

City of Kitchener 2026 State of Local Infrastructure Report



1.0 EXECUTIVE SUMMARY

1.1 THE PURPOSE OF THIS REPORT

As part of O. Reg. 588/17, all municipalities must review their progress implementing Asset Management Plans (AM Plans), document factors preventing AM Plan implementation, and strategies to address these factors annually, on or before July 1st. The Annual Asset Management Progress Report provides an update on the City's implementation of AM Plans as stipulated by O.Reg 588/17 and updated summary of assets.

1.2 STATE OF LOCAL INFRASTRUCTURE

Asset Register and Valuation

This Report covers the infrastructure assets that provide multiple City services in 2026. It's important to note that the data model used to inform this report does not include new assets or condition assessments after March 2025. Asset valuation and condition information was approximated by advancing the existing model, originally developed to support the 2025 Corporate Asset Management Plan, by one year. The infrastructure assets covered by this Report are shown in Table 1-1.

Table 1-1: Asset Register and Valuation

Service Area	Asset Categories	Replacement Value (2026\$, M)	%
Fleet	Misc. Small Equipment, Lawn/Turf Equipment, Off Road Equipment, Licensed Equipment, Arena Equipment, Dump/Fire Trucks	\$82.9M	0.5%
Cemeteries	Cemetery Infrastructure (Gates, Bollards, Garbage Cans, Fountains, Benches, Roadways, Parking Lots, & Fences), Cemetery Structures, Equipment, Horticulture, Interment Features, Interment Memorials	\$9.4M	0.1%
Golf	Course Infrastructure (Irrigation Systems, Lighting, Biek Racks, Flag Poles, & Benches), Course Structures, Course Features, Golf Carts	\$15.6M	0.1%
Forestry	Street Trees, Park, Cemetery, Golf & Other Trees	\$184.7M	1.2%
Parking	Parking Lots – Above Ground, Parking Equipment, EV Charging Stations, Parking Sundry & Miscellaneous	\$3.4M	0.0%
Parks, Open Spaces & Trails	Recreational Fields, Recreational Hard Surfaces, Playgrounds, Pedestrian Network, Park Amenities & Furnishings	\$127.6M	0.8%

Transportation	Streetlights & Poles, Traffic Signs & Pedestrian Crossings, Pedestrian Railings, Road and Pedestrian Islands & Traffic Calming, Street Furniture & Other Furnishings	\$60.7M	0.4%
Water Utility	Mains, Service Pipes and Appurtenances, Valves, Hydrants, Bulk Water Stations, Meters	\$2,855.4M	18.4%
Sanitary Utility	Mains, Service Pipes and Other Appurtenances, Manholes, Pumping Stations	\$3,216.8M	20.8%
Stormwater	Mains, Service Pipes & Other Appurtenances, Ditches, Culverts & Other Conveyances, Manholes, Catchbasins, Quality Control Devices, Stormwater Management Facilities & Ponds, Low Impact Development, Storm Leads, Inlets, Outlets & Weirs	\$2,069.9M	13.4%
Bridges & Culverts	Bridges, Culverts	\$490.1M	3.2%
Roads & Sidewalks	Roads, Sidewalks, Walkways and Crosswalks, Pathways, Cycling, Network Links, Guiderails	\$2,064.9M	13.3%
Gas Utility	Distribution System, Meters, Water Heaters	\$2,221.3M	14.3%
Facilities	Administration, Aquatics, Arenas, Arts & Culture, Cemeteries, Commercial, Community Centres, Fire, Golf, Operations, Parking Garages, Parks & Open Spaces, Residential, Sport	\$2,092.9M	13.5%
TOTAL		\$15,495.5M	100.0%

Asset Condition

The condition assessment of the City's assets provides insight into the reliability of its infrastructure. Overall, 84% of the City's assets have a condition rating of fair or better. This represents a slight increase in overall condition over the last year, highlighting the City's commitment to maintaining their services. The overall condition profile of the City's assets is shown in Figure 1-1. The condition profile organized by service area is shown in Figure 1-2.

Figure 1-1: Asset Condition Profile

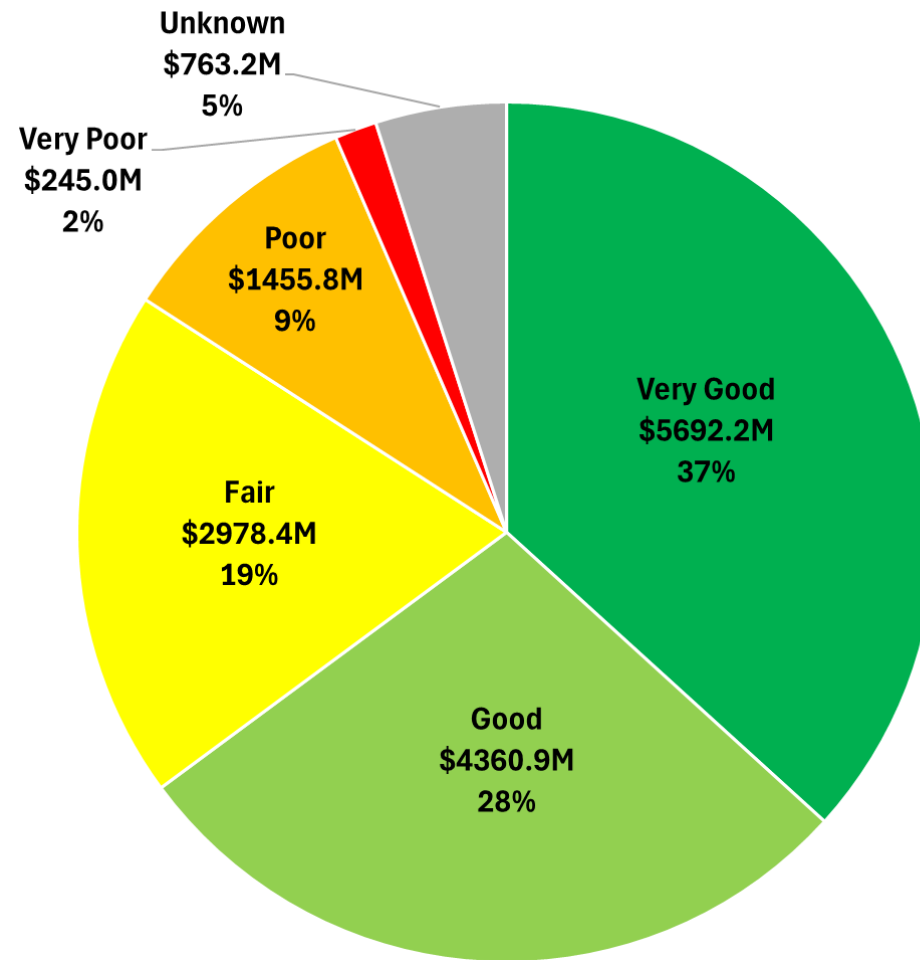
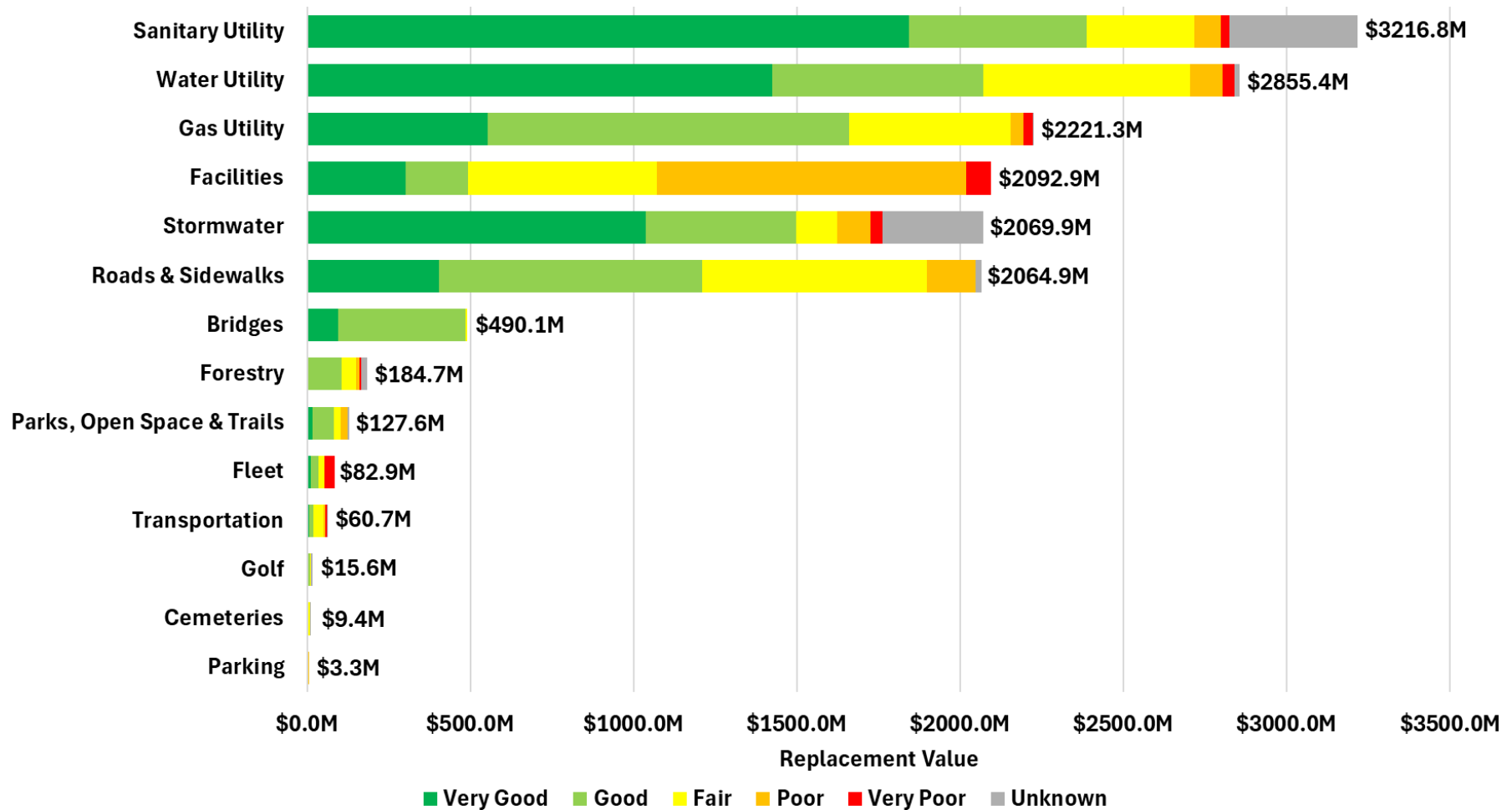


Figure 1-2: Asset Condition Profile by Service Area



1.3 LEVELS OF SERVICE

LOS are statements that describe the outputs and objectives the City intends to deliver to its residents, businesses, and other stakeholders. LOS are guided by a combination of customer expectations, legislative requirements, internal policies and procedures, and affordability. Effective asset management requires that LOS be formalized and supported through a framework of performance measures, performance levels, and timeframes to achieve performance levels, such that the activities and costs to deliver the documented LOS can be determined.

In order to provide a comprehensive assessment of service expectations and performance, the levels of service for each service area are outlined in the individual service area summaries located in the Appendix. As LOS data is collected annually, trends may emerge for further analysis and to help guide service delivery related decision making over time.

1.4 INFRASTRUCTURE FUNDING GAP

Based on available data, the City has an average funding gap of \$30.6M annually until 2034, the final year in the timeframe identified in the 2025 Corporate Asset Management Plan (2025 AM Plan). Overall, the City has allocated enough budget to meet the proposed LOS for all service areas except for the Gas Utility and Facilities, though data gaps in other service areas may impact the accuracy of the forecasted budget needed to meet the proposed LOS. Additionally, the 2025 AM Plan focuses more heavily on Capital funding while some services areas rely more heavily on O&M funding or include higher percentages of run-to-failure assets due to their lower criticality. Future iterations of Asset Management Plans will look to improve the previously stated limitation.

Since the 2025 AM Plan was approved by council in June 2025, the following measures have been implemented to address the funding gap:

- **Gas Utilities:** Additional funding was added during the 2026 capital budget process to start to address the backlog of gas pipeline replacements. Staff will continue to monitor needs for additional funding and make adjustments to capital forecasts as needed.
- **Facilities:** City facilities remain the area with the largest asset funding gap. Staff continue to seek grant opportunities and improve information regarding building condition to help make informed maintenance and replacement decisions. Further, staff are looking to acquire and implement new software to aid in facility related decisions.

1.5 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations are intended to support the long-term development of the City's asset management practices. The following items were identified as improvement recommendations across multiple service areas:

- Formalize condition assessment programs to complete assessments for assets in Unknown condition or assets that use age as a proxy for condition to support more accurate lifecycle needs and financial strategies.
- Formalize levels of service, monitor performance on measures included in the AM Plan on an annual basis, and review and update service levels (add or remove measures, and set targets) as required to reflect alignment with other City plans and studies.
- Implement capital planning or updated asset management software and preventative maintenance programs.
- Ensure alignment of service area risk management practices with the Enterprise Risk Framework and asset management practices and conduct formal risk assessments to prioritize preventative maintenance activities and renewal / capital investments.

Improvement recommendations, current progress, and future strategies for each service area are outlined in the individual service area summaries located in the Appendix. Overall, all services areas have made progress on improvement recommendations identified in the 2025 AM Plan.

APPENDIX A – FLEET SERVICES

2.0 APPENDIX A – FLEET SERVICES

The Fleet service area is responsible for the procurement, maintenance, and lifecycle management of the City’s vehicle and equipment inventory used across all departments to support service delivery.

2.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s Fleet services. The assets managed by Fleet Services and included in the 2025 AM Plan are shown in Table 2-1.

