2019 STATE OF THE INFRASTRUCTURE REPORT

Wastewater

Roads

Water

Transit

Housing Services

Forestry

Property Services

Police Services

Waste Management

Information Technology

Paramedic Services

YorkNet

Senior Services

York Region

Contents

1. Introduction

In 2018, York Region Council adopted an update to the Corporate Asset Management Policy as well as the Region's first Corporate Asset Management plan. The Corporate Asset Management plan outlines activities required to meet asset management best practices and comply with Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure. Within the Policy, roles and responsibilities across the Region are detailed, which are critical to the successful implementation of the Region's asset management programs. Overall responsibility of asset management is shared across Regional departments to effectively and continuously assess, evaluate and improve asset management programs while delivering services to residents.

The Region's asset management practice is guided by the following objectives:

- Adopt and advance industry leading asset management practices that align with established standards and legislation;
- Provide defined levels of service which are balanced against considerations of costs and risks;
- Align Asset Management Plans with the Regional Fiscal Strategy, The 2019-2023 Strategic Plan and Vision 2051;
- Demonstrate financially sustainable life cycle management by appropriately balancing cost, risk and performance to achieve full value from assets;
- Improve evidence-based decision-making from in-service asset data related to expenditures, operations and maintenance; and
- Ensure organizational accountability and transparency by engaging customers to provide input into asset management planning.

The 2019 State of Infrastructure Report (SOIR) is the fifth report of its kind. This report includes the following service areas and their assets:

1. Environmental Services
   i. Forestry
   ii. Waste Management
   iii. Wastewater
   iv. Water
2. Transportation Services
   i. Roads
   ii. Transit
3. Community and Health Services
   i. Housing Services
   ii. Paramedic Services
   iii. Senior Services
4. Corporate Management
   i. Information Technology
   ii. Property Services
   iii. YorkNet
5. Police Services

The Region's 2019 portfolio replacement value, as of Q4 of 2019, is $15.9 billion. This represents an increase of 8% increase over the 2018 Q4 replacement values which were reported in the previous state of infrastructure report. The increase is due to several variables, including:

- Changes in Asset Portfolio since the last report:
    - Solar Arrays will no longer receive dedicated SOIR updates and arrays at wastewater sites have been incorporated into the wastewater asset portfolio;
    - Solar Arrays will no longer receive dedicated SOIR updates and arrays at water sites have been included in the water asset portfolio;
    - Maple PD8 PS Pump 4;
    - A new land at 10988&10990 Warden Ave. in Markham for a new Southeast maintenance facility. Two fabric covered storage buildings were built in 2019 to provide additional salt storage spaces;
    - Continuous construction of bus rapidway lanes;
    - St. John Sideroad improvement from Bayview Ave. to Hwy404 (3kms), including 2 new bridges;
    - Toronto York Spadina Subway Extension (TYSSE) infrastructure – the Region does not own the TYSSE assets, and the cost valuation for TYSSE included in this report represents the Region's contribution to (benefit from) the subway extension project;
    - Additional terminals and replacement of fleet;
    - The addition of Woodbridge Lane high-rise building has officially been added to the HYI portfolio adding an additional 162 units of affordable housing;
    - 2, 500 Street Trees;
    - 2.9 km of Enhanced Streetscape;
    - 1 parking lot added to the Regional Forest;
    - Paramedic Response Station # 25 Markham South East;
    - Paramedic Response Station # 16 Newmarket North West;
    - 15 pieces of mechanical equipment added to the Materials Recovery Facility; and
    - 6 pieces of infrastructure were replaced or upgraded at drop-off Waste Management facilities;
    - Information and Technology Software assets - $24.8M (not evaluated in 2018 SOIR)

2. 2019 Corporate State of Infrastructure Report Summary

The 2019 Corporate State of Infrastructure Report provides an understanding of the assets owned by the Region that are used to support each major service area. This summary will provide an overall analysis of how well the Region's infrastructure performed and a snapshot of our current services and future outlook.

