

CITY OF QUINTE WEST

Facilities Asset Management Plan



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Introduction

Asset Management is an integrated approach, including all City of Quinte West departments. Delivering value to the community through the effective management of existing and new infrastructure assets, asset management intends to maximize benefits, reduce risk, and provide satisfactory levels of service to the community in a sustainable manner. Good asset management practices are fundamental to achieving sustainable and resilient communities. This plan focuses on City facilities, but also includes City enterprises such as water, wastewater, and the Quinte West Public Library.

Next Phases - Ontario Regulation 588/17

July 1, 2024: Each municipality must have an asset management plan for all non-core assets, including current service levels and maintenance costs.

July 1, 2025: Municipalities must have an asset management plan for all assets that determine a proposed level of services, which activities are required to meet those proposed levels of service, and a strategy to fund these activities.



Summary

The City of Quinte West has \$701.2 million worth of facility infrastructure.

Chart: Total number of facilities by service group

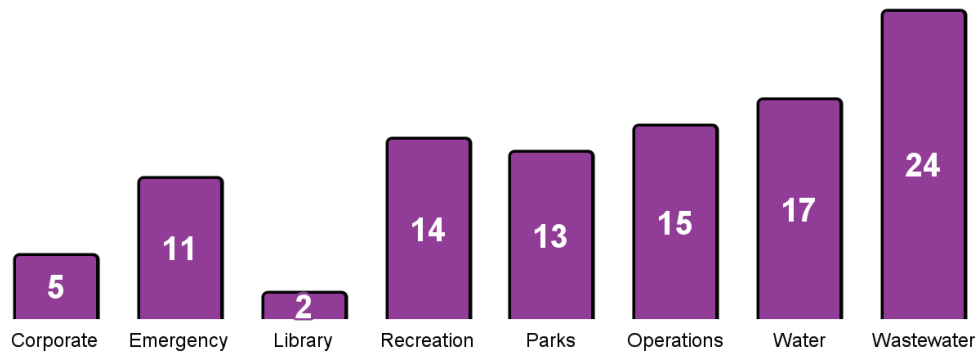


Table: Facility replacement cost by department

Replacement Cost (million)	
Corporate	9.2
Emergency	25.2
Library	3.9
Recreation	67.0
Parks	3.2
Operations	34.7
Water	292.4
Wastewater	265.5
Total	701.2

Chart: Projected capital expenditures

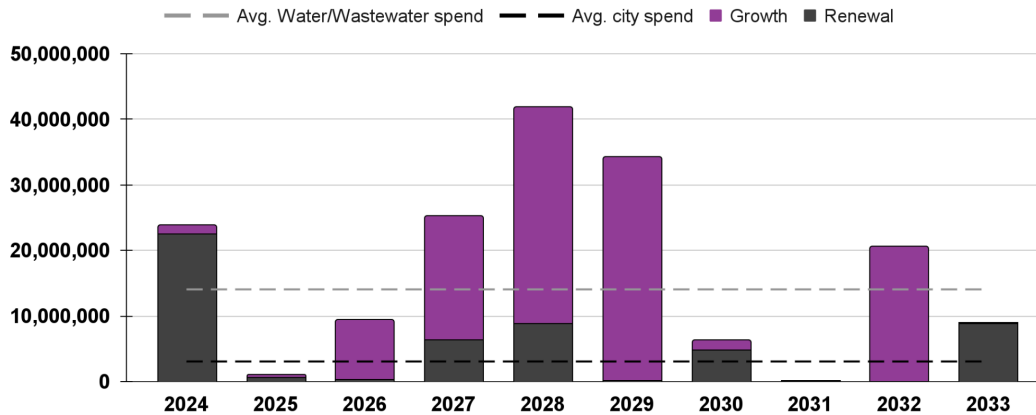
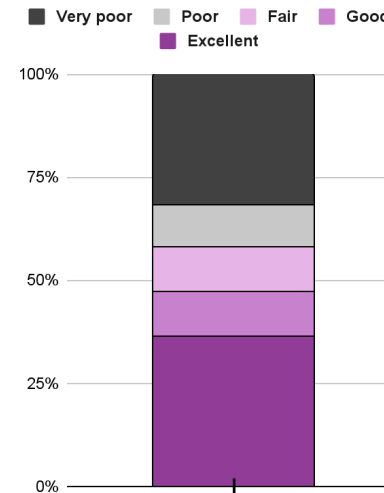