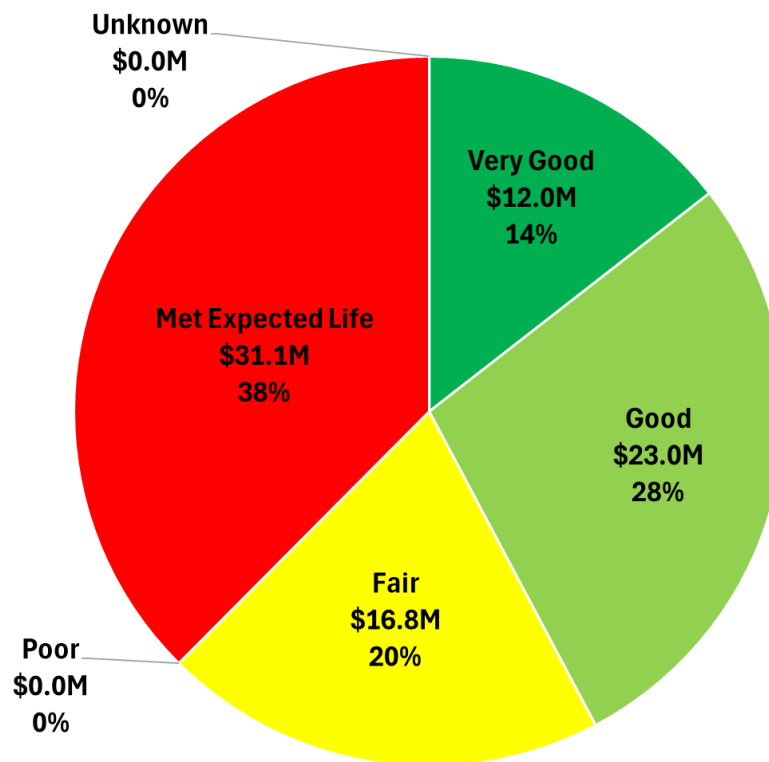
Table 2-1: Assets Inventory Summary - Fleet

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Misc. Small Equipment	Augers, Compactors, Pallet Truck, Scissor Lifts, etc.	\$1.4M	1.7%
Lawn/Turf Equipment	Aerators, Lawn Mowers, Seeders, Tractors, etc.	\$8.5M	10.3%
Off Road Equipment	Backhoes, Excavators, Forklifts, Sweepers, etc.	\$18.9M	22.8%
Licensed Equipment	Cars, Pickups, Trailers, Vans, etc.	\$22.3M	26.9%
Arena Equipment	Ice Edgers and Ice Resurfacers	\$1.4M	1.7%
Dump/Fire Trucks	Aerial Pumpers, Dump Trucks, Fire Rescues, Garbage Packers, etc.	\$30.4M	36.7%
TOTAL		\$82.9M	100%

Asset condition

The asset condition profile by replacement cost for fleet services is shown in Figure 2-1. The condition assessment of the City’s Fleet assets provides insight into the reliability of its infrastructure. Overall, approximately 62.5% of the City’s Fleet assets have a condition rating of fair or better, remaining consistent with the condition reported in the 2025 AM Plan.

Figure 2-1: Asset Condition Profile - Fleet



2.2 LEVELS OF SERVICE

Table 2-2 shows the current service levels, annual performance over the last three years, and planned target for each LOS. Overall, Fleet saw improvements in LOS metric performance and continues to work towards LOS performance targets.

Table 2-2: Levels of Service - Fleet

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Quality & Reliability	The City aims to maintain a safe, reliable, and cost-effective fleet that supports operational and community needs by ensuring timely and compliant maintenance and inspections.	% of Completed Inspections Non-CVOR	37%	42%	52%	100%	Performance will continue to improve as staff levels improve
		% of Completed Inspections CVOR PM	62%	56%	72%	100%	Performance will continue to improve as staff levels improve
		% of Completed Inspections CVOR PMCVI	N/A	85%	93%	100%	Performance will continue to improve as staff levels improve
		Average # of days past due PM (Non-Commercial)	7.8 days	7.5 days	6.5 days	0 days	Performance will continue to improve as staff levels improve
		Average # of days past due PMCVI (Commercial)	N/A	16 days	5	0 days	Performance will continue to improve as staff levels improve
		Average vehicle downtime	2.8 days	2.5 days	2.3 days	< 2 days	Performance will continue to improve as staff levels improve
		% of planned work compared to unplanned work	76.5% planned	83.8% planned	76%	>85% planned	Performance will continue to improve as staff levels improve
Quality & Reliability	The City aims to maintain its Fleet assets in a state of good repair	% of critical fleet assets within Expected Life	Possible future metric				

2.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 2-3.

Table 2-3: Improvement Recommendations – Fleet

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Develop more accurate unit costing for fleet assets, particularly for specialized equipment - Develop a condition assessment approach applicable to all assets to support a more comprehensive asset management approach allowing the City to transition away an age-based approach	- Planned - In Progress	- Planned as part of the replacement of the current fleet management software. - Increased reporting metrics, live date option for constant monitoring of asset condition
Levels of Service	- Consider breaking out metrics by asset categories to better reflect the City's fleet management practices - Develop formal metrics for capacity and use to track vehicle utilization during comprehensive condition assessments - Create functional levels of service metrics related to environmental initiatives, such as converting vehicles to electric alternatives - Refine the tracking of fuel consumption data to support environmental initiatives and align with the City's corporate climate action plan - Refine the tracking of preventative maintenance completion rates by separating different categories of inspections (commercial vehicles, non-commercial vehicles, specialized equipment) - Consider excluding lower-value assets from certain metrics to get a more accurate picture of fleet performance	- In Progress - No Progress. Corporate AM to provide support. - In Progress - Planned - In Progress - Complete	- Telematics analytics being used to determine electric alternatives, vehicle utilization, and idling across the fleet. - Review LOS metric used by other local municipalities - Educating user groups on available green options for their fleet units. - Planned as part of the replacement of the current fleet management software. - Increased reporting metrics, live date option for constant monitoring of asset condition - Assets valued less than \$10K have been removed from the asset registry.

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
Lifecycle Management and Financial Summary	• Embed vehicle equivalency analysis into asset attributes to help quantify the financial impact of fleet maintenance • Analyze the financial impact of adjusting the preventative maintenance schedule • Develop specific budget accounts to fund inspections and preventative maintenance • Create a model to understand the financial impact of not achieving target performance levels • Develop a clearer understanding of future growth acquisitions that are required to meet service targets	• Planned • In Progress • In Progress • No Progress • In Progress	• Planned as part of the replacement of the current fleet management software. • Equipment review program has added operating impacts to asset additions. • Preventative maintenance schedule has been adjusted. Financial monitoring continues. • Aligning City Capital & Operational approvals with Fleet operating impacts. Maintaining the operating support to align with capital growth. • Adaptive preventative maintenance schedule using live telematic data.
Risk Management	• Improve the alignment of the fleet risk assessment with Enterprise Risk Framework and asset management • Consider the impact of parts availability on vehicle downtime and incorporate this into risk assessments • Develop a risk assessment for managing fleet maintenance during unpredictable events like bad winters	• No Progress. Corporate AM to provide support. • In Progress • In Progress	• Quarterly reporting on vehicle out of service status to understand risk. • Efforts to standardize fleet assets where possible continue. • Performance measures and tracking of rental units being used in breakdown settings. • Reducing parts warehouse needs, creating spare capacities for breakdown coverage in high use times.

APPENDIX B – CEMETERY SERVICES

3.0 APPENDIX B – CEMETERY SERVICES

The Cemeteries service area manages municipal and abandoned burial grounds, ensuring respectful interment services, maintenance of cemetery infrastructure, and preservation of historical and cultural assets.

3.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s Cemetery services. The Cemetery assets covered in the 2025 AM Plan are shown in Table 3-1. Note that buildings structures (i.e., mausoleums, etc.) are included in the Facilities Appendix and not this Appendix section.

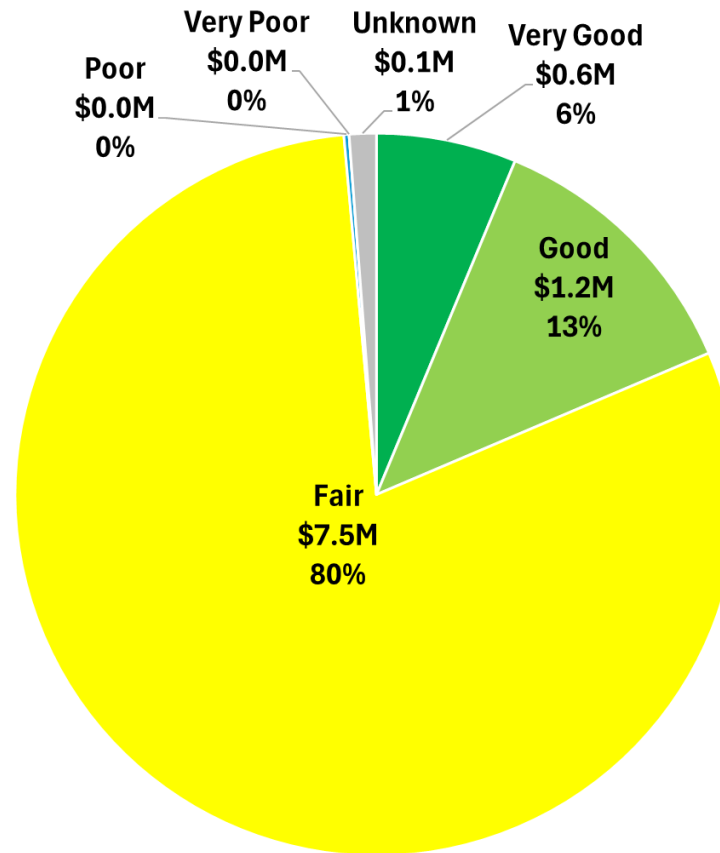
Table 3-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Cemetery Infrastructure – Discrete	Garbage Cans, Fountains, Gates, Bollards, Benches	\$0.1M	1.1%
Cemetery Infrastructure – Linear	Roadways/Parking Lots, Fences	\$2.1M	22.3%
Cemetery Structures	Wetland Gazebo, Wetland Bridge, Pond Bridge, Dedication Centre Pergola, Serbian Pergola, Trail Entrance Features	\$0.6M	6.0%
Equipment	Lowering Units	\$0.02M	0.2%
Horticulture	Horticultural Beds	\$0.2M	2.6%
Interment Features	Art/Artifacts, Stone Walls, Reflection Stones	\$0.6M	6.0%
Interment Memorials	Statues, Memorial Trees, Memorial Benches, Burial Greens, Urn Tables, Columbarium, Ossuary/Scattering Gardens, Memorial Plaques	\$5.8M	61.7%
TOTAL		\$9.4M	100%

Asset condition

The asset condition profile by replacement cost for Cemetery services is shown in Figure 3-1. The condition assessment of the City’s Cemetery assets provides some perspective on the overall reliability of its infrastructure. Overall, approximately 98.6% of the City’s cemeteries assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. Approximately \$0.1 million (1.2%) of Cemetery assets are in unknown condition.

Figure 3-1: Asset Condition Profile



3.2 LEVELS OF SERVICE

Table 3-2 shows the current service levels and planned target for each LOS. Due to the nature of cemeteries services, few LOS performance targets have been set. LOS performance will be monitored annually for trends.

Table 3-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Ensure adequate infrastructure to meet growing population and community needs	Number of casket burials performed per year	370	347	383	N/A	
		Number of cremation interments performed per year	464	485	483	N/A	
		Percentage of remaining lots available	Possible future metric				
		Active acreage of maintained Cemeteries (hectares)	N/A	51.4 (City is currently in the process of taking over a cemetery)	56.8	City is currently working with other municipalities to create benchmarks for this metric	
Quality & Reliability	Provide infrastructure in acceptable condition by following proper maintenance standards	% of assets within service life	99.5% (of assets with age data)	100% (of assets with age data)	100% (of assets with age data)	N/A	
		Average pavement condition index (PCI) of cemetery roads	Possible future metric				
		Number of work orders completed	1064	1026	943	City currently has information on total work orders. Critical work orders are completed within one week, non-critical within 4 weeks. The	

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
						City also has information on when work orders were opened and closed. Some work orders are seasonal based and would be open over the winter.	
		Number of interment rights sales	402	403	404	Achieve an annual increase in interment rights sales that is at least equal to the local population growth rate, ensuring a sustainable balance between supply and demand for cemetery services.	

3.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 3-3.

Table 3-3: Improvement Recommendations - Cemeteries

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Consider centralizing all parking lots across different service areas (including cemeteries) for consistent management and reporting - Develop a more comprehensive inventory of cemetery roads and integrate them into the Roads Program for better long-term maintenance planning - Determine condition of assets currently reported in unknown condition	- In Progress through Corporate AM. - In Progress - Limited progress due to resource constraints.	- Asset ownership review in progress at corporate level - Cemetery to be included in Roads Study - Review resources needs and capacity for visual condition assessments
Levels of Service	- Develop usage-based measures rather than simple ratios to better reflect cemetery access and utilization - Consider incorporating customer service metrics, including: total inquiries received, sales completed, number of emails and phone calls received and placed - Separate metrics for outdoor maintenance teams and administrative teams to better track customer service and staffing costs - Develop a more accurate method to track cremation interments and lot sales to better forecast capacity needs - Upgrade cemetery management software to better track and manage cemetery assets and operations	- Progress pending future software update - In Progress - In Progress - Progress pending future software update - Progress pending	- Future cemetery software update under review - LOS metrics reviewed annually during 5-year lifespan of AM Plan and revised based on observations during future AM Plans - Future cemetery software update under review
Lifecycle Management and Financial Summary	- Develop a detailed cost estimation process for taking on new cemeteries, including labour and equipment implications - Develop detailed cost estimate for abandoned cemeteries the City must assume ownership of as per legislation	- No progress due to limited resources - No progress due to limited resources	Corporate AM to engage other local municipalities to discuss possible approaches to estimating resource needs and implications

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
	- Create a more accurate method to estimate burial and staffing costs, accounting for seasonality and labour allocation challenges - Develop a comprehensive maintenance strategy for cemetery roads that aligns with the city's overall road maintenance program	- No progress due to limited resources - In progress	- of taking on new or abandoned cemeteries - Cemetery to be included in Roads Study
Risk Management	- Develop a risk assessment framework specific to cemetery operations, considering: capacity constraints, maintenance requirements and heritage preservation needs - Create a risk mitigation strategy for cemetery expansion, aligned with the master plan recommendations	- No Progress. Corporate AM to provide support - No Progress	Corporate AM reviewing Enterprise Risk Framework

APPENDIX C – GOLF SERVICES

4.0 APPENDIX C – GOLF SERVICES

The Golf service area operates the City-owned golf courses, providing recreational opportunities to residents while maintaining the associated grounds and equipment.