2.1   York Region 2019 Results

Replacement Value **$15.9B**	Grade **B**	Trend →

The total 2019 Replacement Value of assets is $15.9 billion. The average performance grade is a (B), which represents "Good", and an overall "Maintain" trend is given over the next 4 years.

2.2   York Region Service Areas ($15.9 Billion)

The following table provides a summary of 2019 replacement values by service area:

Service Area	2019 Replacement Value ($ M)	2018 Replacement Value ($ M)	Change in Value ($ M)	Summary of Changes to Replacement Values
Wastewater	$5,192.4	$5,045.4	$147.0 (+)	There were no major items added or removed from the inventory in 2019. Remaining replacement values were indexed to 2019 Q4 following the non-residential Building Construction Price Index for Toronto.
Roads	$4,040.0	$3,901.0	$139 (+)	Ongoing roads improvement work including St. Johns Sideroad from Bayview Avenue to Highway 404 (3kms), containing 2 new bridges along this section.
Water	$2,302.7	$2,237.0	$65.7 (+)	There were no major items added or removed from the inventory in 2019. Remaining replacement values were indexed to 2019 Q4 following the non-residential Building Construction Price Index for Toronto.
Transit	$1,748.0	$1,084.0	$664.0 (+)	The first time including the Toronto York Spadina Subway Extension (TYSSE) infrastructure contributed to the majority of the increase. The Region does not own the TYSSE assets, and the cost valuation for TYSSE included in this report represents the Region's contribution to (benefit from) the subway extension project. Other major factors towards the increased valuation include continuous construction of bus rapidway lanes, additional terminals and replacement of fleet.
Housing Services	$967.0	$808.2	$158.8 (+)	A valuation study was undertaken in 2018, published 2019. These data were used to more accurately reflect the 2018 value of the assets. A 2% inflation was applied, as well as the addition of Woodbridge Lane, bringing the replacement value total to $967.
Forestry	$531.8	$516.4	$15.4 (+)	Replacement Values for new assets are calculated by a third party during each Asset Management Plan update. The next plan update will develop a green infrastructure replacement cost model with functionality to calculate updated replacement values for new assets on demand.
Property Services	$517.3	$494.9	$22.5 (+)	Major changes to Property Services portfolio in 2019 include two new Paramedic Response Stations, Station #25 Markham South East and Station #16 in North West Newmarket. Replacement values of existing assets are reviewed and adjusted annually to account for major renovations, improvements / upgrades and to adjust for other costing pressures and factors in the Non-Residential Building sector.
Police Services	$276.7	$276.7	$0	n/a
Waste Management	$175.1	$168.5	$6.6 (+)	The change in replacement value between 2019 and 2018 was associated with CPI adjustments on all existing assets in addition to adding 15 pieces of mechanical equipment to the Region's Materials Recovery Facility in late 2019.