Chart: Facility conditions



Inventory

The City of Quinte West owns and maintains 101 facility assets that help provide a wide array of valuable services to the community. These assets include arenas for recreational uses, water treatment plants to provide clean drinking water, and salt domes to support winter control efforts.

Each facility is divided into different components, such as: substructure, roof, heating, ventilation and air conditioning (HVAC), etc. Each of these components has an associated install year, lifespan, and replacement cost. Each component can also have multiple units. For example, the Batawa Community Centre has five HVAC units, each with its own installation year, lifespan, and replacement cost.

An average useful life is calculated for each service the City provides that uses a facility by multiplying each component's weighted average useful life by its replacement cost. Corporate facilities have the least useful life remaining, with only 18 years, while the Quinte West Public Library has the longest useful life remaining of 67 years.

Chart: Facility age and remaining useful life by service group

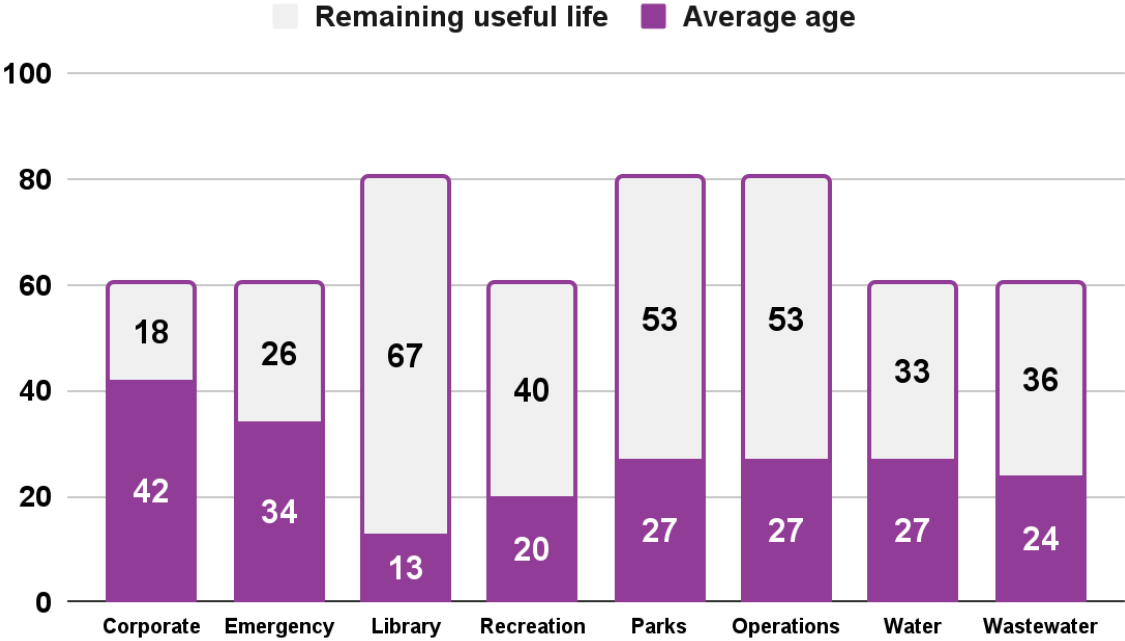


Table: Facility inventory stats by service group

Service group	Count	Square footage	Replacement cost (million)	Facility types
Corporate	5	39,190	9.2	City Hall, Physicians building
Emergency	11	87,320	25.2	Fire Station, Police Station
Library	2	33,100	3.9	Library
Recreation	14	187,160	67.0	Arena, community centre
Parks	13	32,680	3.2	Amphitheatre, picnic shelter
Operations	15	189,810	34.7	Equipment depot, sand/salt dome
Water	17	99,850	292.4	Water Treatment Plant, Water Tower
Wastewater	24	87,670	265.5	Wastewater Treatment Plant, Pump Station
Total	101	756,780	701.2	