4.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s Golf services. The golf assets covered in the 2025 AM Plan are shown in Table 4-1.

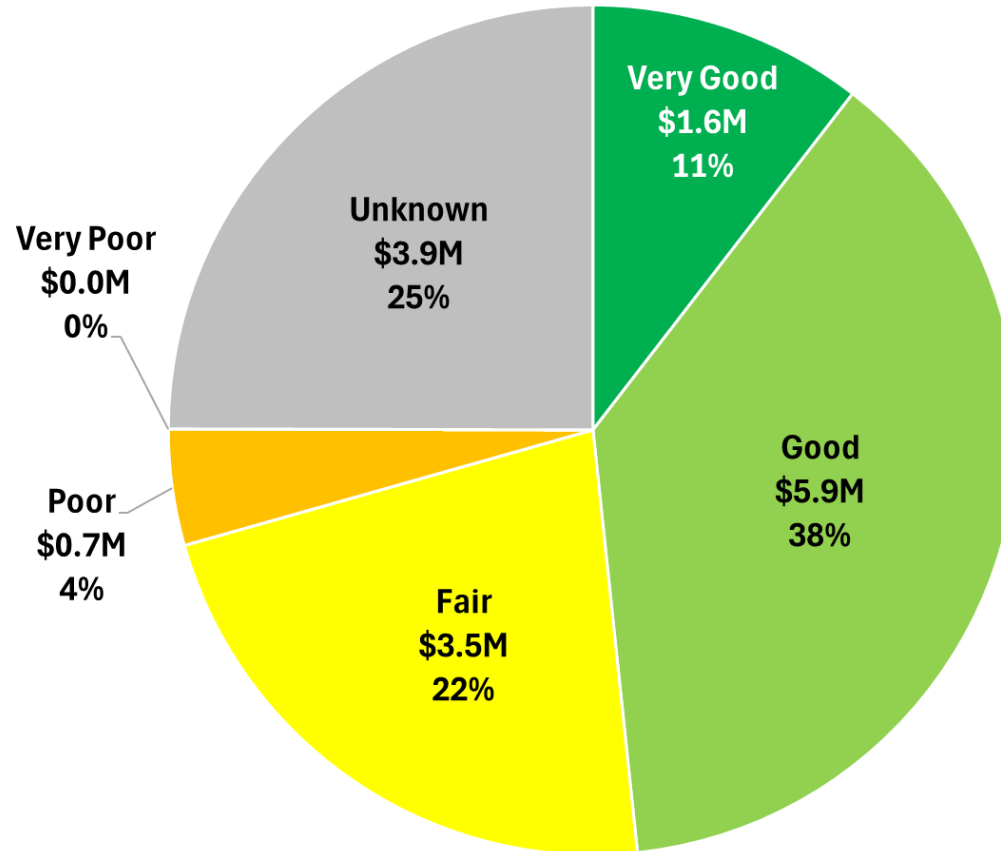
Table 4-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Course Infrastructure – Discrete	Lighting, Bike Racks, Flag Poles, Benches, Water Fountains, Garbage Cans	\$0.2M	1.1%
Course Infrastructure – Linear	Irrigation Systems, Pedestrian Bridges	\$8.8M	56.5%
Course Structures	Entrance Features	\$0.01M	0.1%
Course Features	Bunkers, Fairways, Greens, Rough, Practice Greens, Tee Complexes, Short Course Greens, Short Course Tees (Synthetic), Practice Ranges (Synthetic), Practice Ranges (Natural)	\$5.0M	31.8%
Golf Carts	Golf Carts (Gas), Golf Carts (Electric), Golf Carts (Lithium)	\$1.6M	10.5%
TOTAL		\$15.6M	100.0%

Asset condition

The asset condition profile by replacement cost for Golf services is shown in Figure 4-1. The condition assessment of the City’s golf assets provides some perspective on the overall reliability of its infrastructure. Overall, approximately 70.6% of the City’s golf assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. Approximately \$3.9 million (25.0%) of Golf’s asset are in unknown condition.

Figure 4-1: Asset Condition Profile



4.2 LEVELS OF SERVICE

Table 4-2 shows the current service levels and planned target for each LOS. Due to the variable nature of the golf season, few LOS performance targets have been set. LOS performance will be monitored annually for trends.

Table 4-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Ensure adequate infrastructure to meet growing population and community needs	Number of rounds of golf played compared to the number of days open for use (excluding rain days).	96,615 rounds : 200 days Average 483.1	120,609 rounds : 206 days Average 585.5	119,532 rounds : 205 days Average 583.1	Due to variable nature of the golf season no target is being set.	
Quality & Reliability	Provide infrastructure in acceptable condition and cleanliness by following and providing proper maintenance standards and inspections	Number of buckets (or number of balls hit) used at the driving range compared to the number of days open	5,035 buckets : 200 days Average 25.2	7,041 buckets : 206 days Average 34.2	8,356 buckets : 206 days Average 40.8	Due to variable nature of the golf season no target is being set.	
		% of assets within service life (by replacement value)	62% (of assets with age data)	50% (of assets with age data)	100% (of assets with age data)	Based on available budget	
		Number of breaks in the irrigation system (Pump House) compared to water use	1 break : 73.6 million litres	1 break : 64.9 million litres	0 break : 141.7 million litres	Maintain current performance	
		Grass cutting cycle	Possible future metric				
		Maintenance standards	Possible future metric				
Financial Sustainability		Cost per round played	Possible future metric				

4.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 4-3.

Table 4-3: Improvement Recommendations – Golf

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Improve condition assessment methodology beyond age-based ratings to better reflect actual asset performance, especially for irrigation systems - Develop a more comprehensive inventory of golf course equipment with standardized service life estimates - Assess the current condition of the “Unknown” condition assets	No progress due to lack of resources. Corporate AM to provide support.	Review resources needs and capacity for visual condition assessments
Levels of Service	- Consider adding "cost per round" as a financial efficiency metric to evaluate operational performance - Consider developing maintenance standards for grass cutting cycles as a quality metric, though this would need to account for weather variability	In Progress	LOS metrics reviewed annually during 5-year lifespan of AM Plan and revised based on observations during future AM Plans
Lifecycle Management and Financial Summary	- Improve tracking of operating costs against rounds played to better understand financial sustainability - Develop more detailed replacement schedules for high-value assets like irrigation systems and pump houses - Create a more structured approach to cart fleet management based on usage data to optimize replacement timing - Establish clearer categorization of capital projects between growth, renewal, and upgrade to improve budget allocation	Limited progress due to lack of resources. Corporate AM to provide support.	- Review as part of future update to LOS metrics - Review documented lifecycles of assets with subject matter experts - Golf budget projections under review

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
	Develop a more detailed maintenance strategy for golf course assets that accounts for seasonal variations		Review O&M strategies with subject matter experts
Risk Management	Incorporate climate change considerations into risk assessments, particularly for irrigation systems and course conditions	In progress. Corporate AM to provide support.	Corporate AM reviewing Enterprise Risk Framework

APPENDIX D – FORESTRY SERVICES

5.0 APPENDIX D – FORESTRY SERVICES

The Forestry service area oversees the management and stewardship of the City’s urban forest, including street trees, park trees, and natural wooded areas, supporting canopy health and biodiversity while also expanding the canopy to meet City canopy targets.

5.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s forestry services. The forestry assets covered in the 2025 AM Plan are shown in Table 5-1. For asset management purposes, more mature trees have higher replacement values to reflect their greater contribution to the tree canopy. This is not consistent with tree bylaws that state all trees have a replacement value of \$1,800.

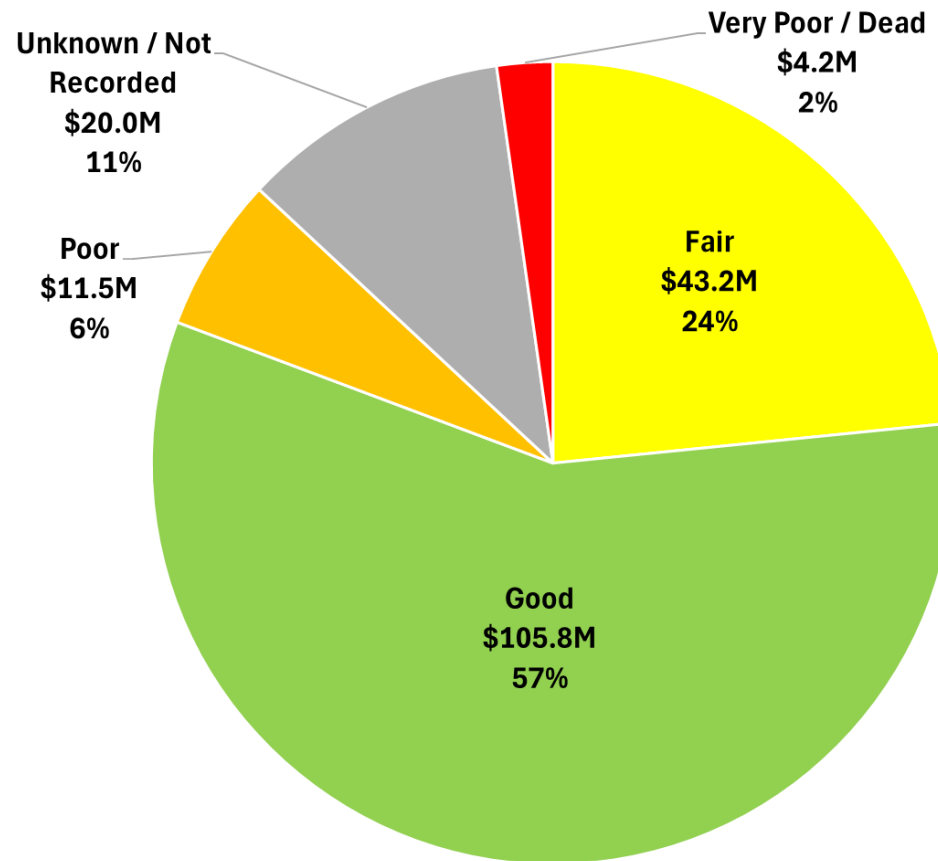
Table 5-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Street Trees	Trees	\$44.6M	24.1%
Park, Cemetery, Golf & Other Trees		\$140.1M	75.9%
TOTAL		\$184.7M	100.0%

Asset condition

The asset condition profile by replacement cost for forestry services is shown in Figure 5-1. The condition assessment of the City’s forestry assets provides insight into the reliability of its assets. Overall, approximately 80.7% of the City’s forestry assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. Approximately, \$20.0 million (10.8%) of Forestry assets are in unknown condition.

Figure 5-1: Asset Condition Profile



5.2 LEVELS OF SERVICE

Table 5-2 shows the current service levels and planned target for each LOS. Overall, Forestry has exceeded all LOS performance targets set in the 2025 AM Plan Report.

Table 5-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Services have enough capacity and are available to everyone	# of trees planted per year	710	1,012	1,504	Target of planting 900 street and park trees per year.	300 spring + 1,204 fall caliper trees planted = 1,504 + 138 Reep BYTP
Quality & Reliability	Provide infrastructure in acceptable condition by following proper maintenance standards	Number of trees receiving preventative maintenance	4,500 trees pruned	7,200 trees pruned	6,889 trees pruned	The City aims to prune 6,000 trees per year	4,461 pruned in CW + 1,272 pruned in contractor maps not yet closed in CW + 1,156 pruned in woodlot defects = 6,889
		Ratio of preventative maintenance to reactive work	5,916 : 3,942	9,226 : 3,030	8,093 : 3,375	General trend to advance forestry program to a proactive program based on tree pruning to encourage healthy and long living trees vs reactive program based on customer driven complaints.	Woodlot assets are not quantified in CW and were manually added. For 2025, 1,272 woodlot trees were removed and 1,156 pruned
		Average time to remove and replace tree fully (using phased approach – remove canopy, remove stump, grind stump, replace)	N/A	The City is achieving the target on average, but does not have accurate information on a tree-by-tree basis	Tree removal, stumping and replanting ranges 1-2 years	Defined service level is 2 years. The City is looking to improve this target to 1 year	Depending on the time of year the tree is removed, level of risk if not removed, and the seasonality of tree planning (Apr-Jun or Sept-Nov)

5.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 5-3.