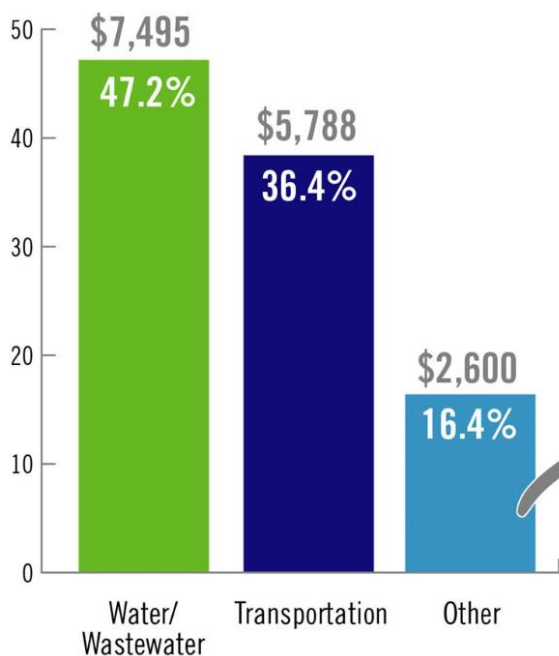| Service Area	2019 Replacement Value ($ M)	2018 Replacement Value ($ M)	Change in Value ($ M)	Summary of Changes to Replacement Values
Information Technology	$73.8	$42.3	$31.5 (+)	Multiple initiatives have taken place with the IT Services' portfolio to replace and enhance both the End User and Data Centre asset portfolios to meet demands. $24.8M in Software Assets which were not evaluated in 2018 were also included in 2019. Subsequent activities are scheduled to take place in order to decommission assets.
Paramedic Services	$26.9	$23.2	$3.7	Paramedic Services team has invested in new assets in order to address the challenges of a growing, aging and diversifying population as identified through the 2016 Paramedic Services Resources and Facilities Master Plan ("The Master Plan").
YorkNet	$25.3	$20.1	$5.2 (+)	Adding project management and mapping expertise that will help with ongoing inspections and maintenance as well as track and identify fibre network assets.
Senior Services	$7.3	$7.1	$0.2	A re-evaluation of the Senior Services inventories was conducted and a more accurate roll up of the data was provided by staff. 2% inflation was applied to the 2018 inventories data, and a revisit of all renewal works and purchases in the year of 2019 with the staff led to better insights and a change of $0.2M

2.3   Condition Grade by % Replacement Value

The following table and charts outline the 2019 asset physical condition grades in the poor to very poor category for each of the service areas. 99% of the Region's assets are in fair to very good condition with 1% in very poor to poor condition. These calculations are based on the percentage of asset replacement value in each of the five condition grades at the end of 2019.
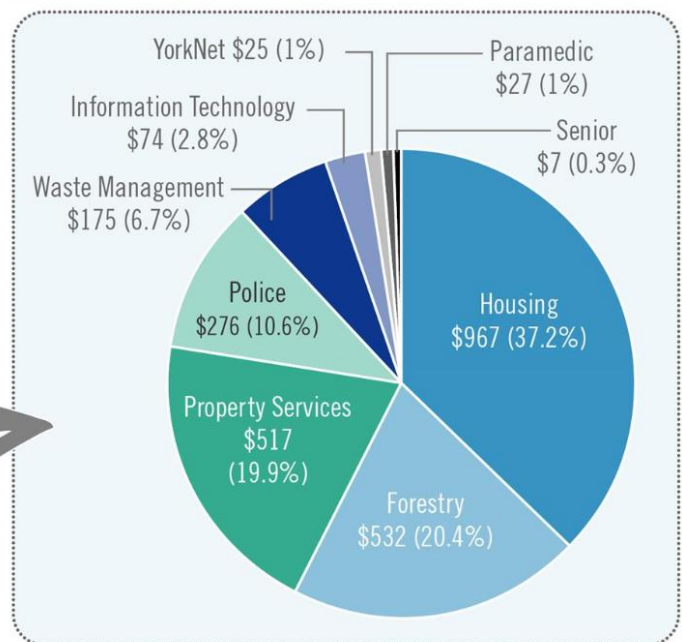
Service Area	Replacement Value	Poor	Very Poor
Wastewater	$5,192.4	$165.0	$170.3
Roads	$4,040.0	$768.0	$276.0
Water	$2,302.7	$42.3	$40.9
Transit	$1,748.0	$129.0	$109.0
Housing Services	$967.0	$24.3	$16.2
Forestry	$531.8	$10.9	$0.0
Property Services	$517.3	$11.2	$0

Service Area	Replacement Value	Poor	Very Poor
Police Services	$276.7	n/a	n/a
Waste Management	$175.1	$0.0	$0.0
Information Technology	$73.8	$11.8	$14.0
Paramedic Services	$26.9	$1.3	$4.2
YorkNet	$25.3	$0.0	$0.0
Senior Services	$7.3	$0.6	$1.9

2019 Service Area Replacement Values

Figures are rounded to nearest whole number. Data reported for Paramedic and Senior Services is based on 2018 values.

