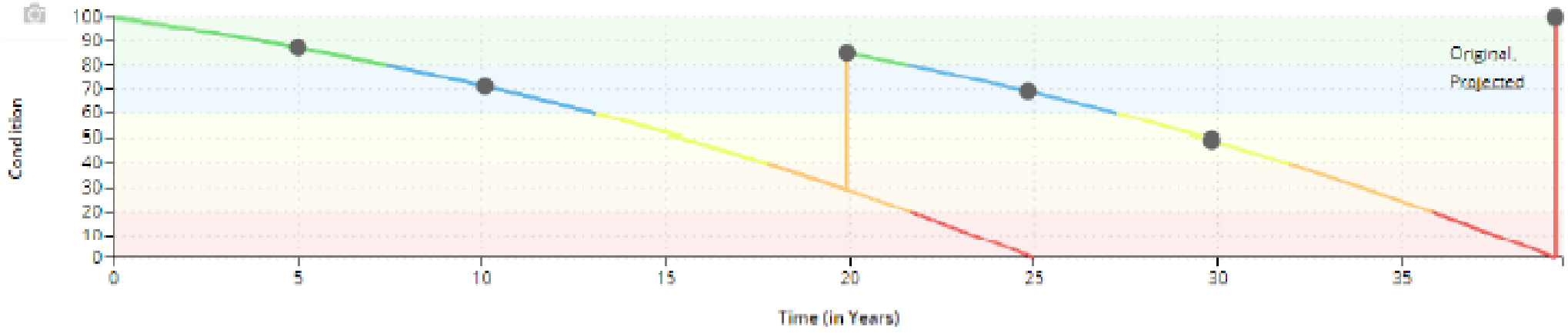


Scenario 2 – Lifecycle Strategy Scenario

Lifecycle Strategy Scenario:

Based on the assumption that lifecycle activities are performed at the optimal time to extend the estimated useful life of assets at the lowest cost; assets are replaced at the end of the extended estimated useful life.

Lifecycle Strategy for Paved Roads (HCB)