Condition

The City's facilities' conditions were calculated using the **Facility Condition Index (FCI)**, which determines the percentage of the facility's value needed to be spent to bring it up to an acceptable standard.

FCI = $\frac{10 \text{ Year Capital Fcst}}{\text{Replacement Cost}}$

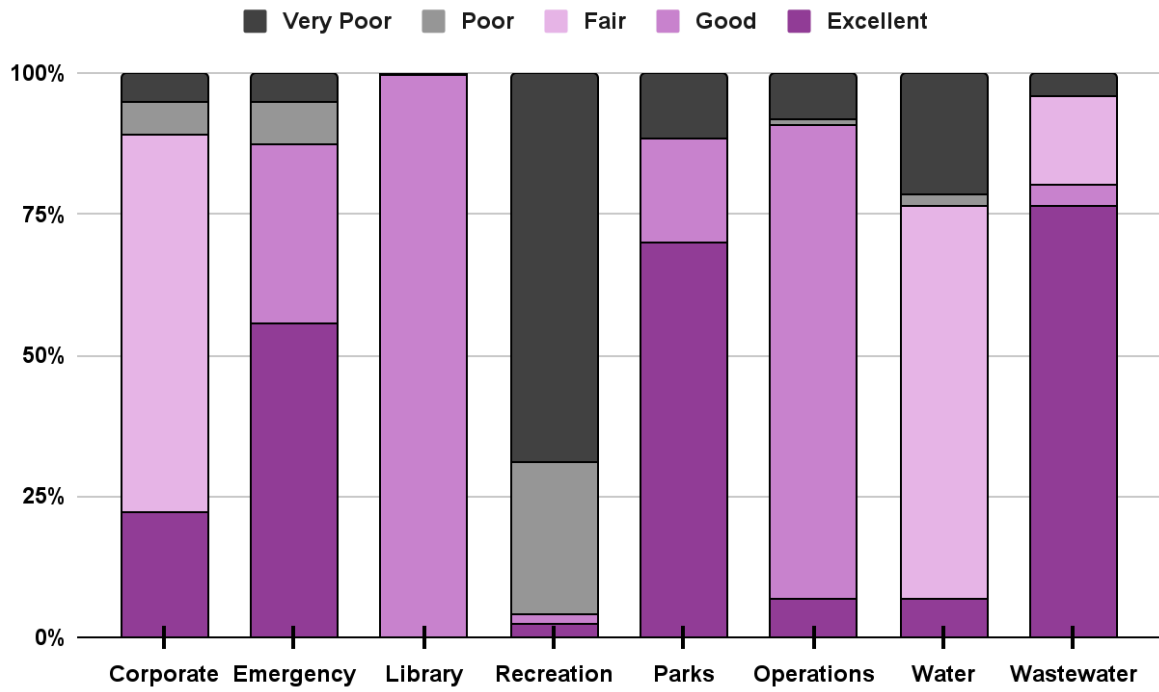
Ex. If we had an equipment depot that required \$200k of rehab over the next 10 years and was worth \$1M, the FCI would be 20%, a condition rank of "Fair".

Overall, the City of Quinte West's facilities are in good condition, with 82% in fair condition or better, based on the replacement costs. Wastewater assets are in the best condition, driven by the recently renovated Trenton Wastewater Treatment Plant. Meanwhile, the City's recreational facilities are in critical condition, driven by the aging arenas and the damaged Trent Port Marina breakwall.

