CITY OF QUINTE WEST

Fleet Asset Management Plan

TABLE OF CONTENTS

Introduction

Asset Management is an integrated approach involving all of the City of Quinte West departments. It delivers value to the community through the effective management of existing and new infrastructure assets. The intent is to maximize benefits, reduce risk, and provide satisfactory levels of service to the community. Good asset management practices are fundamental to achieving sustainable and resilient communities. This plan focuses on fleet assets, vehicles, and equipment for the City and Water/Wastewater departments.

Next Phases - Ontario Regulation 588/17

July 1, 2024: Municipalities must have an asset management plan for all non-core assets, with current levels of service and costs to maintain them.

July 1, 2025: Municipalities must have an asset management plan for all assets, that determines a proposed levels 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 $52.8 million of fleet assets

Chart: Total number of fleets by department

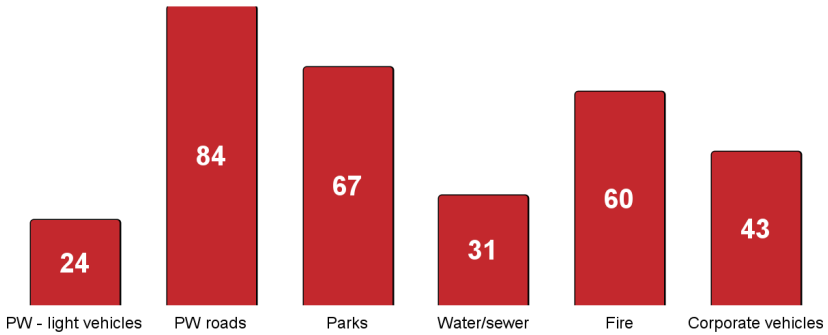


Table: Fleet replacement cost by department

Replacement Cost (million)	
PW - Light vehicles	1.8
PW Roads	24.6
Parks	4.7
Water/Sewer	2.6
Fire	16.5
Corporate vehicles	2.5
	52.8

Chart: Projected capital expenditures

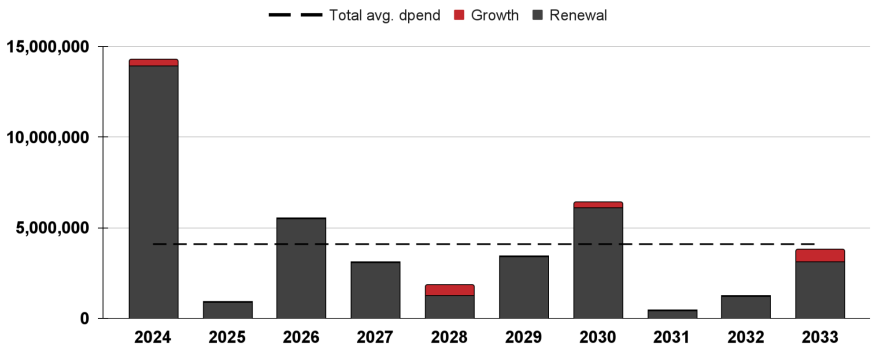
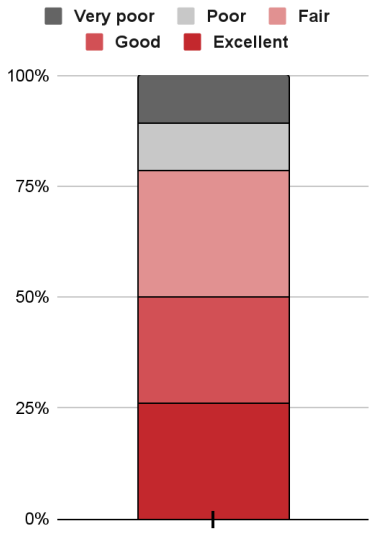


Chart: Facility conditions



Inventory

The City of Quinte West owns and maintains 309 pieces of equipment and vehicles. These assets include half-ton trucks, sport utility vehicles, snowplows, backhoes, lawnmowers, tanker trucks, and more.

Vehicles are grouped into fleet types and assigned attributes like lifespan and impact risk based on that fleet type. Each vehicle also has attributes like age, repair history and mileage that help drive decisions on when they should be replaced, as well as which vehicles should be prioritized should funding be limited. For example, a fire pumper at the end of its life with high mileage would be prioritized over a half-ton at the end of its useful life with low mileage.

The overall useful life and average age were calculated for each department to see where the remaining useful life stands. All departments are in a similar situation, with the fleet being over halfway through its useful life. Parks, Public Works roads, and the Fire and Emergency Services fleet are in a particularly poor state, with only three to five years of useful life remaining.