Table 5-3: Improvement Recommendations – Forestry

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Update tree inventory data regularly to ensure the most accurate representation of forestry assets - Develop a more comprehensive valuation methodology for trees that accounts for ecological and social benefits - Improve data collection for tree species diversity to support urban forest resilience planning - Incorporate woodlots into future AM Plans - Asses the current condition of the “Unknown” condition assets	- In Progress - No Progress - In progress - In Progress - In Progress	- Annual Block Pruning Program provides up to date inventory. - Using Ortho imagery every 5 years to update tree inventory. - Collaboration with TRCA to help create unit value for woodlots. - Tree Inventory vs Tree Inspection form created to speed up inventory updates
Levels of Service	- Refine the tree canopy cover measurement methodology to allow for more frequent updates than the current 5-year interval - Develop a more detailed tracking system for the average time to remove and replace trees, with a goal to reduce from two years to one year - Create metrics to track the percentage of new trees planted versus replacement trees to measure canopy expansion - Establish clear performance measures for tree planting in new developments to ensure consistent application of standards	- In Progress - In Progress - Complete - Complete	- Exploring street view LiDAR techniques to update street tree data more frequently than every 5 years. - All 2025 removals were stumped in the same year and lined up for replacement - Developing a dashboard to help track what task they are at and how long the work order is open

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
Lifecycle Management and Financial Summary	- Develop more accurate costing models for preventative maintenance activities to better forecast budget needs - Develop an improved deterioration model for trees that accounts for early tree failures (<5 years) - Incorporate tree planting targets (1,000 trees per year) into long-term financial modelling - Establish clearer financial implications for improving the ratio of preventative to reactive work - Develop a funding strategy to support the City's tree canopy target of 30% by 2050 and 33% citywide by 2070 - Incorporate the financial value of ecosystem services provided by trees into the asset valuation	- In Progress - Limited progress due to lack of resources and competing priorities - In progress - In Progress - In Progress - In Progress	- Determine budget to achieve 7yr pruning cycle (not current 10yr) - Set up a young tree pruning budget program - Tree planting is funded until 2032 which is sufficient to plant 1,000 calliper trees/year - Maintain current budget for public trees and seek to increase for newly acquired trees - Set up a woodlot management budget - Explore iTree and online tools to help calculate financial value of ecosystem services
Risk Management	- Create a methodology to prioritize preventative maintenance based on risk factors - Establish clear risk ratings for different tree species based on susceptibility to pests, diseases, and climate change - Implement a risk-based approach to tree planting that considers location, species selection, and climate resilience - Develop contingency plans for extreme weather events that may impact the urban forest	- Complete - Complete - Complete - In progress	- Preventative maintenance is prioritized by assessing streets with the greatest need - Tree planting prioritizes tolerant species. - Species selection considers site suitability, pest/disease resistance, and climate resiliency - A Storm Response Plan is drafted

APPENDIX E – PARKING SERVICES

6.0 APPENDIX E – PARKING SERVICES

The Parking service area manages on-street and off-street municipal parking assets, including surface lots, meters, and other equipment to support mobility and downtown vitality.

6.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s Parking services. The Parking assets covered in the 2025 AM Plan are shown in Table 6-1.

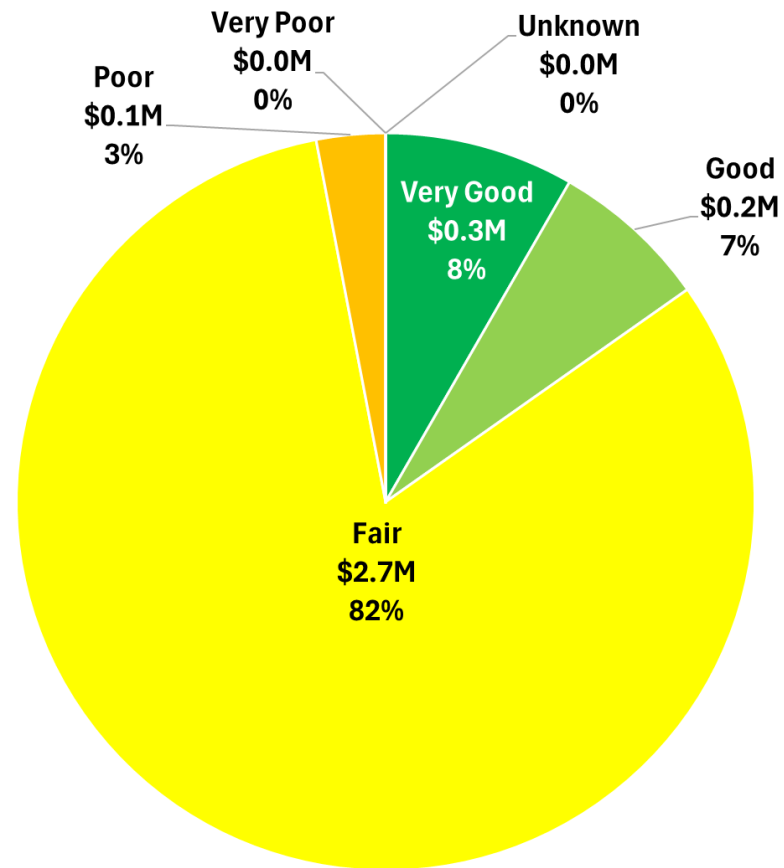
Table 6-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Parking Lots – Above Ground	Surface Lots	\$2.5M	75.6%
Parking Equipment	Pay by Plate Units	\$0.2M	6.2%
EV Charging Stations	EV Charging Stations	\$0.1M	2.1%
Parking Sundry & Miscellaneous	Bike Racks, Light Standards	\$0.5M	16.1%
TOTAL		\$3.4M	100.0%

Asset condition

The asset condition profile by replacement cost for Parking services is shown in Figure 6-1. The condition assessment of the City’s Parking assets provides insights into the reliability of its infrastructure. Overall, approximately 81% of the City’s Parking assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan.

Figure 6-1: Asset Condition Profile



6.2 LEVELS OF SERVICE

Table 6-2 shows the current service levels and planned target for each LOS. Performance targets were not set for Parking assets. LOS performance will be monitored annually for trends.

Table 6-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Quality & Reliability	Provide infrastructure in acceptable condition and cleanliness by following and providing proper maintenance standards and inspections	% of assets within service life (by replacement value)	100% (of assets with age data)	100% (of assets with age data)	100% (of assets with age data)	N/A: The City plans to review the need for parking assets once they fail in accordance with the Economic Development Plan.	
Financial Sustainability	City services are affordable and sustainable	Annual net revenue generated per parking space (including garages and off-street)	\$371.63	366.87	\$567.57	The City wants to make sure that this metric stays the same or improves over time.	

6.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 6-3.

Table 6-3: Improvement Recommendations – Parking

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Create an inventory for bollards in the above ground parking lots - Asses the current condition of the “Unknown” condition assets	In progress	Review resources needs and capacity for visual condition assessments

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
Levels of Service	- Consider adding capacity and use metrics to track parking utilization rates - Align parking service levels with the City's 2023-2026 strategic plan objectives	In progress	LOS metrics reviewed annually during 5-year lifespan of AM Plan and revised based on observations during future AM Plans
Lifecycle Management and Financial Summary	N/A		
Risk Management	N/A		

APPENDIX F – PARKS, OPEN SPACES & TRAILS SERVICES

7.0 APPENDIX F – PARKS, OPEN SPACES & TRAILS SERVICES

The Parks, Open Spaces & Trails service area includes the planning, development, and maintenance of the City’s parks, natural areas, sports fields, and trail networks, promoting recreation, environmental stewardship, and community well-being.

7.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s parks, open spaces, and trails services. The park, open space, and trail service assets covered in the 2025 AM Plan are shown in Table 7-1.

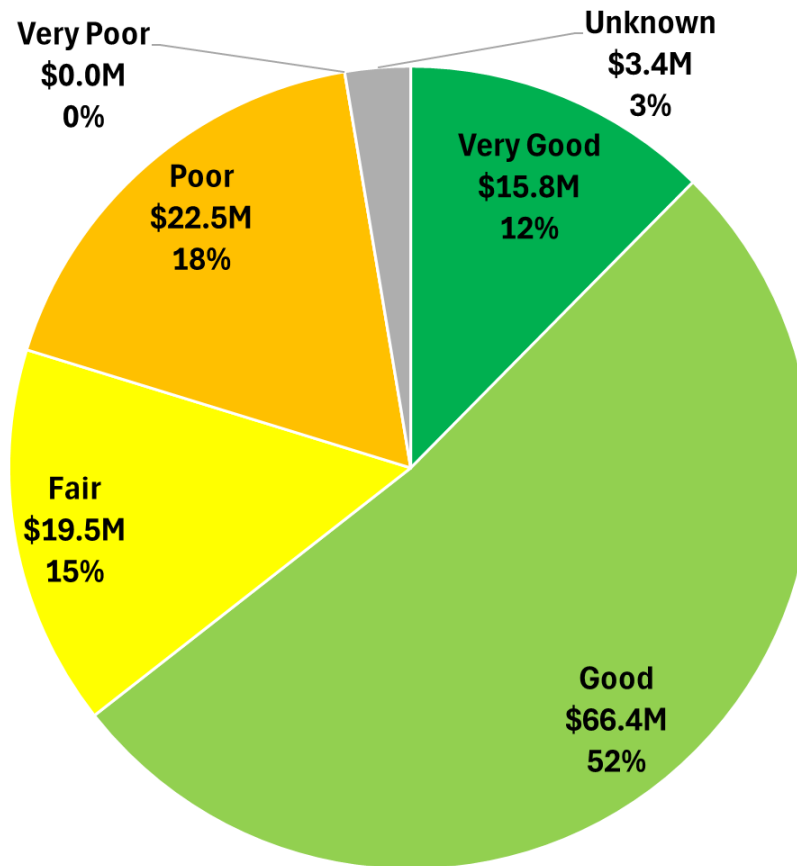
Table 7-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Recreational Fields	Ball Diamonds, Cricket, Lawn Bowling, Soccer Fields, Disc Fields, Field Hockey Pitch	\$28.2M	22.1%
Recreational Hard Surfaces	Outdoor Rinks, Tennis Courts, Basketball Courts, Volleyball Courts, Bike Parks, Skateboard Parks, Shuffleboard Court, Pickleball Court	\$8.8M	6.9%
Playgrounds	Playgrounds	\$12.6M	9.9%
Pedestrian Network	Boardwalks, Bridges, Trails	\$75.8M	59.4%
Park Amenities & Furnishings	Dog Parks, Bike Racks, Garbage Containers, Picnic Tables, Bollards, Benches	\$2.2M	1.8%
TOTAL		\$127.6M	100.0%

Asset condition

The asset condition profile by replacement cost for parks, open spaces and trails services is shown in Figure 7-1. The condition assessment of the City’s parks, open spaces and trails assets provides insight into the reliability of its infrastructure. Overall, approximately 79.8% of the City’s parks, open spaces and trails assets have a condition rating of fair or better. Approximately \$3.4 million (3%) of Parks, Open Spaces, & Trails assets are in unknown condition.

Figure 7-1 – Asset Condition Profile



7.2 LEVELS OF SERVICE

Table 7-2 shows the current service levels and planned target for each LOS. Overall, Parks continues to work towards achieving the LOS performance targets for LOS where targets have been set. LOS performance metrics that do not have performance targets will be monitored annually for trends.

Table 7-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Provide access to Parklands for the whole community	Local parkland supply (sq.m. / residents)	9.8* (2,506,816 sq.m. Local Parks / 256,266 population)	No interim data	8.7 (2,585,002 sq.m. Local Parks / 298,228 population)	10.0 sq.m. of Local Parkland per person	*2023 approximate from Spaces plan, published in June 2022 using 2021 data
	Provide access to Park amenities and programs for the whole community	Population to Sports field Ratio (Number of sports fields per 1,000 population)	Possible future metric				
		% of Trails that are paved % of Trails that have winter maintenance	Possible future metric				
		Utilization rates of recreation assets	Possible future metric				
Function	Services meet customer needs while limiting health, safety, security, natural and heritage impacts	Number of wards with a fully accessible playground	0	Some playgrounds have accessible components, but almost none of the playgrounds are fully accessible (Current performance of 0)	3 accessible parks by standards of CSA and recommendation of GRAAC	Potential target of 1 accessible playground per ward (10 wards for 10 total playgrounds)	

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
	Active recreation facilities are provided with adequate features	% of active recreation facilities that are lighted	N/A	N/A	18%	The City will look to make current fields lighted on a project-by-project basis.	
Quality & Reliability	Provide infrastructure in acceptable condition by following proper maintenance standards	% of assets in fair or better condition	70.1%	70.2%	78.2%	N/A	
		% of playgrounds in fair or better condition	9.3%*	10.8%*	93.5%	N/A	*2023 and 2024 % based on incomplete data
		% of sport fields in fair or better condition	38.6%	38.6%	39.5%	N/A	
		% of trails in fair or better condition	90.5%	90.6%	89.3%	N/A	
		Report on completion of Cycling & Trails Master Plan recommendations	N/A	24 of 35	24 of 35	100%	

7.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 7-3.

Table 7-3: Improvement Recommendations – Parks, Open Space & Trails

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Improve condition information for all assets (i.e., sports fields, playgrounds, etc.) to better inform lifecycle management strategies - Establish an inventory system to better manage asset acquisitions and disposals so the City knows what assets they are managing.	In progress. Implemented new inspection programs using new technology and beginning documentation	Investigating new methods for regular inspections and technologies to document condition data
Levels of Service	- Add a metric for the percentage of trail network that is paved or winter-maintained - Add metrics on utilization rates of bookable sports resources (average occupancy or percentage of use) - Align levels of service with the Park Strategic Plan objectives, particularly regarding: evaluating current and future location/quantity of parks, providing strategic guidance for acquiring new parks, assessing underserved areas and growth projections and applying an equity lens to prioritize acquisitions	- In progress - In progress - In progress	LOS metrics reviewed annually during 5-year lifespan of AM Plan and revised based on observations during future AM Plans
Lifecycle Management and Financial Summary	- Clarify ownership and management of assets related to the cycling and trails master plan recommendations - Determine where funding flows for maintenance of various assets to ensure proper budgeting - Develop a more detailed understanding of maintenance requirements for horticulture assets	- In progress - No progress - No progress due to limited resources	- Asset ownership review in progress at corporate level - Working on AMA to budget winter maintenance for trails - Review with parks and Finance staff - Explore knowledge sharing with local municipalities

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
	Develop a more accurate method for budgeting growth due to development, rather than using a simple percentage increase	No progress due to limited resources	regarding forecasting growth and budget implications
Risk Management	- Implement risk assessment for both asset management and project prioritization that aligns with Enterprise Risk Framework - Re-assess risk following improvement in condition assessments to gather a better reflection of asset portfolio risk	- In progress. Corporate AM to provide support - In progress.	- Corporate AM reviewing Enterprise Risk Framework - Isolated risk assessments have been completed

APPENDIX G – TRANSPORTATION SERVICES

8.0 APPENDIX G – TRANSPORTATION SERVICES

The Transportation service area encompasses the planning, maintenance, and enhancement of road related infrastructure to ensure safe and efficient mobility for all modes of travel.