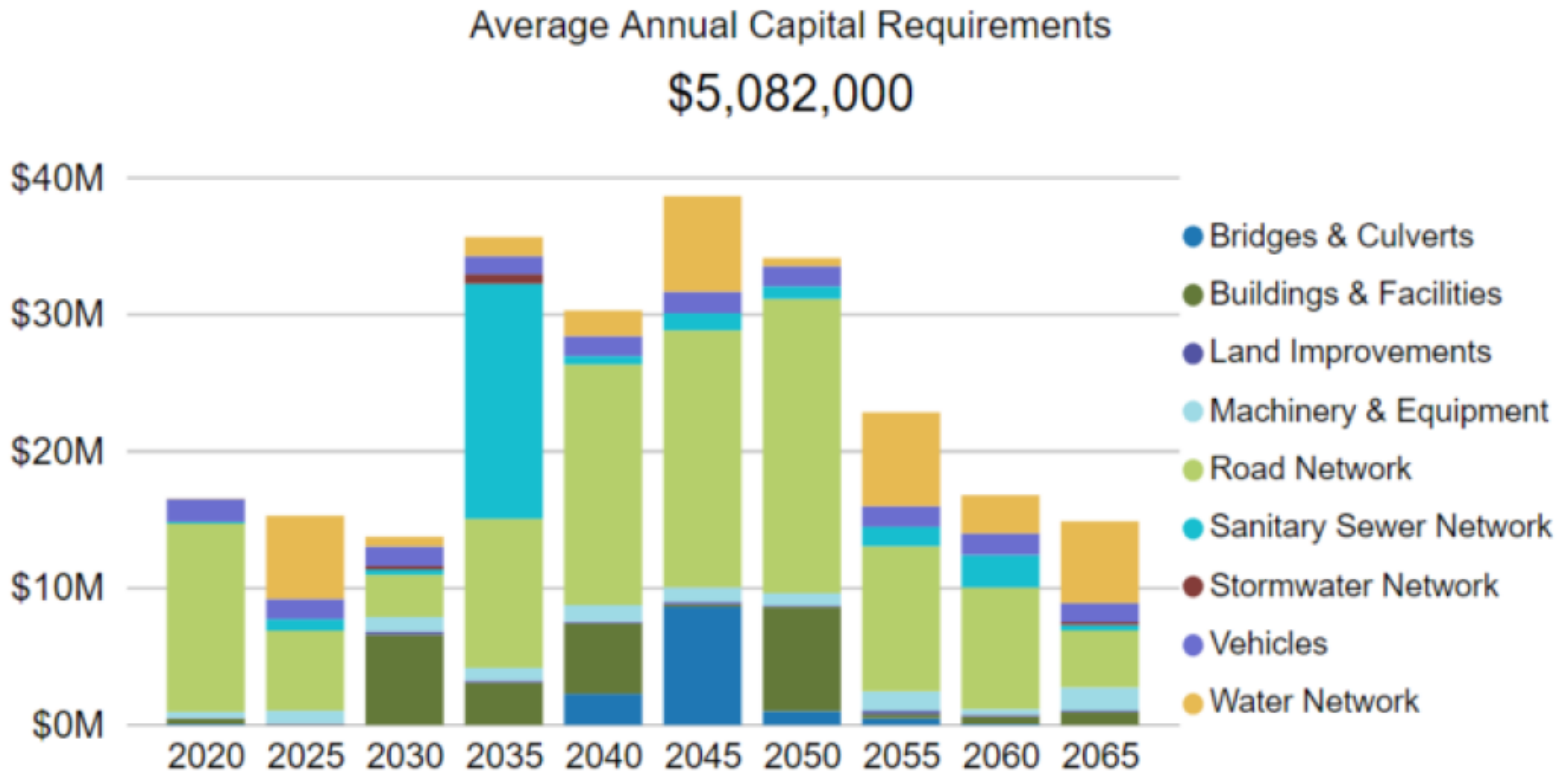


Scenario Comparison (End of Life Replacement vs. Lifecycle Strategy)

Asset Type	Annual Capital Requirement (End of Life Rep.)	Annual Capital Requirement (Lifecycle)	Difference
Road Network	$3,069,000	$2,425,000	$644,000
Sanitary Sewer Network	$613,000	$599,000	$14,000
Total:	**$3,682,000**	**$3,024,000**	**$658,000**

The implementation of the lifecycle strategies as described for paved roads and sanitary mains is estimated to lead to annual cost avoidance of **$658,000**.

Forecasted Capital Requirements



- Lifecycle Strategies: Roads (HCB & LCB), Sanitary Mains
- Replacement Only: All others

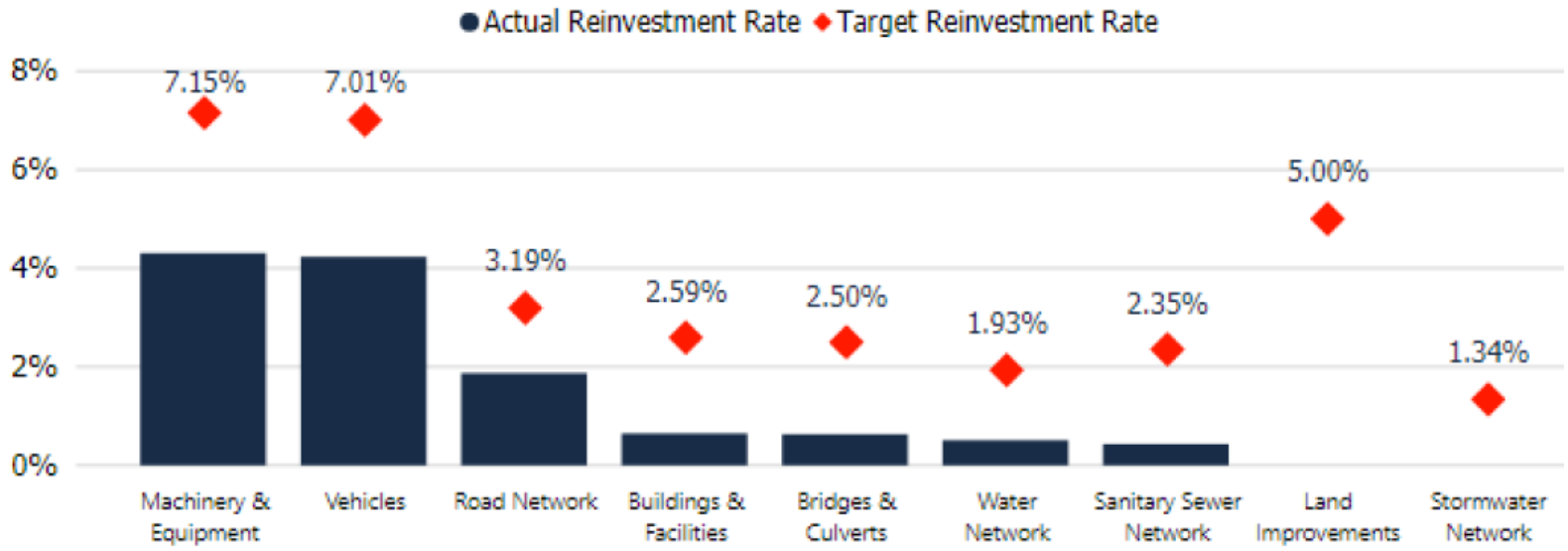
Annual Capital Requirement & Infrastructure Deficit

Asset Type	Annual Capital Requirement (Lifecycle)	Funding Available	Annual Capital Deficit
Tax-Funded Assets	$3,892,000	$1,951,000	$1,941,000
Rate-Funded Assets	$1,190,000	$266,000	$924,000
Total:	**$5,082,000**	**$2,217,000**	**$2,865,000**

Based on a historical analysis of available capital funding from sustainable sources, the Town is facing an annual capital deficit of $2.9 million.

A financial strategy is required to close the gap between capital requirements and available funding.