Chart: Fleet age and remaining useful life by department

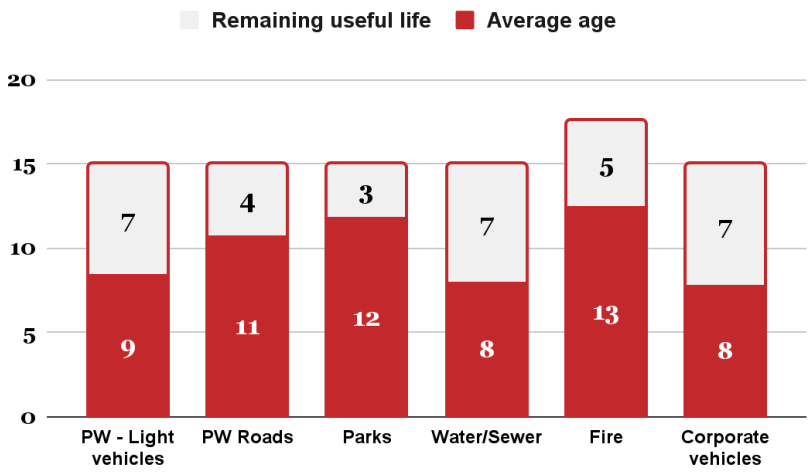


Table: Fleet inventory stats by department

Service Group	Count	Replacement Cost (million)	Vehicle Types
PW light vehicles	24	1.8	1/2 tons, 3/4 tons, 1 tons
PW roads	84	24.6	Snowplows, backhoes, dump trucks
Parks	67	4.7	1/2 tons, lawn mowers, trailers
Water/sewer	31	2.6	1/2 tons, vans, vac trucks
Fire	60	16.5	Pumpers, tankers, bucket trucks
Corporate vehicles	43	2.5	SUVs, 1/2 tons
Total	**309**	**52.8**	

Condition

Conditions were calculated using the age of the vehicle compared to its useful life and the mileage of the vehicle. For vehicles where we don't have tracking yet, the average kilometer per year for the fleet type was multiplied by the age of that vehicle to come up with the estimated mileage.

Overall, fleet assets are in fair condition. Fire and Emergency Services and corporate vehicles are in the best condition, with Public Works light vehicles being in very poor conditions.

Table: Condition rank by condition score

Condition Rank	Condition
Excellent	81 - 100%
Good	61 - 80%
Fair	41 - 60%
Poor	21 - 40%
Very Poor	0 - 20%

Condition = 100 - Likelihood of Failure Score
(Formula for LoF score on Risk page)

Ex. A 15 year old ½ ton with 111,000 kilometers would have a condition of 30%, which would give it a "Poor" rating.

Chart: Fleet condition ranks by department

Risk

Each asset has a unique risk score calculated based on two main criteria: the likelihood and consequence of its failure.

The likelihood of failure represents the probability of an asset breakdown and is driven by the age and mileage of the individual asset. The higher the age and mileage of a vehicle, the greater the likelihood of that asset failing.

The consequence of the failure score represents the community's impact if an asset were to fail. It is calculated using an impact and repair score. The impact score is chosen by staff and represents the severity of service disruption if the asset were to fail. The repair score represents the financial impact on the city if the asset were to fail.

These risk scores can be used to prioritize projects when there is not enough budget to complete everything.

Likelihood of Failure (LoF)

Fleet = (Age Score * 0.5) + (Mileage Score * 0.5)

Consequence of Failure (CoF)

Fleet = (Impact Score * 0.5) + (Repair Score * 0.5)

Risk Score

Fleet = (LoF * .5) + (CoF * .5)