8.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s Transportation services. The Transportation assets covered in the 2025 AM Plan are shown in Table 8-1.

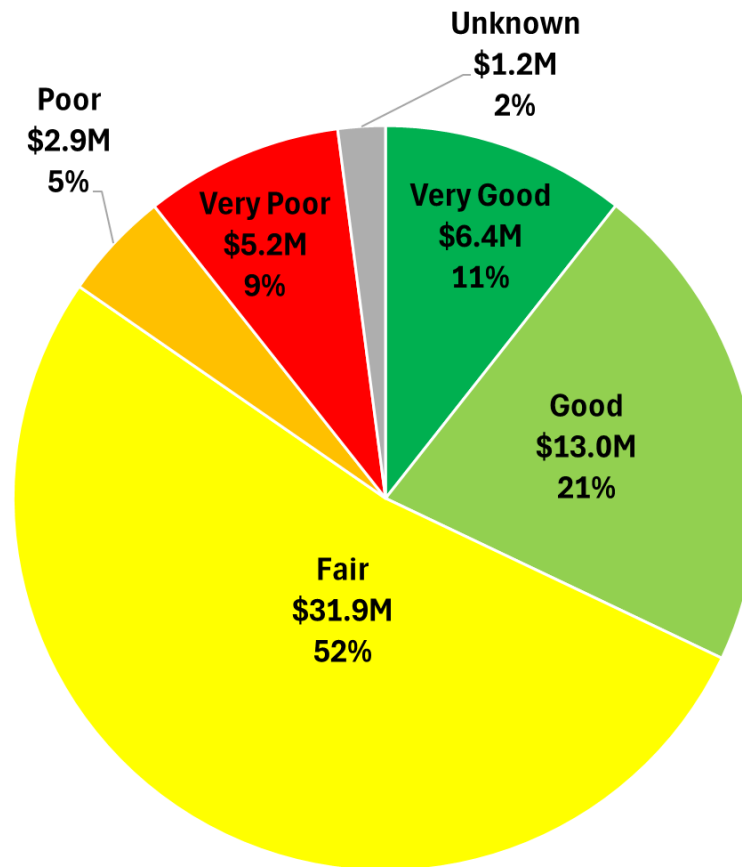
Table 8-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Streetlights & Poles	Streetlight, Streetlight Pole	\$37.5M	61.8%
Traffic Signs & Pedestrian Crossings	Traffic Signs, Pedestrian Crossings & Beacons	\$6.4M	10.6%
Pedestrian Railings	Railing	\$0.1M	0.2%
Road and Pedestrian Islands & Traffic Calming	Road Islands, Raised Crosswalks, Speed Humps, Pedestrian Pads	\$15.6M	25.8%
Street Furniture & Other Furnishings	Street Benches, Bollards	\$1.0M	1.6%
TOTAL		\$60.7M	100.0%

Asset condition

The asset condition profile by replacement cost for Transportation services is shown in Figure 8-2. The condition assessment of the City’s Transportation assets provides insights into the reliability of its infrastructure. Overall, approximately 84.6% of the City’s Transportation assets have a condition rating of fair or better, improving from the 2025 AM Plan. Approximately \$1.2 million (2.1%) of Transportation assets are in unknown condition.

Figure 8-1: Asset Condition Profile



8.2 LEVELS OF SERVICE

Table 8-2 shows the current service levels and planned target for each LOS. The lifecycle activities and resulting costs were developed to meet the target service levels identified within this section. The City adds Traffic Calming and Street Lighting assets as it expands or acquires assets from developers. Assets related to improving safety and traffic calming are identified through other data exercises/audits. Overall, Transportation continues to work towards achieving the LOS performance targets set in the 2025 AM Plan. LOS performance metrics that do not have performance targets will be monitored annually for trends.

Table 8-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Function	Meet customer needs while limiting health, safety, and natural impacts	# of permanent road safety improvements installed per year	27	33	36	No firm target. City assesses the network as a whole and prioritizes safety improvements based on the highest risk for fatality or injury areas based on available budget.	
		Percentage of streets that meet minimum lighting standards	Possible future metric				
		Percentage of streetlights with outages	N/A	2.2%	2.6%	~2% with outages	
		% of regulatory signs passing sign reflectivity testing standards	97.4%	98.6%	98.8%	100%	
Quality & Reliability	Provide infrastructure in acceptable condition and cleanliness by following and providing proper maintenance standards and inspections	% of assets within service life (by replacement value)	91.3%	89.2%	91.4%	N/A	

8.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 8-3.

Table 8-3: Improvement Recommendations – Transportation

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	Clarify the delineation of assets between Roads, Parks and Transportation, particularly for multi-use trails and raised crosswalks	In progress. Corporate AM to provide support	Asset ownership review in progress at corporate level
Levels of Service	Track the percentage of signalized intersections equipped with accessible pedestrian signals and the percentage of streetlights with LED fixtures	In progress	100% LED fixtures is desired - Signalized intersections owned by Region of Waterloo
Lifecycle Management and Financial Summary	Develop a more accurate method for budgeting growth due to development, rather than using a simple percentage increase	No progress. Corporate AM to provide support	Explore knowledge sharing with local municipalities regarding forecasting growth and budget implications
Risk Management	N/A		

APPENDIX H – WATER UTILITY SERVICES

9.0 APPENDIX H – WATER UTILITY SERVICES

The Water Utility service area delivers safe, potable water to residents and businesses through the operation and maintenance of water distribution mains, service connections and other appurtenances.

9.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s water utility services. The water utility assets covered in the 2025 AM Plan are shown in Table 9-1.

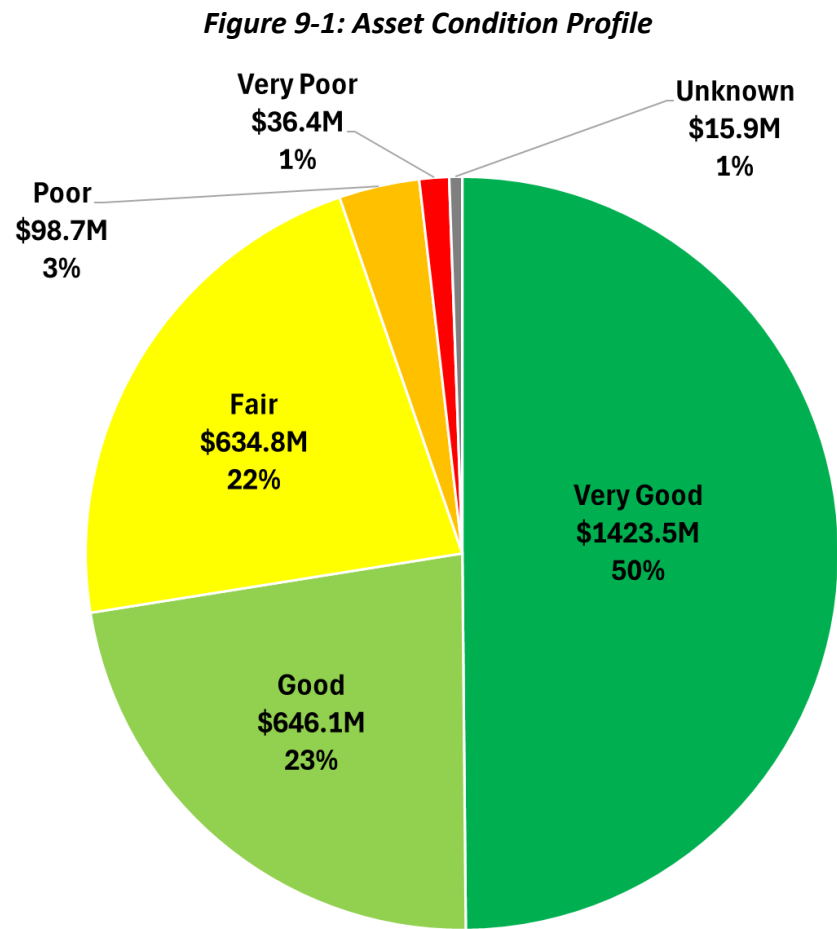
Table 9-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Mains, Service Pipes and Appurtenances	Mains	\$1282.8M	44.9%
	Service Pipes	\$1166.2M	40.8%
	Pipe Casings	\$5.6M	0.2%
	Chambers	\$21.2M	0.7%
Valves	Main Valves	\$152.0M	5.3%
	Service Valves	\$115.9M	4.1%
Hydrants	Hydrants	\$90.9M	3.2%
Bulk Water Stations	Bulk Water Stations	\$0.1M	0.0%
Meters	Meters	\$20.8M	0.7%
TOTAL		\$2855.4M	100.0%

Asset condition

The asset condition profile by replacement cost for water utility services is shown in Figure 9-1. The condition assessment of the City’s water utility assets provides insight into the reliability of its infrastructure. Overall, approximately 94.7% of the City’s Water Utility assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. Approximately \$15.9 million (0.6%) of Water assets are in unknown condition.

It should be noted that water main breaks occur on assets with varying conditions (not only limited to assets in Very Poor or Poor condition). Replacement of water mains is primarily driven by the number of water main breaks.



9.2 LEVELS OF SERVICE

Table 9-2 shows the current service levels and planned target for each LOS. Overall, Water continues to meet the LOS performance targets set in the 2025 AM Plan.

Table 9-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system 2. Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	Percentage of properties connected to the municipal water system	94%	95%	95%	Maintain current performance	
		Percentage of properties where fire flow is available	94%	95%	95%	Maintain current performance	
Function	Provide a water service that considers the environment	Unaccounted for water	9.9%	7.5%	9.1%	< 10%	
	Provide a supply of water that is consistently safe and of high quality	Adverse Water Quality Incidents (AWQIS)	20	17	20	< 30	
Quality & Reliability	Description of boil water advisories and service interruptions	The number 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	2.33	0	0	< 0.6	

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
		(scaled to boil advisory days/1000 connections)					
		The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system (presented as watermain breaks per 100km)	4.7	5.9	8.1	< 9.0	
	Provide a supply of water that is consistently safe and of high quality	# of water quality complaints per 1000 people	0.33	0.46	0.36	< 0.6	
	Supply water to all users who require it with minimal service interruptions	% valves cycled	17.1%	23%	9.8%	17% (or 1/6 th of the City per year)	
		% of mains in fair or better condition	N/A	99.0% (weighted by replacement value)	99.0% (weighted by replacement value)	Maintain current performance	

9.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 9-3.

Table 9-3: Improvement Recommendations – Water Utility

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Asses the current condition of the “Unknown” condition assets - Develop a condition grading program that converts current annual Hydrant inspections to a condition grade	- In progress - Staff will review effectiveness of this measure	- GIS data clean up in progress - Corporate AM to provide support
Levels of Service	- Consider adding a metric for tracking the effectiveness of proactive maintenance programs like valve cycling and main cleaning - Develop relationship between LOS metric data collection and asset management reporting and decision making	In progress	LOS metrics reviewed annually during 5-year lifespan of AM Plan and revised based on observations during future AM Plans
Lifecycle Management and Financial Summary	- Develop a more accurate method for budgeting growth due to development, rather than using a simple percentage increase - Develop a more detailed work plan for water main renewal, particularly focusing on areas with known issues like the Forest Heights area - Establish an improved condition forecast that considers capital work as part of broader reconstruction projects to show the condition improvements to the portfolio	- No progress. Corporate AM to provide support - In progress - Staff will review effectiveness of this measure	- Explore knowledge sharing with local municipalities regarding forecasting growth and budget implications - Starting single utility replacement projects as part of WIP - Explore how to quantify relining projects
Risk Management	Implement risk assessment for both asset management and project prioritization that aligns with Enterprise Risk Framework	In progress	Corporate AM reviewing Enterprise Risk Framework

APPENDIX I – SANITARY UTILITY SERVICES

10.0 APPENDIX I – SANITARY UTILITY SERVICES

The Sanitary Utility service area manages the collection and conveyance of wastewater to pumping stations, protecting public health and the environment through a reliable sewer network.

10.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s sanitary utility services. The sanitary utility assets covered in the 2025 AM Plan are shown in Table 10-1.