2.4 Service Area Profile Summary

The following table provides a summary of the 2019 Replacement values, grades, trends, challenges and future outlook by service area.

Service Area	Overall Grade & Trend	Replacement Value ($ M)	Grade/Trend to 2023			Key Infrastructure Challenges	Future Outlook
			Reliability	Capacity	Condition		
Wastewater	A →	$5,192.4	A →	A →	A →	• Climate change adaptation • Changing regulatory requirements • The complexity in implementing rehabilitation and replacement projects • Collecting empirical data to advance asset condition and prediction of rate of deterioration	• Sewage Pumping Station upgrades at Keswick SPS and Dr. Kay SPS • Duffin Creek WPCP upgrades • WRRF upgrade • Various rehabilitation projects on trunk sewers within the Regional wastewater system
Roads	B →	$4,040.0	A →	B →	B →	• Large backlog of road renewal work making resourcing difficult • For stormwater assets, future precipitation levels are difficult to predict due to uncertainty in climate change	• Various roads capital improvement projects as determined in the 10-year Roads Capital Plan • Various bridge and culvert rehab / replacement projects • Various road pavement rehab and preventative treatment projects
Water	A →	$2,302.7	B →	A →	B →	• Climate change adaptation • Changing regulatory requirements • Growth pressures • Collecting empirical data to advance asset condition and prediction of rate of deterioration	• Elevated tank upgrades • Richmond Hill North Reservoir and Bayview Pumping Station upgrades • Lake Simcoe Mussel Control Strategy • Mount Albert Wells 1 and 2 standby power upgrades • Various watermain replacement/rehabilitation projects
Transit	B →	$1,748.0	A →	B →	B →	• Meeting rapid population growth • Adopting new technology (i.e. electric and autonomous fleet) into their business • High levels of service expectations from customers	• Electric bus transition plan including vehicles and related supporting infrastructure • 55 Orlando bus garage is being expanded in order to amalgamate southeast division fleet with BRT fleet and provide service from one Region owned facility • Identification of future bus garage needs to support service growth • Completion of bus rapidway (VIVA) constructions on Yonge St. in Richmond Hill • Continue replacing end of life bus fleet vehicles • Additional transit terminals
Housing Services	B →	$967.0	B →	B →	B →	• Supporting reduction of waitlist for housing, while maintaining high level of service	• 265 seniors housing appartment units in Markham – anticipated construction completion 2022; • 100 mixed housing apartment units in Whitchurch-Stouffville – Anticipated completion Q4 2022; and • Passive house apartment units in Newmarket – Anticipated start 2022
Forestry	B →	$531.8	A →	B →	B →	• Invasive species & diseases • Urbanization & pollution • Faster asset degradation due to increased use • Climate Change adaption	• Expanding the existing GIS database of asset information • Implementing a prioritized Improvement Plan • Providing additional tree plantings • Condition assessment of civil assets • Updating the Green Infrastructure Asset Management Plan
Property Services	B ↗	$517.3	B ↗	C ↗	B ↗	• Ensuring buildings comply with new building codes and regulations • Aligning asset management approaches with other stakeholder groups in the Region	• Opening of 17150 Yonge Street and five Paramedic Response Stations