Chart: Fleet risk matrix

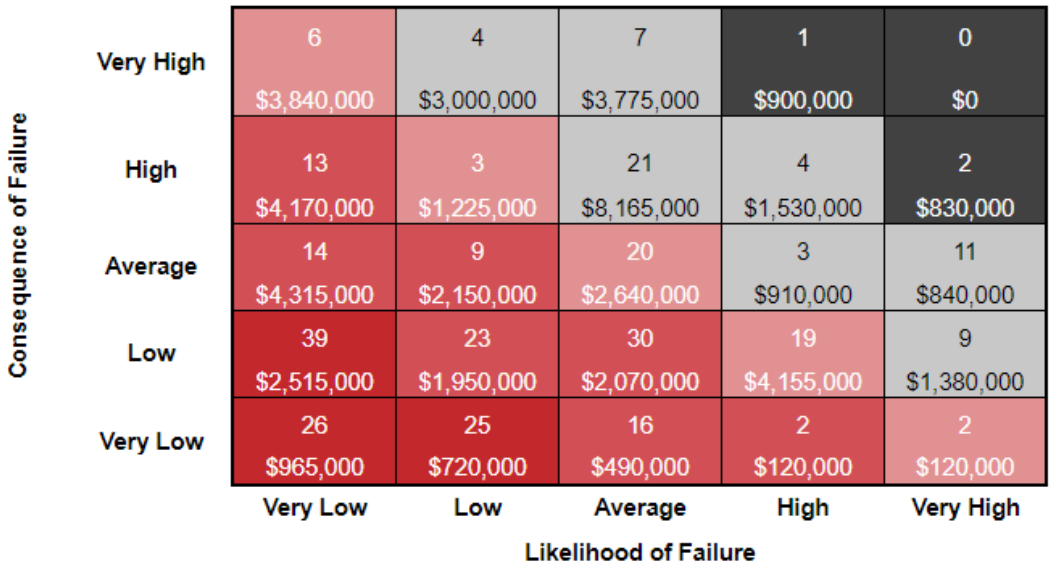


Table: Fleet risk group

Risk Group	Count	Value
Very high	3	$1,730,000
High	59	$19,600,000
Average	50	$11,980,000
Low	107	$15,265,000
Very low	90	$4,200,000

Ideal spend

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

The ideal spend for fleet assets includes renewal and growth projects. Project years and costs are determined for each asset and aggregated for the ideal spend.

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 department and are meant to help maintain service levels as the community changes over time.

Renewal projects are undertaken on assets already under City control to avoid the risk of an asset failure, which could result in a reduction of service levels. The remaining useful life calculated for each asset is used to determine the rehabilitation year. The asset attributes are used to determine a unit cost, which is then inflated to the rehabilitation year to give the final replacement cost.

Table: Lifespans and unit costs by fleet type

Fleet Type	Lifespan (years)	Unit Cost
Equipment	15	$10,000 - $425,000
Light Fleet	15	$45,000 - $90,000
Heavy Fire Fleet	20	$700,000 - $900,000
Heavy Fleet (Excl. Fire)	15	$250,000 - $525,000

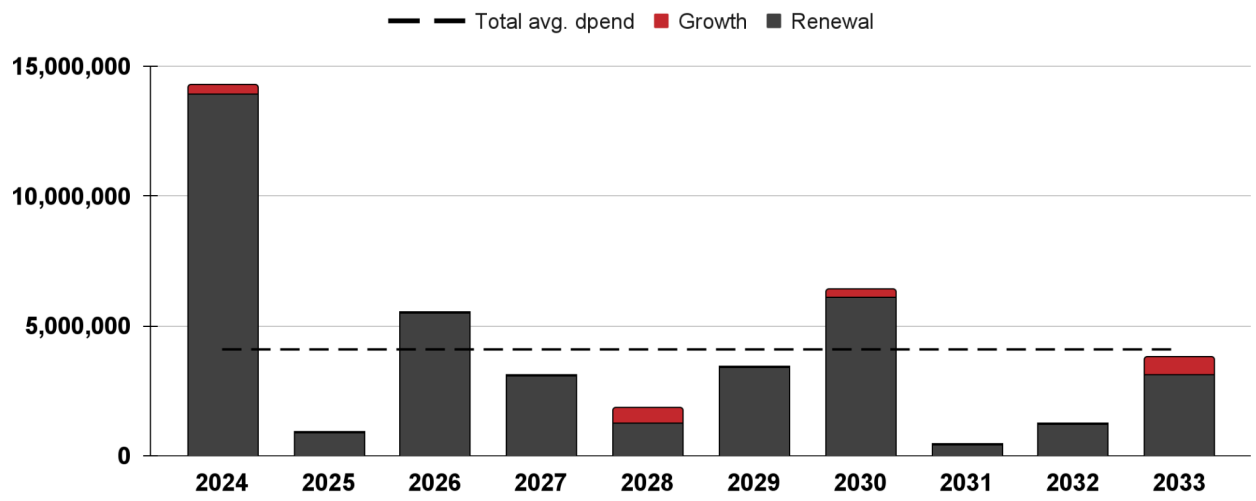
To maintain the current levels of service, the City of Quinte West must spend an average of $4.1 million per year on fleet assets over the next ten years. This is primarily driven by renewal projects, with only seven net new vehicles and equipment added in the next ten years from growth. There is a large backlog of vehicles past their expected useful life, leading to $14 million of renewal projects in 2024.