Table 10-1: Sanitary Asset Inventory Summary

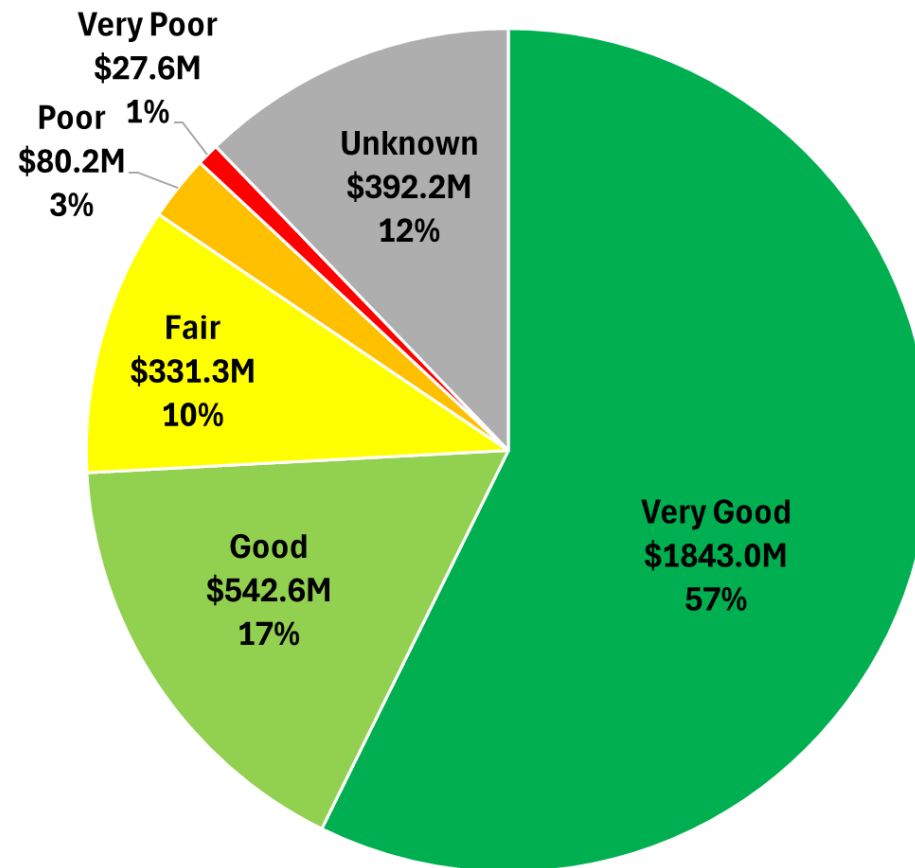
Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Mains, Service Pipes and Other Appurtenances	Mains	\$2082.1M	64.7%
	Force Mains	\$103.7M	3.2%
	Service Pipes	\$809.3M	25.2%
	Plugs	\$0.3M	0.0%
Manholes	Maintenance Holes	\$119.0M	3.7%
Pumping Stations	Stoke SPS	\$3.1M	0.1%
	Patricia SPS	\$1.2M	0.0%
	Moore SPS	\$0.7M	0.0%
	Oxford SPS	\$1.4M	0.0%
	Falconridge SPS	\$2.4M	0.1%
	Victoria/Breslau (Shirley) SPS	\$8.6M	0.3%
	Carson SPS	\$2.5M	0.1%
	Manchester SPS	\$4.4M	0.1%
	Otterbein SPS	\$4.1M	0.1%
	Springmount SPS	\$3.1M	0.1%
	Bancroft SPS	\$1.7M	0.1%

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
	Apple Tree SPS	\$2.1M	0.1%
	Woolner Trail SPS	\$8.6M	0.3%
	Chandos SPS	\$2.4M	0.1%
	King Street SPS	\$7.7M	0.2%
	River Birch SPS	\$2.7M	0.1%
	Pioneer Tower SPS	\$2.7M	0.1%
	Homer Watson SPS	\$11.0M	0.3%
	Conestoga College SPS	\$1.9M	0.1%
	New Dundee SPS	\$10.0M	0.3%
	Nathalie SPS	\$7.6M	0.2%
	New Old Mill SPS	\$12.6M	0.4%
	TOTAL	\$3216.8M	100.0%

Asset condition

The asset condition profiles by replacement costs are shown in Figure 10-1. The condition assessment of the City's sanitary utility assets provides insight into the reliability of its infrastructure. Overall, approximately 84.5% of the City's sanitary utility assets have a condition rating of fair or better, improving from the 2025 AM Plan. Approximately \$392.2 million (12.2%) of Sanitary assets are in unknown condition.

Figure 10-1: Asset Condition Profile



10.2 LEVELS OF SERVICE

Table 10-2 shows the current service levels and planned target for each LOS. Overall, Sanitary continues to achieve the LOS performance targets set in the 2025 AM Plan. LOS performance metrics that do not have performance targets will be monitored annually for trends.

Table 10-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	Percentage of properties connected to the municipal wastewater system.	85%	97%	98%	>85% (Maintain current performance)	
Function	Maintain adequate number of FTEs and proper equipment to ensure customer complaints and requests are responded to in a quick and efficient manner	Ratio of reactionary work orders compared to total work orders	2,135 / 2,306	2,164 / 2,383	1693/1837	The City is tracking the cleaning of blockages for residential users. Some complaints are caused by issues on the private side. City is tracking this issue through work orders. Certain aspects of the maintenance programs will always be reactionary.	
Quality & Reliability	1. 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. 2. Description of the frequency and volume	The number 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 (Reported previously as # of times	City does not use combined sewers	City does not use combined sewers	City does not use combined sewers	N/A	

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
	of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.	system capacity was exceeded)					
	3. Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.	The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system. (Currently reported as # of City issues out of total property connections in a given year)	3,640 (based on 61 blockages, 47 of which were a city issues out of 64,097 property connections)	2,141 (based on 104 blockages, 50 of which were city issues, out of 65,881 property connections)	292.45 Days (Based on 148 Blockages, out of 66,680 property connections 138 of which were Service Blockages, 10 of which were main blockages.)	City is evaluating target for this measure and the inputs to evaluate its effectiveness. Generally target would be to decrease number of blockages.	
	4. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3.	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.	0 (this is likely tracked as number of environmental spills)	0 (this is likely tracked as number of environmental spills)	0 (this is likely tracked as number of environmental spills)	0	
	5. Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.						
	Reliability/resiliency of the infrastructure to provide consistent sanitary service.	Percentage of pipes inspected using CCTV	0.62%	4.93%	11.98%	Current cycle is set based on available budget. However, City would like to be on a cycle that is more consistent with the industry standard	

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
						of approximately once every 5-years.	
	Assets are maintained in a state of good repair to provide reliable services to the community.	Percentage of Mains in fair or better condition	N/A	89.8%	89.3%	Maintain current performance	
		Percentage of Pumping Stations in fair or better condition	N/A	77.8%	78.2%	Maintain current performance	

10.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 10-3.

Table 10-3: Improvement Recommendations – Sanitary Utility

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Develop a condition assessment program for the City's Force Mains - Improve the condition assessment methodology for pipes without previous CCTV data, currently using age as a proxy - Update the condition ratings to account for outdated CCTV information that may not reflect current conditions	In progress	- Review resources needs and capacity for additional condition assessments - Review resource needs and capacity for condition assessment program for forcemains and pipes greater 600 mm dia+ - Review resource needs and capacity to update condition ratings based on field observations, and O&M history when CCTV data is out of date

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
	- Develop a condition assessment program for pipes 600 millimetres and larger, which currently lack condition data - Asses the current condition of the “Unknown” condition assets		- Review resource needs and capacity to update condition ratings using current CCTV data, field observations, operational and maintenance history - Explore knowledge sharing with local municipalities regarding inspection and condition assessment
Levels of Service	- Develop a more accurate tracking system for the percentage of properties connected to the municipal wastewater system - Develop definitions for reactionary versus preventative maintenance work orders to enable future tracking of this ratio	In progress	- Use both GIS and billing data to improve tracking of connected properties - Standardize maintenance work orders by clearly defining and consistently tagging reactive and preventative work in CityWorks - Explore knowledge sharing with local municipalities regarding legislated LOS performance metrics
Lifecycle Management and Financial Summary	- Develop a more accurate method for budgeting growth due to development, rather than using a simple percentage increase - Include non-recoverable costs for spills in the financial planning - Establish a budget line item specifically for addressing spills and their cleanup - Account for the cost impact of contractor-caused main breaks, including the challenges of recouping costs	In progress. Corporate AM to provide support.	- Plan for non-recoverable costs using historical data for long-term financial planning to reduce pressure on operating budgets - Review budget with Finance staff. - Explore knowledge sharing with local municipalities regarding forecasting growth and budget implications

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
Risk Management	- Implement risk assessment for both asset management and project prioritization that aligns with Enterprise Risk Framework - Consider the impact of the cathodic protection program on the condition assessment of assets	In progress. Corporate AM to provide support.	- Corporate AM reviewing Enterprise Risk Framework - Adjust asset condition and risk ratings to reflect whether cathodic protection is in place and working properly - Review topic with subject matter experts

APPENDIX J – STORMWATER SERVICES

11.0 APPENDIX J – STORMWATER SERVICES

The Stormwater service area manages surface water runoff through a network of pipes, ponds, ditches, and green infrastructure, mitigating flooding risks and enhancing water quality.

11.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s stormwater services. The stormwater assets covered in the 2025 AM Plan are shown in Table 11-1.

Table 11-1: Assets Inventory Summary

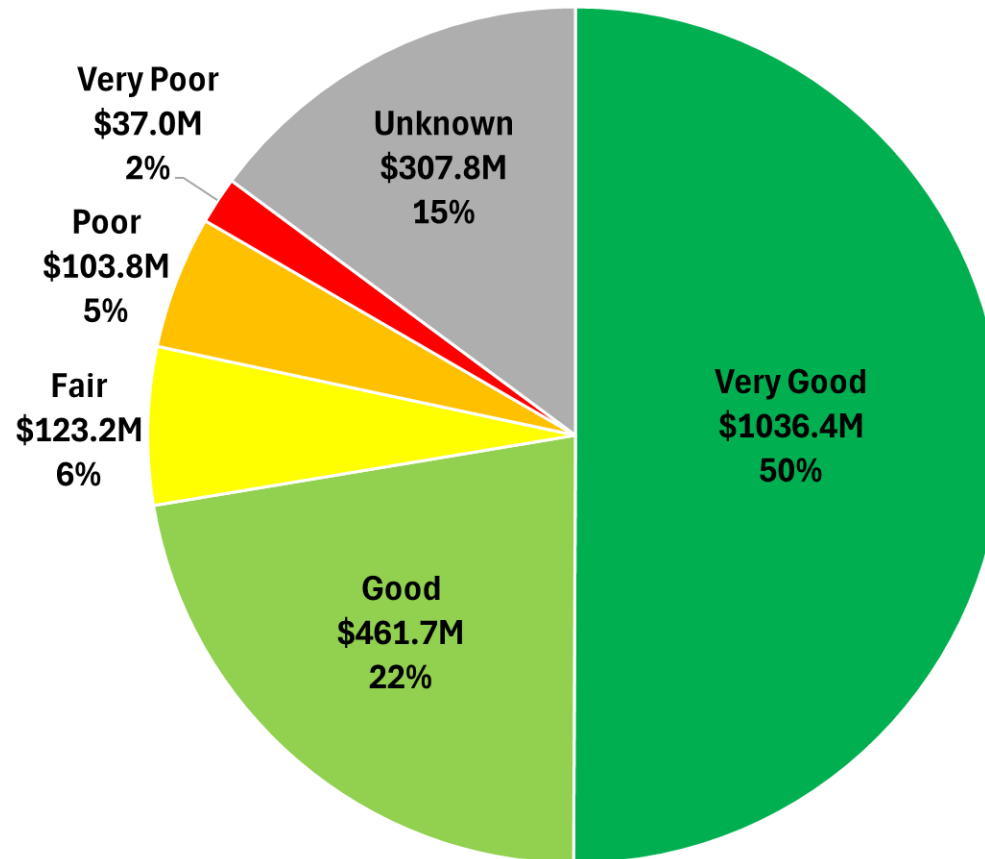
Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Mains, Service Pipes & Other Appurtenances	Mains	\$1126.4M	54.4%
	Service Pipes	\$271.5M	13.1%
	Valves	\$0.2M	0.0%
	Plugs	\$0.3M	0.0%
Ditches, Culverts & Other Conveyances	Ditches	\$4.8M	0.2%
	Culverts	\$0.3M	0.0%
	Driveway Culverts	\$1.5M	0.1%
Maintenance Holes	Maintenance Holes	\$124.7M	6.0%
Catchbasins	Catchbasins	\$80.8M	3.9%
Quality Control Devices	Oil and Grit Separators	\$15.9M	0.8%
Stormwater Management Facilities & Ponds	Stormwater Management Facilities	\$137.3M	6.6%
	Stormwater Ponds	\$246.3M	11.9%
Low Impact Development	Bioretention	\$0.1M	0.0%

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
	Permeable Pavement	\$0.1M	0.0%
	Infiltration Galleries	\$26.4M	1.3%
	Holding Tanks	\$1.7M	0.1%
	Underground Facilities	\$0.2M	0.0%
Storm Leads, Inlets, Outlets & Weirs	Storm Leads	\$16.5M	0.8%
	Storm Inlets	\$2.7M	0.1%
	Storm Outlets	\$5.5M	0.3%
	Storm Weirs	\$1.0M	0.1%
	Storm Forebays	\$5.6M	0.3%
TOTAL		\$2069.9M	100.0%

Asset condition

The asset condition profile by replacement cost for stormwater services is shown in Figure 11-1. The condition assessment of the City's stormwater assets provides insights into the reliability of its infrastructure. Overall, approximately 78.3% of the City's stormwater assets have a condition rating of fair or better, remaining consistent from the 2025 AM Plan. Approximately, \$307.8 million (14.9%) of Stormwater assets are in unknown condition.

Figure 11-1: Asset Condition Profile



11.2 LEVELS OF SERVICE

Table 11-2 shows the current service levels and planned target for each LOS. Overall, Stormwater continues to work towards achieving the LOS performance targets set in the 2025 AM Plan. LOS performance metrics that do not have performance targets will be monitored annually for trends.

Table 11-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	Percentage of properties in municipality resilient to a 100-year storm	N/A	96.25%	97.21%	Maintain current performance	GRCA's floodplain map (2024) used to determine the % of properties resilient to the 100 yr. storm event. GRCA floodplain map does not cover the entire municipality. Remaining area is unknown.
		Percentage of the municipal stormwater management system resilient to a 5-year storm	N/A	N/A	N/A	>92% as per the GRCA flood plain mapping	92.35% based on 2016 model prepared by ABL. No other data available. The City's hydraulic model is being updated. Data will be available in future years.
Quality & Reliability	Assets are maintained in a state of good repair to provide reliable services to the community.	Number of SWM Facilities maintained through sediment removal per year	4 facilities, Sediment Volume = 335 m ³	4 facilities, Sediment Volume = 915 m ³	3 facilities, Sediment Volume = 420 m ³	4-5 facilities cleaned per year	
		% of pipes inspected using CCTV	0.53%	5.24%	9.75%	The City is on a 12-year cycle for CCTV inspections (~8% per year)	
		Catch Basin Cleaning	#CB = 1266 OGS = N/A	#CB = N/A? OGS = N/A	#CB = 1050 OGS = 39	Maintain current performance	10-year CB cleanout cycle

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
		OGS Units Cleaned Out					
		Percentage of stormwater mains in fair or better condition	N/A	94.1%	93.9%	Maintain current performance	
		Percentage of other assets within service life	N/A	90.7%	95.2%	Maintain current performance	

11.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 11-3.