Table: Condition rank by FCI score

Condition Rank	FCI
Excellent	0 - 2%
Good	3 - 13%
Fair	14 - 25%
Poor	26 - 40%
Very Poor	41 %+

Chart: Facility condition ranks by service group



Risk

Each facility has a unique risk score calculated based on two main criteria, the likelihood and the consequence of the asset failing.

The likelihood of failure represents the probability of an asset breakdown and is entirely driven by the Facility Condition Index (FCI) calculation. The more work projected for an asset, the greater the likelihood of failure.

An asset consequence of failure score is calculated with two data points:

1. Whether the facility is public-facing, and
2. The severity and scope of service disruption should the facility shut down.

These risk scores are used to prioritize projects when there is insufficient budget to complete everything. For example, if the roof of a section of a wastewater treatment plant and a picnic shelter are both due for replacement, but the City only has the budget for one of the projects, the risk score for the treatment plant would be higher, indicating that it should take priority.

Likelihood of Failure (LoF) Facilities = FCI	Consequence of Failure (CoF) Facilities = (Public Facing * 0.25) + (Service Disruption Score * 0.75)
Risk Score Fleet = (LoF * .5) + (CoF * .5)	

Chart: Facility risk matrix

Table: Facility risk group

Facilities risk matrix

Consequence of Failure	Very high	3 \$8,029,400	1 \$2,065,000	1 \$18,497,000	0 \$0	0 \$0
	High	14 \$457,581,000	3 \$27,149,485	4 \$78,232,000	0 \$0	1 \$6,545,600
	Average	24 \$57,830,208	6 \$14,084,943	7 \$9,705,362	6 \$3,020,137	6 \$3,607,323
	Low	10 \$5,916,131	4 \$2,805,600	7 \$3,645,250	0 \$0	0 \$0
	Very low	4 \$2,439,000	0 \$0	0 \$0	0 \$0	0 \$0
			Very low	Low	Average	High

Risk group	Count	Value
Very high	1	\$6,545,600
High	18	\$105,421,459
Average	13	\$44,884,247
Low	55	\$535,947,001
Very low	14	\$8,355,131

Ideal spend

Growth - New or expanded asset
Renewal - Replacement of current asset

The ideal spend for facilities is made up of both renewal and growth projects.

Growth projects are taken from the Development Charge Background Study and the 2024 Capital Forecast, where costs and years are given and put into this plan. These projects provide additional capacity to the service area and are meant to help maintain service levels as the community changes over time.

Renewal projects are undertaken to avoid the risk of an asset failure, which could result in a reduction of service levels. Assessments are utilized where possible to give a condition and remaining useful life. In most cases where we have not gotten assessments, age and estimated lifespans are used to determine the remaining useful life. The costs are either given in the assessment, or the installation costs are increased by the Bank of Canada inflation calculator based on the year of installation.

Table: Lifespans by facility component

Facility Component	Lifespan (years)
Substructure	110
Superstructure	85
Roof	35
Interior	85
Electrical	40
Generator	25
HVAC	10 - 25
Other	25
Process piping	50
Process electrical	40
Process equipment	30
Process instrumentation	20