The Water and Wastewater fleet contributes only $230,000 to the annual ideal spend, while the Fire and Emergency Services fleet spends $1.2 million annually.

Major projects

- Fire Aerial Truck replacement ($900,000)
- Mower / Tractor replacements ($1.37 million)
- Truck replacements ($4.4 million)
- Snowplow replacements ($11.6 million)
- SUV / Car replacements ($757,000)

Chart: Project capital spend on fleet 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 the fleet service area. 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. These service levels are derived from two performance categories, the capacity and quality of the assets.

Capacity: These metrics help ensure the level of service stability through changes in population size or changes in public preferences. For example, if the Quinte West road network expanded by 10%, we would need to increase the number of snowplows by 10% to ensure the level of service provided remained the same.

Quality: This performance category focuses on the condition of the assets, a half-ton nearing the end of its useful life may not be as reliable or productive as it used to be, which would have a negative impact on the service level. We track this by using the percentage of each asset group that is in fair condition or better and the average condition of the assets.

Table: Fleet capacity levels of service

Performance category	Community service level	Technical service level	Current performance
Capacity	There are sufficient Fleet to meet the needs of the municipality	Snowplows per Lane km	1:43
		PW - Light vehicles per Lane km	1:63
		Water Fleet per House on Water/Sewer Services	1:349

Table: Fleet quality levels of service

Performance Category	Community Service Level	Technical Service Level	Current Performance
Quality	The fleet are in suitable conditions	Average Condition Score	59
		% of Fair or better Ratings	75%

Financial strategy

The City of Quinte West's ideal spending is $4.1 million per year, with $186,000 funded through development charges, $230,000 from Water/Wastewater charges, and the rest from the capital levy.

The City is expected to complete an updated Development Charge Background Study in mid-2024, so it is assumed development charge projects will be fully funded. Please see the Water/Wastewater asset management plan for the funding strategy for those assets. (Coming Fall of 2024).

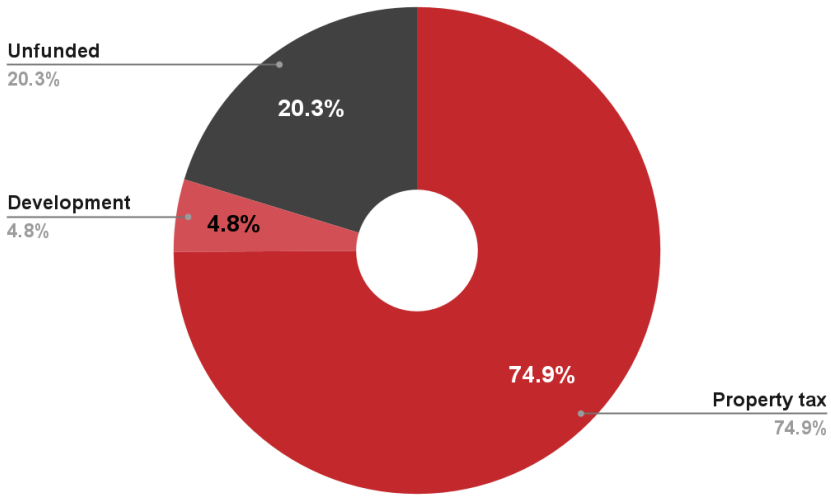
The capital levy would fund the remaining $3.7 million of annual spending. In 2024 the City of Quinte West spent $2.9 million on City equipment and fleet, leaving a funding gap of $784,000 per year.

This means that the City will either need to increase funding to this service area to keep service levels flat or decrease service levels to keep funding flat.

Table: Fleet annual spend and funding

Funding source	Avg. annual spend	Current funding	Gap
Property tax	3,680,000	2,896,000	-784,000
Development charges	186,000	186,000	0
Water/Wastewater revenue	230,000	* See Water/Wastewater Asset Management Plan	
Total	**4,096,000**		

Chart: Fleet funding sources



Next Steps

Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17) Due July 2025

- Identify the proposed Level of Service (LOS).
- Risks associated with proposed LOS
- How the proposed LOS is different from 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

- Finish installing Global Positioning System (GPS) on all vehicles - 90% complete.
- Use hours-in-use data for all fleet, where mileage does not make sense, primarily equipment.
- Identify new levels of service
    - Minimum Maintenance Standards (MMS) violations per year.
    - Fleet downtime per year.
    - Fleet repair spend per year.