Table 11-3: Improvement Recommendations – Stormwater

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	- Improve data collection for ditches, culverts, and driveway culverts which currently have unknown condition due to missing installation dates and condition assessments - Develop a more robust inspection program for stormwater assets to reduce reliance on age-based condition assessments - Assess the current condition of the “Unknown” condition assets	In progress	- Review resources needs and capacity for additional condition assessments - Focus inspections on higher risk assets by looking at where failures would have the biggest impact - Do system wide checks, assigning condition ratings, and

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
			following up first on higher-risk locations, where feasible
Levels of Service	• Improve data collection for resilience metrics, particularly for the percentage of properties resilient to 100-year storms and percentage of municipal stormwater system resilient to 5-year storms • Utilize GRCA mapping and hydraulic model results to better determine resilience levels for stormwater infrastructure • Implement tracking for maintenance activities in City Works and GIS to improve data reliability for performance metrics • Develop metrics for cleaning programs such as catch basin and OGS cleanouts once data becomes available	• In progress	• Use existing GRCA flood maps and updated City model to measure resiliency • Consistently log stormwater maintenance activities and data to measure performance and resilience based on reliable data • Develop simple performance measures based on data collected (e.g., location, frequency, proactive Vs reactive cleanouts, etc.) • Incorporate recommendations from upcoming Integrated Stormwater Master Plan update
Lifecycle Management and Financial Summary	• Develop a more accurate method for budgeting growth due to development, rather than using a simple percentage increase	• No progress. Corporate AM to provide support	• Explore knowledge sharing with local municipalities regarding forecasting growth and budget implications
Risk Management	• Implement risk assessment for both asset management and project prioritization that aligns with Enterprise Risk Framework	• In progress. Corporate AM to provide support	• Corporate AM reviewing Enterprise Risk Framework • Embed risk scoring into planning and prioritization by making risk assessment a standard input for asset renewal planning, capital project selection, and funding decision

APPENDIX K – BRIDGES & CULVERTS SERVICES

12.0 APPENDIX K – BRIDGES & CULVERTS SERVICES

The Bridges & Culverts service area includes the inspection, maintenance, and rehabilitation of bridge and culvert structures that ensure connectivity and safe passage over waterways and other obstructions.

12.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

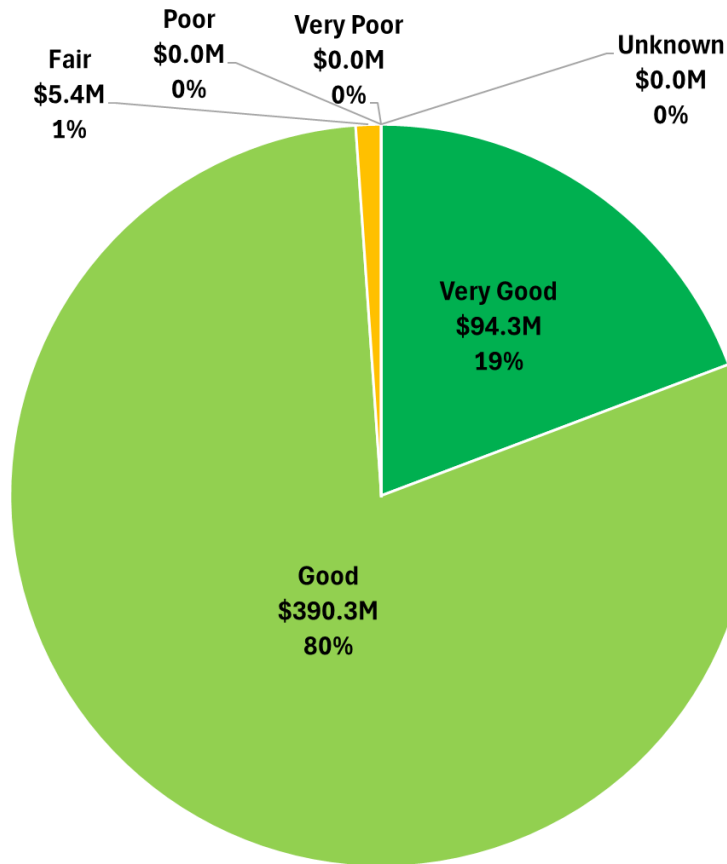
A variety of assets support the delivery of the City’s bridges and culverts services. The bridge and culvert assets covered in the 2025 AM Plan are shown in Table 12-1.

Table 12-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Bridges	Road Bridges	\$400.3M	81.7%
	Rail Bridges	\$8.4M	1.7%
	Pedestrian Bridges	\$5.9M	1.2%
Culverts	CSP Culverts	\$8.6M	1.8%
	Other Culverts	\$66.8M	13.6%
TOTAL		\$490.1M	100%

The asset condition profile by replacement cost for bridges and culverts services is shown in Figure 12-1. The condition assessment of the City’s bridges and culverts assets provides insight into the reliability of its infrastructure. Overall, 100% of the City’s bridges and culverts assets have a condition rating of fair or better, remaining consistent with the 2025 Am Plan.

Figure 12-1: Asset Condition Profile



12.2 LEVELS OF SERVICE

Table 12-2 shows the current service levels and planned target for each LOS. Overall, Bridges continue to meet the LOS performance targets set in the 2025 AM Plan.

Table 12-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Function	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Percentage of bridges in the municipality with loading or dimensional restrictions	0%	0%	0%	Maintain current LOS (the City noted that they have some historical bridges that may need restrictions in the future)	
Quality & Reliability	1. Description or images of the condition of bridges and how this would affect use of the bridges	For bridges in the municipality, the average bridge condition index value.	74	75.0	74.6 (weighted by Replacement Value)	Maintain current service level (~75.0 BCI)	
	2. Description or images of the condition of culverts and how this would affect use of the culverts	For structural culverts in the municipality, the average bridge condition index value.	73	73.2 (weighted by Replacement Value)	72.4 (weighted by Replacement Value)	Maintain current service level (~73.0 BCI)	

12.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 12-3.

Table 12-3: Improvement Recommendations – Bridges & Culverts

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	N/A		
Levels of Service	- Establish clear aspirational targets for Bridge Condition Index (BCI) values to guide long-term planning - Establish a consistent methodology for tracking and reporting on loading or dimensional restrictions for both road and pedestrian bridges	- In Progress - In Progress	- LOS metrics reviewed annually during 5-year lifespan of AM Plan and revised based on observations during future AM Plans - Part of OSIM bridge inspections. Formalizing inclusion in bi-annual bridge inspection Terms of Reference
Lifecycle Management and Financial Summary	- Develop a bridge lifecycle model that aligns with the OSIM inspections to forecast the required operations, maintenance, and renewal activities needed to meet specified conditions - Develop a long-term capital investment forecast to better understand rehabilitation / replacement needs for current bridges and culverts outside of the 10-year forecast.	- No progress - No progress	Evaluate how a lifecycle model would complement existing asset stewardship
Risk Management	N/A		

APPENDIX L – ROADS & SIDEWALK SERVICES

13.0 APPENDIX L – ROADS & SIDEWALKS SERVICES

The Roads & Sidewalks service area manages the condition and functionality of municipal roadways, sidewalks, and related infrastructure to support accessibility and safe movement for vehicles and pedestrians.

13.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s roads and sidewalks services. The road and sidewalk assets covered in the 2025 AM Plan are shown in Table 13-1.

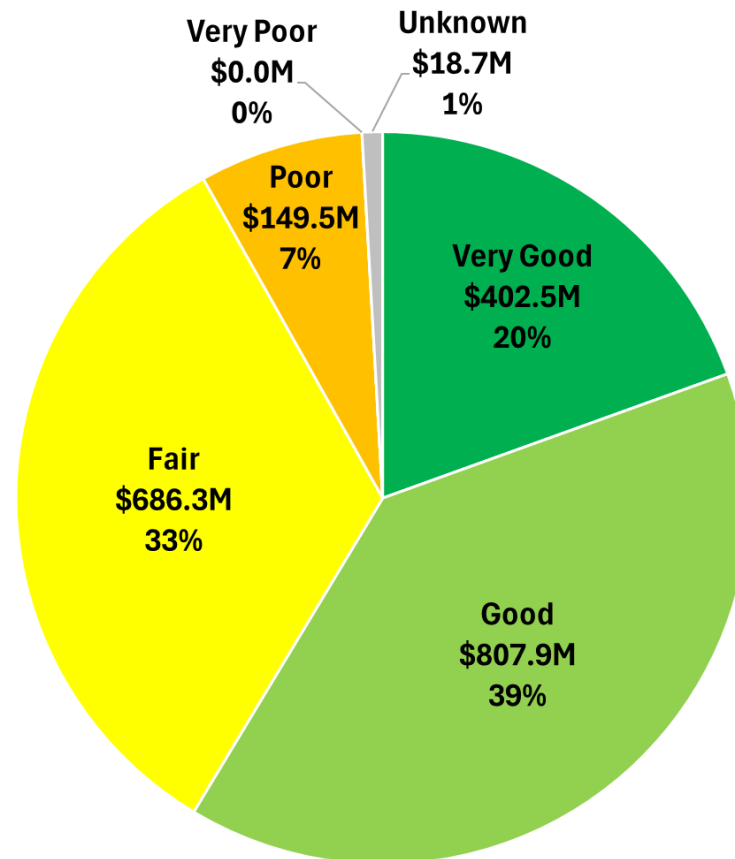
Table 13-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Roads	Roads	\$1869.1M	90.5%
Sidewalks, Walkways and Crosswalks	Sidewalks	\$183.0M	8.9%
	Walkways	\$0.6M	0.0%
	Crosswalks	\$0.2M	0.0%
Pathways	Pathways	\$0.1M	0.0%
Cycling	Cycling	\$10.2M	0.5%
Network Links	Network Links	\$0.0M	0.0%
Guiderails	Guiderails	\$1.6M	0.1%
TOTAL		\$2064.9M	100.0%

Asset condition

The asset condition profile by replacement cost for roads and sidewalks services is shown in Figure 13-1. The condition assessment of the City’s roads and sidewalks assets provides insight into the reliability of its infrastructure. Overall, approximately 91.9% of the City’s road and sidewalk assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. Approximately, \$18.7M (0.9%) of Roads and Sidewalks assets are in unknown condition.

Figure 13-1: Asset Condition Profile



13.2 LEVELS OF SERVICE

Table 13-2 shows the current service levels and planned target for each LOS. Roads and Sidewalks continue to work towards achieving the LOS performance targets set in the 2025 AM Plan. LOS performance metrics that do not have performance targets will be monitored annually for trends.

Table 13-2: Levels of Service

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.	Arterial: 572.4 Lane-km Collector: 420.0 Lane-km Local: 1,071.8 Lane-km City Area: 138.31 km ²	Arterial: 572.3 Lane-km Collector: 420.3 Lane-km Local: 1,078.5 Lane-km City Area: 138.31 km ²	Arterial: 573.8 Lane-km Collector: 400.8 Lane-km Local: 1082.1 Lane-km City Area: 138.31 km ²	Target performance will be determined based on Transportation Master Plan (to be completed in 2025)	
	Provide a network of sidewalks with good connectivity	Roads with 1 or 2 sides of sidewalk	1 Side: 5.8% 2 Sides: 61.9%	1 Side: 5.7% 2 Sides: 62.9%	1 Side: 9.0% 2 Sides: 66.8%	All roads to have sidewalks on both sides (Sidewalk infill policy)	
	Provide a network of All Ages and Abilities (AAA) Cycling Infrastructure with good connectivity	Total length of uninterrupted AAA network	34.2 km	42.4 km	45.8 km	Increase to meet Cycling and Trails Master Plan	Performance for previous years updated to match new calculation methodology
Function	Meet customer needs while limiting health, safety, and natural impacts	Number of lane-kilometres of on-road cycling routes	162.9 km	164.5 km	234.1 km	Increase to meet Cycling and Trails Master Plan	

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Quality & Reliability	Description or images that illustrate the different levels of road class pavement condition.	1. For paved roads in the municipality, the average pavement condition index value. 2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).	N/A	75.4 (weighted by replacement value)	75.4 (weighted by replacement value)	70	
	Assets are maintained in a state of good repair to provide reliable services to the community.	Percentage of Active Transportation Assets in fair or better condition (excl. Roads)	N/A	70.6%	79%	N/A	

13.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 13-3.

Table 13-3: Improvement Recommendations – Roads & Sidewalks

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	Determine condition of assets currently reported in unknown condition	No progress	Review resources needs and capacity for visual condition assessments
Levels of Service	N/A		
Lifecycle Management and Financial Summary	- Incorporate improved deterioration modelling to assess and plan road repair, rehabilitation, and reconstruction projects - Develop a forecast for O&M spending that accounts for deterioration of the road and sidewalk assets - Develop a more accurate method for budgeting growth due to development, rather than using a simple percentage increase	No progress	- Engage Road Matrix subject matter experts to expand software use - Explore knowledge sharing with local municipalities regarding forecasting growth and budget implications
Risk Management	Implement risk assessment for both asset management and project prioritization that aligns with Enterprise Risk Framework	In progress. Corporate AM to provide support.	Corporate AM reviewing Enterprise Risk Framework

APPENDIX M – GAS UTILITY SERVICES

14.0 APPENDIX M – GAS UTILITY SERVICES

The Gas Utility service area oversees the delivery and maintenance of the municipal gas distribution system, ensuring safe, reliable, and efficient energy service to customers.

14.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City’s gas utility services. The gas utility assets covered in the 2025 AM Plan are shown in Table 14-1.