Service Area	Overall Grade & Trend	Replacement Value ($ M)	Grade/Trend to 2023			Key Infrastructure Challenges	Future Outlook
			Reliability	Capacity	Condition		
						• Asset management resourcing	
Police Services	B →	$276.7	A →	B ↗	B →	• Limited staffing and funding for asset management • Various asset types to manage (IT, Fleet, Buildings, Equipment etc.)	• Construction of a new #1 District Headquarters, King Substation & Marine Headquarters • Renovations to current facilities are undertaken based on building condition assessment
Waste Management	B →	$175.1	A →	B →	B →	• Changing waste management legislations (i.e., new Municipal Hazardous and Special Waste programs, Electronic Waste programs) that could potentially impact waste depot operations • Increase level of contamination within the waste streams could potentially affect the capacity and reliability of the York Region Waste Management Centre (i.e., batteries disposed of as garbage, which could potentially spark/ignite within the waste pile)	• Replacement and upgrades to equipment at the York Region Waste Management Centre • Replacement and upgrades to equipment at drop-off facilities • Updating the Solid Waste Asset Management Plan •
Information Technology	B →	$73.8	A →	A →	B →	• Short asset lifecycle is difficult to manage asset replacement schedules • Rapid change of technology industry • A need to better integrate Service and Asset Management processes. • Continuous tracking of non-fixed assets that are high in volume	• Technology is constantly changing and improving, resulting in a short lifespan for technology assets. This, along with the need to move, re-assign, decommission and replace assets during their lifecycle, makes it challenging to track inventory. • The short lifespan also makes long-term planning challenging, since predicting what technology may look like in the next three to five years is difficult. In the future, IT Services is looking to perform a disaggregated analysis of the Region's software & monitor assets they exhibit different useful lifespans than others within the same asset class.
Paramedic Services*	A →	$26.9	A ↘	A →	B →	• Increasing demand for emergency health services due to growing aging population • Decreasing ratio of stand-by fleet	• Completing four new paramedic response stations in 2018 • Between 2020 and 2022, 6 stations will open, 4 new and 2 replacement stations. • Addressing changes that may result from the proposed new Ambulance Act • Rolling out a "greening initiative" for fleet assets
YorkNet	A →	$25.3	A →	B ↗	A →	• Determining and confirming the location and condition of fibre assets • Technological obsolesces	• Connect to Innovate • Fibre construction in Vaughan and Markham • Fibre Swaps • In addition, YorkNet will be making increased investments in maintenance and repairs while also contributing to long-term asset management reserves.
Senior Services*	A →	$7.3	A →	A →	B →	• Procurement of equipment due to lengthy lead times • Rising senior population resulting in increasing demand for services • Constant technology shifts for equipment • Need for 'full service' AM system	• Enhancing Long-Term Care homes to improve accessibility and navigation • Looking to upgrade outdated equipment and undertake renovations to better suit the needs for the program

*Based on 2018 data

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Wastewater
Roads
Water
Transit
Housing Services
Forestry
Property Services
Police Services
Waste Management
Information Technology
Paramedic Services
YorkNet
Senior Services

SERVICE AREA PROFILES

York Region

(A) Wastewater Services
$5,192M

Asset Management Grading Strategy

In York Region, wastewater services are delivered through a two-tier system. The Region is responsible for major pumping stations, trunk sewers and treatment facilities, whereas local municipalities are responsible for local wastewater collection and local pumping.

The majority of the Region's wastewater assets are relatively young compared with their expected service lives. The Region's wastewater assets are generally in fair or better condition. Assessments are completed based on inspected condition using industry standard protocols.

Through these services, the Region:

- ensures servicing is available to meet current needs and support future growth;
- ensures environmental protection through wastewater treatment; and
- monitors and maintains the wastewater network in a good state of repair to sustainably deliver services.

In addition to ongoing proactive maintenance and monitoring carried out by staff at every facility, the Region administers prioritized Asset Management Programs for each facility class, which includes regular condition assessments.