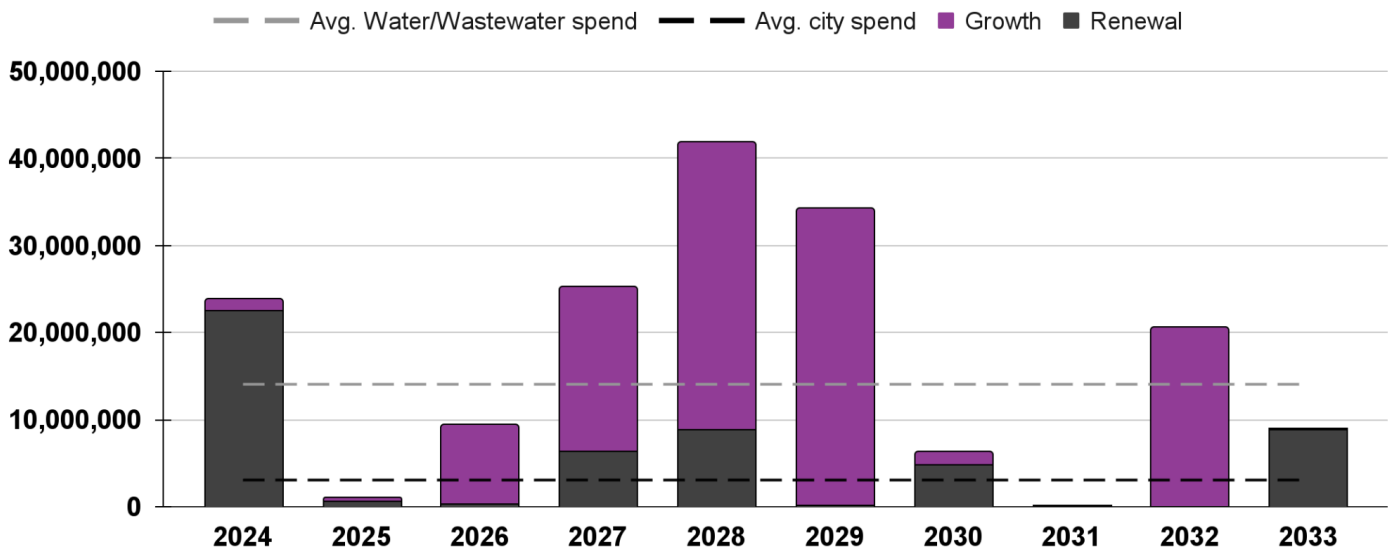
The City of Quinte West must spend an average of \$17.1 million per year on facilities over the next 10 years to maintain its current levels of service. This cost is made up of a backlog of renewal projects in 2024 valued at \$22.5 million, followed by significant investment into capacity with growth projects totaling \$118.1 million. About 69% of facility spend will be on growth projects, with the remaining 31% being on renewal projects.

From a departmental perspective, Wastewater makes up 60% of the 10-year spend, driven by wastewater treatment plant expansions; water expenditures are 22%, driven by both growth and renewal; and recreation expenditures are 13%, driven by renewal projects.

Major projects

- Trenton wastewater plant expansion (\$67 million)
- Frankford wastewater plant expansion (\$20.5 million)
- Additional water tank storage for Trenton (\$12 million)
- Duncan McDonald Memorial Community Gardens (Trenton arena) roof, playing floor, boards and additional replacements (\$8.6 million)
- Trent Port Marina break wall replacement (\$7 million)

Chart: Project capital spend on facility assets



Level of service

Customer-centric asset management is about service delivery; and having clear, trackable levels of service allows the public to see how services are holding up over time. This section discusses the current levels of service the City of Quinte West is providing in its facilities.

There are both community levels of service which involve qualitative descriptions, images, and maps of assets, and technical levels of service which are numerical metrics. Ontario has mandatory levels of service the City of Quinte West must report on as Water and Wastewater facilities are core assets. This allows the province to compare and summarize core municipal assets throughout the province; municipally defined levels of service will be included after the mandatory levels of service.

Water and Wastewater facilities

Mandatory levels of service (as per O. Reg. 588/17).

Water - community levels of service - reliability

Description of boil water advisories: A boil water advisory is when the municipality informs the public that there are contaminants found in the water system that is a threat to public health.

Description of service interruptions: A service interruption is an unplanned event that results in the failure of the municipal water distribution network.

Wastewater - community levels of service - reliability

Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system: All wastewater effluent discharge meets Ministry of Environment, Conservation and Parks (MECP) requirements.