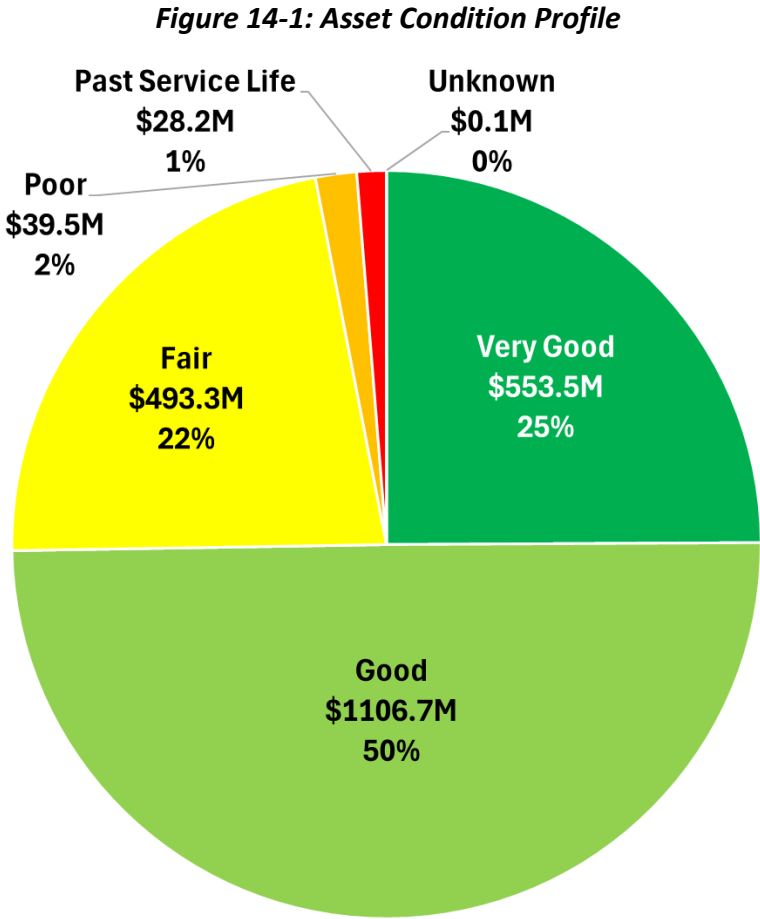
Table 14-1: Assets Inventory Summary

Asset Category	Asset Types	Replacement Value (2026\$, M)	%
Distribution System	Mains	\$1,2887.9M	58.0%
	Service Pipes	\$808.8M	36.4%
	Valves	\$11.8M	0.5%
	Service Valves	\$1.0M	0.1%
	Gas Casings	\$0.6M	0.0%
	Regulator Pits	\$0.0M	0.0%
	Regulator Stations	\$3.1M	0.1%
Meters	Meters	\$61.2M	2.8%
Water Heaters	Water Heaters	\$45.9M	2.1%
TOTAL		\$2,221.3M	100%

Asset condition

The asset condition profile by replacement cost for gas utility services is shown in Figure 14-1. The condition assessment of the City’s gas utility assets provides insight into the reliability of its infrastructure. The condition of gas utility assets was based on the age of each asset. The gas utility team implements risk mitigation measures, as indicated in the Risk section, for any infrastructure assets that are having performance issues. Overall,

approximately 97% of the City’s gas utility assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. Approximately \$0.1M (0.0%) of Gas assets are in unknown condition.



14.2 LEVELS OF SERVICE

Table 14-2 shows the current service levels and planned target for each LOS. Overall, Gas continues to meet or exceed LOS performance targets set in the 2025 AM Plan.

Table 14-2: Levels of Service – Gas Utility

Technical Focused Levels of Service							
LOS Category	Community Level of Service	Performance Measure	Performance			Target/Proposed Performance (Value or Qualitative Trend)	Notes
			2023	2024	2025		
Capacity & Use	The City aims to ensure reliable and efficient delivery of natural gas to meet customer and contractual obligations.	Number of hours below 20 PSI	0	0	0	0	
		Number of times exceeding contractual demand (Enbridge Gas Inc.) by more than 3% per year	0	0	0	0	
Quality & Reliability	The City is committed to delivering safe, reliable, and efficient natural gas services through proactive asset management and maintenance.	% assets within service life	N/A	98.0%	99.0%	>75%	
		% unplanned down time and % of service returning in 8 hours during heating season or 24 hours outside of heating season	N/A	N/A	N/A	0% down time (100% service returning within timeframe)	
		% of leak surveys completed annually	Met target	Met target	Met Target	33.3% (1/3) of system annually	
		% of meters with valid Measurement Canada seal	100%	100%	99.93%	100%	Due to lack of customer response, Sixty (60) meters couldn't be exchanged. These locations will be prioritized 2026.

14.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 14-3.

Table 14-3: Improvement Recommendations – Gas Utility

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	Develop a more robust inspection program for Gas Utility assets to reduce reliance on age-based condition assessments	On going consultations with subject matter experts and pilots to assess pipeline conditions	Develop and implement inspection programs that allow the utility to determine the remaining life of assets
Levels of Service	- Develop a more robust system for tracking and reporting the number of hours below 20 psi to ensure service reliability - Implement a formal tracking system for instances of exceeding contractual demand with associated costs and penalties - Establish a formal system to track and distinguish between planned maintenance outages and unplanned downtime - Formalize LOS of the tracking of the valve turning program to ensure all valves are exercised according to schedule	- Complete - Complete - Planned maintenance data is not relevant. Unplanned downtime is tracked. - Complete	- TDS system allows KU to track low pressure alarms when pressure drops below 20 psi at specific locations - Meters provides data that KU uses to track actual demand and compare with contractual parameters - Software changes will allow for reporting on percentage of unplanned outages - Critical/emergency valve turning documented in CMMS. Add to LOS in future AM Plan
Lifecycle Management and Financial Summary	Develop more comprehensive documentation of preventative maintenance programs and their financial impacts	In Progress	PM programs and financial need documented

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
	• Create a dedicated capital budget line for statutory meter replacements to ensure compliance with regulatory requirements • Develop a more detailed lifecycle costing model that accounts for the unique characteristics of gas utility assets, including regulatory requirements • Implement a system to track maintenance costs by asset type to better inform lifecycle management decisions • Confirm service life for gas pipes to better forecast replacement needs	• Complete • No progress. Progress limited by lack of resources • Partially complete • In Progress	• Engage subject matter experts to better understand gas asset lifecycles and relate to data in CMMS • Review data collected in CMMS • Working with University to estimate pipe service life
Risk Management	• Develop a more comprehensive approach to identifying critical assets • Develop methods to quantify safety risks associated with gas asset failures to better prioritize investments • Incorporate environmental risk considerations into the asset management decision-making process • Implement risk assessment for both asset management and project prioritization that aligns with Enterprise Risk Framework	• In Progress • In Progress • In Progress • In Progress	• Study to quantify areas with potential of large outages. • Consolidation of Risk Management processes underway • Consolidation of Risk Management processes underway • Corporate AM reviewing Enterprise Risk Framework

APPENDIX N – FACILITIES SERVICES

15.0 APPENDIX N – FACILITIES SERVICES

The Facilities service area manages the lifecycle of City-owned buildings and structures, including community centers, administrative offices, and operations buildings, ensuring they remain safe, accessible, and functional.

15.1 STATE OF LOCAL INFRASTRUCTURE

Asset inventory and valuation

A variety of assets support the delivery of the City's facilities services. The facility assets covered in the 2025 AM Plan are shown in Table 15-1.

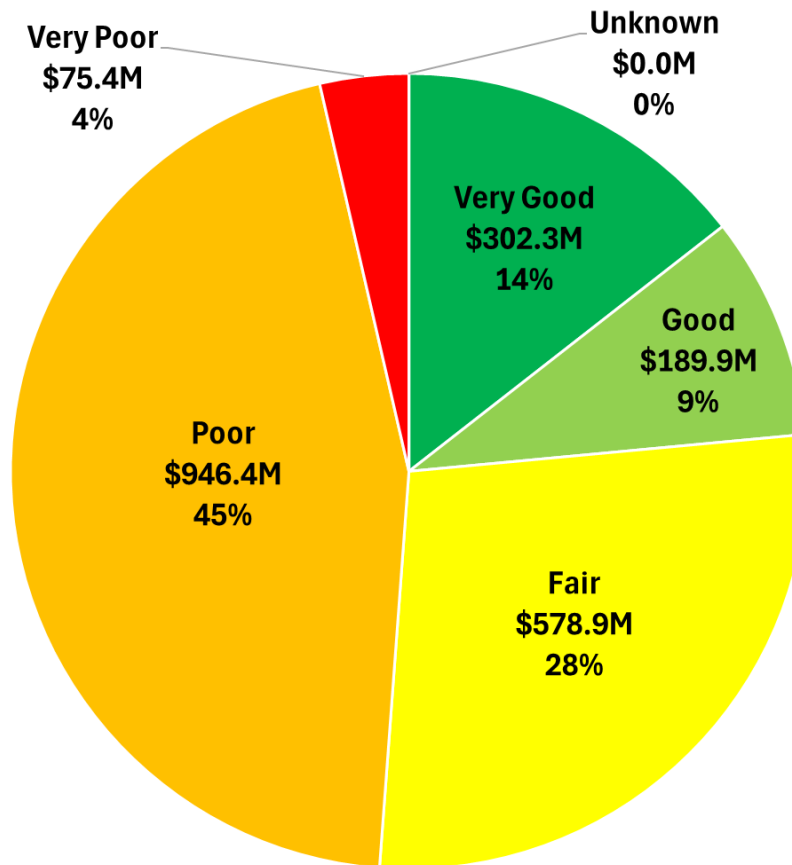
Table 15-1: Assets Inventory Summary

Service Area	Dimension (sq ft)	Replacement Value (2026\$, M)	% of Total \$
Administration	227,377.95	\$218.9M	10.5%
Aquatics	97,636.20	\$126.6M	6.1%
Arenas	590,302.78	\$502.4M	24.2%
Arts & Culture	278,740.32	\$256.1M	12.3%
Cemeteries	34,463.98	\$21.2M	1.0%
Commercial	101,473.30	\$156.1M	7.5%
Community Centres	199,210.56	\$173.0M	8.3%
Fire	62,304.01	\$104.2M	5.0%
Golf	45,209.50	\$21.5M	1.0%
Operations	387,724.54	\$228.1M	11.0%
Parking Garages	518,775.96	\$153.8M	7.4%
Parks & Open Spaces	76,080.98	\$29.1M	1.4%
Residential	7,827.78	\$2.3M	0.1%
Sport	111,431.55	\$83.6M	4.0%
TOTAL	2,738,559.40	\$2,077.0M	100%

Asset condition

The asset condition profile by replacement cost for facilities services, based on data from the 2025 Asset Management Plan, is shown in Figure 15-1. The condition assessment of the City's facilities assets provides insight into the reliability of its infrastructure. Overall, approximately 51% of the City's facilities assets have a condition rating of fair or better, remaining consistent with the 2025 AM Plan. No Facilities asset are in unknown condition.

Figure 15-1: Asset Condition Profile – Facilities



15.2 LEVELS OF SERVICE

Table 15-2 shows the current service levels and planned target for each LOS. Overall, Facilities continues to work towards achieving the LOS performance targets set in the 2025 AM Plan.

Table 15-2: Levels of Service – Facilities

Technical Focused Levels of Service						
LOS Category	Community Level of Service	Performance Measure	Performance			Proposed Performance (Value or Qualitative Trend)
			2023	2024	2025	
Functional	To promote a sustainable and energy efficient community by minimizing energy consumption and greenhouse gas (GHG) emissions across all City Facilities	Percentage of critical facilities (SFU 3, 4, 5) with accessibility audits completed	36.6%	36.6%	36.6%	100%
		GHG emissions for buildings	6156 tCO ₂ e	5808 tCO ₂ e	6585 tCO ₂ e	3,550 tCO ₂ e by 2034 (0 by 2050)
		GHG emissions for buildings per sq.m.	29.85 kgCO ₂ e/m ²	28.35 kg CO ₂ e/m ²	31.93 kg CO ₂ e/m ²	17.55 kg CO ₂ e/m ² by 2034 (0 by 2050)
Quality & Reliability	Provide facilities in acceptable condition and cleanliness by following and providing proper maintenance standards and inspections.	Facility Condition Index	9.9%	12.6%	12.6%	Maintain current FCI of 12.6% by 2034, at \$36.7M/yr
		Ratio of Planned versus Unplanned Work (by cost)	30% planned (July 2022 – June 2023)	22% planned (Jan 2024 – Dec 2024)	26% planned (Jan 2025 – Dec 2025)	70% planned
Financial Sustainability	Promote cost effective and resource efficient facilities services	Facility asset renewal budget as a percentage of replacement value	N/A	0.6%	0.6%	1.8%

15.3 AM PLAN IMPROVEMENT AND MONITORING

Improvement recommendations for asset management, progress, and future strategies to support continuous improvement are shown in Table 15-3.

Table 15-3: Improvement Recommendations – Facilities

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
State of Local Infrastructure	Continue to conduct regular building condition assessments	In Progress	Regular building condition assessments occurring. Capital planning software implementation will adjust the BCA strategy
Levels of Service	Consider past safety issues and incorporate added safety elements into corporate facility design standards	No progress. Progress limited by resources and competing priorities.	
Lifecycle Management and Financial Summary	- The overarching corporate goal is to net zero emissions by 2050. Develop costs related to GHG reduction and energy consumption - Complete accessibility audits and determine accessibility upgrade needs - Determine funding gap related to planned maintenance and implement formal preventive maintenance activities as required to lower unplanned maintenance and risk of unexpected service disruptions - Develop strategies regarding disposals, acquisitions, temporary facilities, replacement	- In Progress - No further accessibility audits completed - In Progress - In Progress	- Cost estimates developed. Continue planning for emission reducing replacements at end of life - Complete accessibility audits through strategic studies of facilities - Continue identifying opportunities for preventative maintenance progress - Strategies developed. Work ongoing with Realty Services as per CorCap 2.0

AM Plan Section	Improvement Recommendation	Progress	Future Strategies
	versus rehabilitations of old facilities as part of overall approaches to manage the funding gap		
Risk Management	• Improve the alignment of the facilities risk assessment with Enterprise Risk Framework • Monitor potential impacts on accelerated deterioration of facility elements due to extreme weather events, and account for added costs in renewal forecasts	• In progress. Corporate AM to provide support • No progress. Progress limited by resources and competing priorities.	• Corporate AM reviewing Enterprise Risk Framework