Asset Portfolio

- 21 Wastewater Pumping Stations
- 6 Water Resource Recovery Facilities
- 1 (Co-owned w/ Durham) Water Pollution Control Plant
- 1 Wastewater Treatment Lagoon
- 2 Equalization Tanks
- 8 Odour Control Facilities
- 134 km of Sanitary Forcemains
- 227 km of Trunk Sewers
- 6 Solar Arrays at wastewater sites

Changes in Asset Portfolio

Solar Arrays will no longer receive dedicated SOIR updates and arrays at wastewater sites have been incorporated into the wastewater asset portfolio

Portfolio Replacement Value Update

2018 Infrastructure Replacement Cost	$5,045.4 M
Changes since 2018	$146.95
Addition of solar arrays to portfolio	$0.21
New, replaced & upgraded assets	$0.0
Updated replacement value	$146.74
Decommissioned Assets	$0.0
2019 Infrastructure Replacement Cost	$5,192.4 M

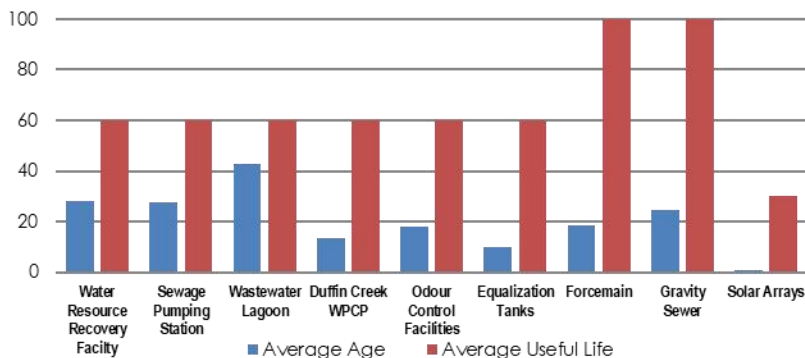The average asset has reached

27%
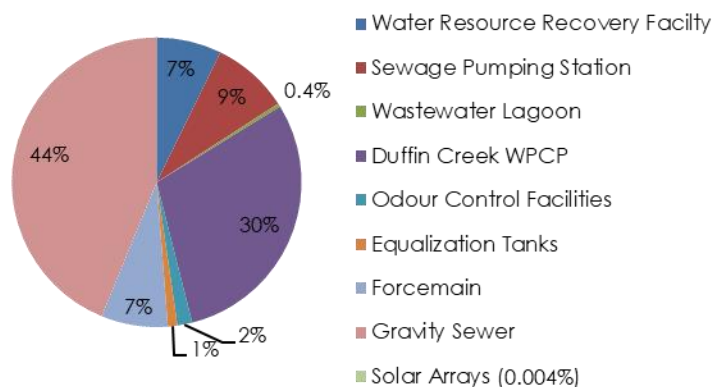
of its useful life

On average,

1.5%

of replacement value is spent each year on rehabilitation and replacement
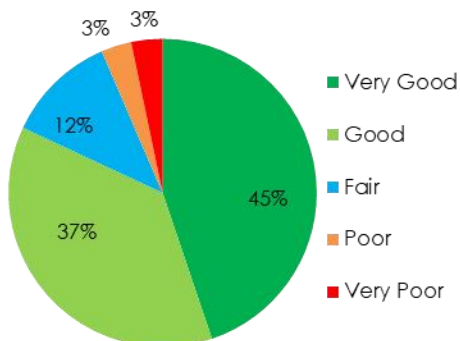
2019 Summaries
Average Age & Useful Life Expectancy

Average Age ■ Average Useful Life

| 21 YRS | Average Age | Average Remaining Life | 59 YRS |

80 YRS
Average Expected Life

Replacement Value (% of Portfolio)

- ■ Water Resource Recovery Facilty
- ■ Sewage Pumping Station
- ■ Wastewater Lagoon
- ■ Duffin Creek WPCP
- ■ Odour Control Facilities
- ■ Equalization Tanks
- ■ Forcemain
- ■ Gravity Sewer
- ■ Solar Arrays (0.004%)

Condition Grade

- ■ Very Good
- ■ Good
- ■ Fair
- ■ Poor
- ■ Very Poor

94%
of assets are in fair or better condition

100%
of facilities included in inspections programs in 10 year capital plan

Of the 6% of assets in poor or very poor condition, all have been identified for rehabilitation or replacement projects. All assets in very poor condition were identified in the recently completed Duffin Creek WPCP and Primary Trunk Asset Management Plan; rehabilitation of these assets has been included in the YDSS 10 Year Capital Plan.