Level of service

The levels of service set for facilities asset management are related to the capacity and quality of the buildings.

Capacity refers to the ability of the city to provide space for activities, whether ice time for various hockey leagues or floor space at halls for events. With the population, employment, and interests of the city changing over time, the city would like to maintain capacity for the evolving needs.

Quality refers to the facilities' conditions and the public's expectations when they use a City facility. Delaying renewal projects could save the City money while lowering the service level.

Maps

The maps on this page show where facilities are located throughout Quinte West.

Image: Map of Quinte West

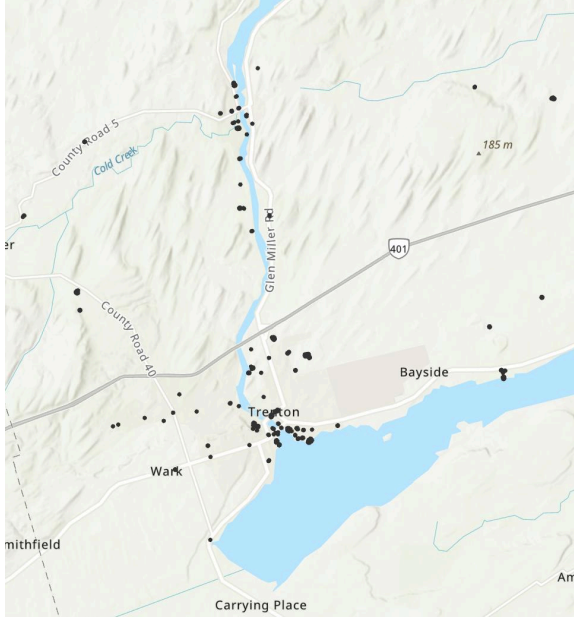


Image: Map of Trenton

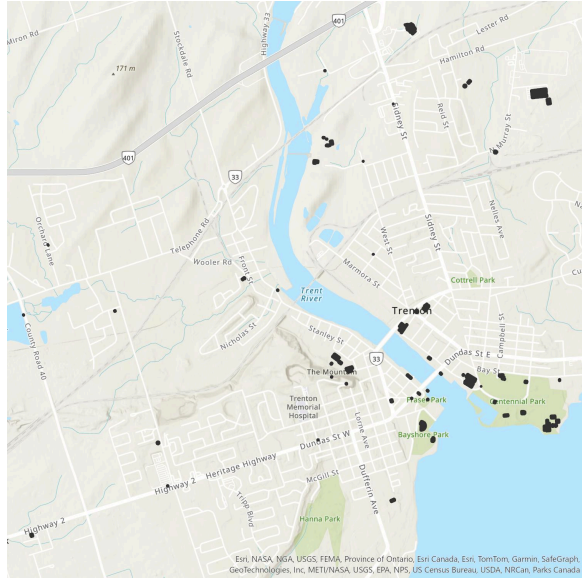


Image: Map of Frankford

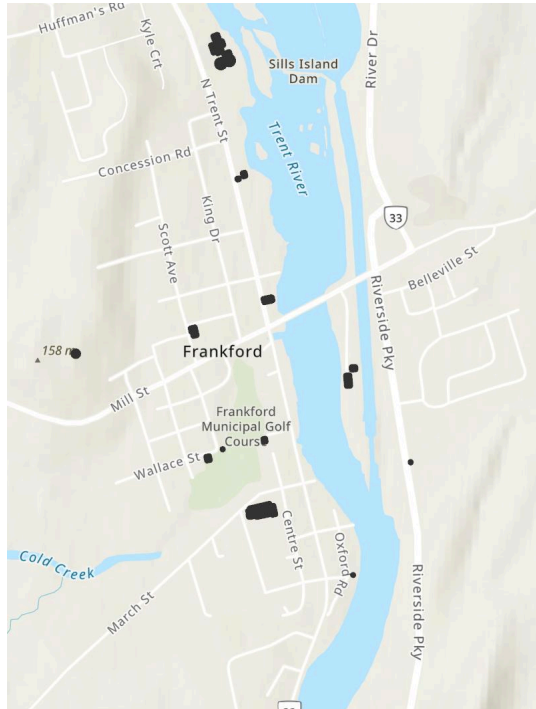


Table: Facility capacity levels of service

Performance category	Community service level	Technical service level	Current performance
Capacity	There are sufficient facilities to meet the needs of the municipality	Rinks per capita	1:15,520
		Rental space per capita	1 sq.ft:0.36
		Library space per capita	1 sq.ft:1.83
	Treatment plants have sufficient capacity to meet the needs of the municipality	% Water Treatment Capacity Used	29.1%
		% Wastewater Treatment Capacity Used	72.4%

Table: Facility quality levels of service

Performance category	Community service level	Technical service level	Current performance
Quality	Facilities are in suitable conditions	Average Condition Score	83.0
		% of Fair or better Ratings	78.6%



Financial strategy

The City of Quinte West's ideal spending is \$17.1 million per year, with about half of that funded through development charges, \$4.6 million through the capital levy, and the rest from water and wastewater rates.