Infrastructure Reinvestment Rate



2.87%

Target average annual infrastructure reinvestment rate

1.25%

Actual average annual infrastructure reinvestment rate

Financial Strategy

Tax-funded assets

- Road Network, Bridges & Culverts, Stormwater Network, Buildings & Facilities, Machinery & Equipment, Vehicles, Land Improvements

Asset Type	Years Until Full Funding	Total Tax/Rate Change	Average Annual Tax/Rate Change
Tax-Funded Assets	20 Years	24.7%	1.2%

Rate-funded assets

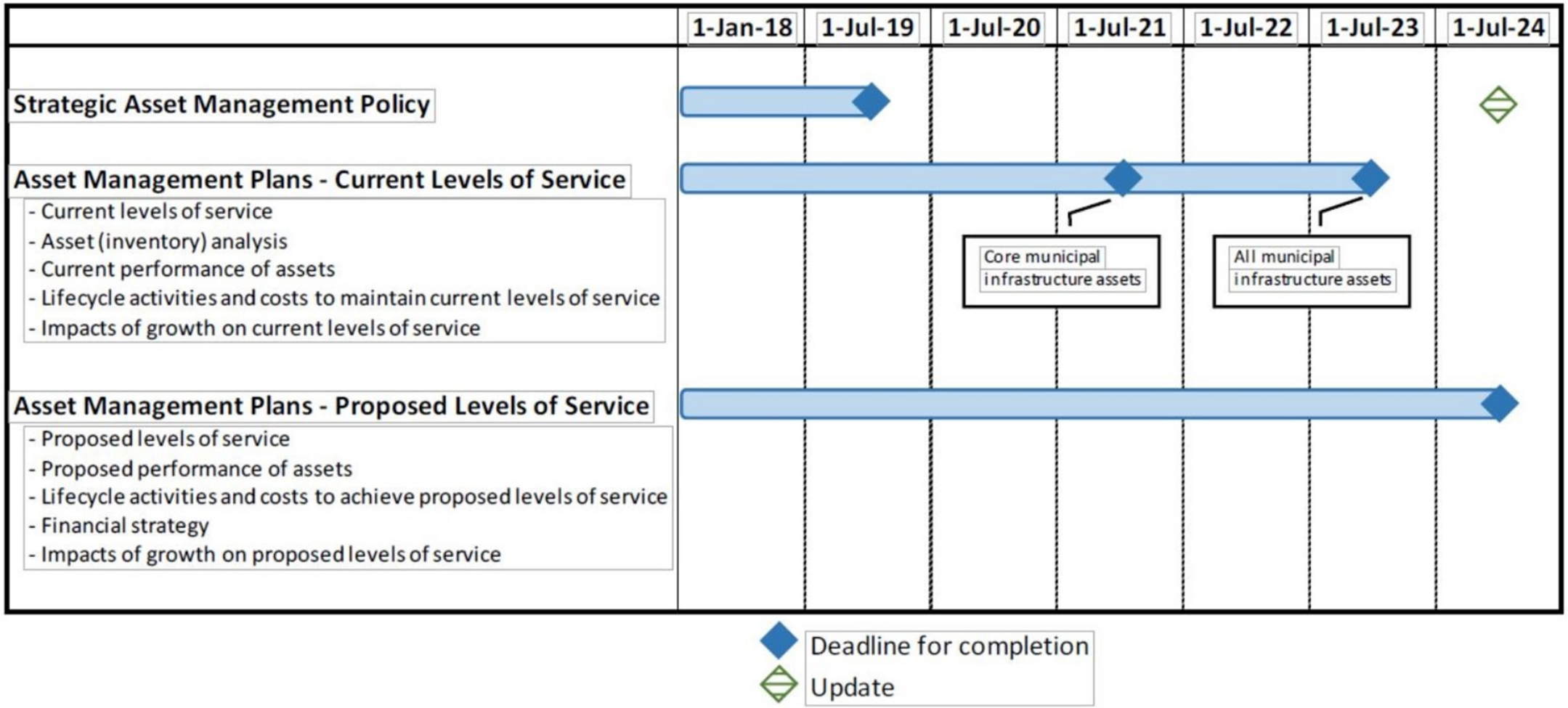
- Water Network, Sanitary Sewer Network

Asset Type	Years Until Full Funding	Total Tax/Rate Change	Average Annual Tax/Rate Change
Water Network	20 Years	82.5%	4.1%
Sanitary Sewer Network	20 Years	71.6%	3.6%

Key Recommendations

- Implement portfolio-wide condition assessment program
  - 55% of assets in the AMP have assessed condition data
- Adopt a long term financial strategy to address infrastructure deficit across all asset categories
  - Annual funding from sustainable revenue sources
- Continue to update and refine asset inventory data
  - Stormwater Network
- Identify proposed levels of service
- Continuous improvement and regular review

Ontario Regulation 588/17 - Compliance



Benefits Realized from Good Asset Management Practices

Benefits of Asset Management	
	Good governance and increased accountability
	Data-driven decision-making
	Enhanced sustainability of infrastructure
	Improved level of service and quality of life
	Accurate forecasting of infrastructure replacement and enhancement needs
	Compliance with federal and provincial regulations

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