From 2020-2023, the City of Quinte West budgeted \$2.4 million per year in corporate facility spending, less than the \$4.6 million per year the plan suggests we should spend.

The City is in a satisfactory position regarding its corporate facilities and should decide to either increase the capital levy to become fully funded or decrease levels of service slightly and keep the funding flat.

Much of the facility spend is to increase capacity to facilitate growth, which explains why \$8.6 million per year is being funded through development charges. This assumes the proposed development charge background study going to council mid 2024 is approved.

The water and wastewater revenue should be considered along with the other relevant infrastructure, please see the Water/Wastewater asset management plan for funding strategy for those assets (coming fall 2024).

Chart: Facilities funding sources

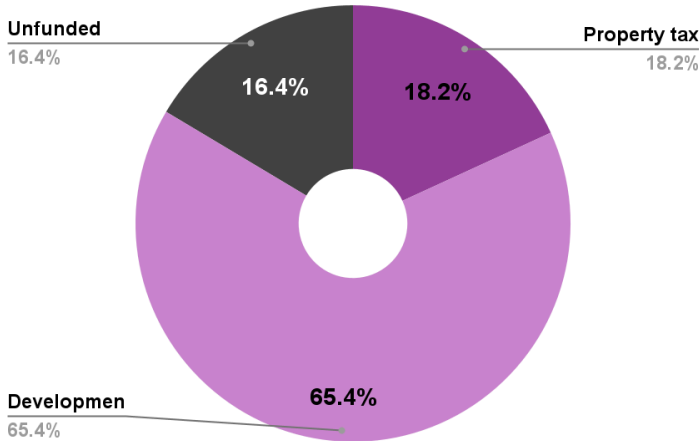


Table: Facilities annual spend and funding

Funding source	Avg. annual spend	Current funding	Gap
Property tax	4,563,000	2,395,000	-2,168,000
Development charges	8,617,000	8,617,000	0
Water revenue	2,794,000	* See Water/Wastewater Asset Management Plan	
Wastewater revenue	1,162,000		
Total	17,136,000		

Next steps

Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17)

- Identify the proposed Level of Service (LOS).
- Risks associated with proposed LOS.
- How the proposed LOS is different from the current LOS.
- Identify if the proposed LOS is achievable.
- Identify if the proposed LOS is affordable.
- Performance of assets over a 10-year period.
- Develop a lifecycle and financial strategy Available funds for proposed LOS.

Plan improvements

- Get building assessments done for all facilities - synergies with insurance and accounting.
- Switch to unit costing vs inflated historical costs.
- Identify lifespans based on unit type vs building component.
- Identify new levels of service
 - Accessibility related
 - Environmental-related
 - Percent of prime hours facilities are rented.