Future Outlook to 2023

The Region has several upcoming capital projects to maintain its ability to meet current and projected wastewater requirements, including:

- ➢ Duffin Creek WPCP upgrades
- ➢ Various WRRF and SPS Upgrades
- ➢ Bogart Creek SPS Complete Rehabilitation
- ➢ Trunk Sewer rehabilitations

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	A	A	→
Condition	A	A	→
Financial	C	B	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Percent of urban properties serviced by the municipal wastewater system.	95%	95%	Servicing in town and village areas are considered urban, but often cannot be achieved cost-effectively
Percent of growth accounted for in servicing Master Plan.	100%	100%	This metric indicates that lifecycle costs for all identified growth infrastructure is considered in the asset management plan.
Percent of wastewater treated prior to return to the environment.	100%	100%	This metric is a modification of a draft Provincial indicator and is currently monitored through existing regulatory compliance programs.
Number of effluent sampling results exceeding ECA limits.	0	1	More information regarding this metric is included in the Region's Annual Wastewater Performance Report.
Percent of infrastructure captured in the User Rate Study	100%	100%	This metric indicates the per cent of water infrastructure that is accounted for in the most recent Council-approved rate study in 2015. Any infrastructure not included may result in a financial shortfall.
Infrastructure Replacement value per capita.	Maintain with inflation (2018 Result: $4,235)	$4,473	Increased quantity of infrastructure directly results in higher lifecycle costs. Maintaining a consistent intensity of infrastructure generally indicates a stable and sustainable long term lifecycle need.

B

Roads
$4,040M

Asset Management Grading Strategy

This service area assists in the safe and efficient transport of people and goods through interconnecting roads between urban and rural areas. It also provides safe and effective drainage and preserves water quality. It maintains the road and storm networks in a state of good repair.

The Roads group has a comprehensive asset condition data collection program in place. Pavement condition data are collected for the entire Regional road network every two years using automated data collection technology that conforms to industry best practices. The pavement condition data are converted into a single Pavement Condition Index (PCI) for each road segment, to enable network level analyses across all road segments. A sophisticated Pavement Management System (Roadmatrix) is implemented to analyze the PCI data and provide recommendations to the annual pavement treatment program. Bridge Structures, including large culverts and retaining walls, are inspected according to the Provincial guideline every two years to meet legislative requirements. The bridge inspection records are stored in a computerized Bridge Management System (BMS) for further analysis and planning. Advanced technologies are widely implemented to manage the roads assets. The group conducts routine GIS data auditing to ensure accurate and up to date asset data are collected. In addition to hosting asset inventory data, a computerized maintenance management system (Cityworks) is also used for work order and service request tracking against assets. Leading edge technology, such as asset photography using drones, is embraced.

Asset Portfolio

- 4,106 lane-kms of Regional Roads
- 1,839 km of Storm Pipes, Outfalls & Ditches
- 147 Bridges and 194 Structural Culverts
- 82 Retaining Walls (>2m in height) and all Structural Walls
- 37,000+ Traffic Signs
- 538 Vehicles and Equipment
- 5 Maintenance facilities (by Property Services)

Changes in Asset Portfolio

Major items added include:
- St. John Sdrd. improvement from Bayview Ave. to Hwy404 (3kms), including 2 new bridges
- A new land at 10988&10990 Warden Ave. in Markham for a new Southeast maintenance facility. Two fabric covered storage buildings were built in 2019 to provide additional salt storage spaces.

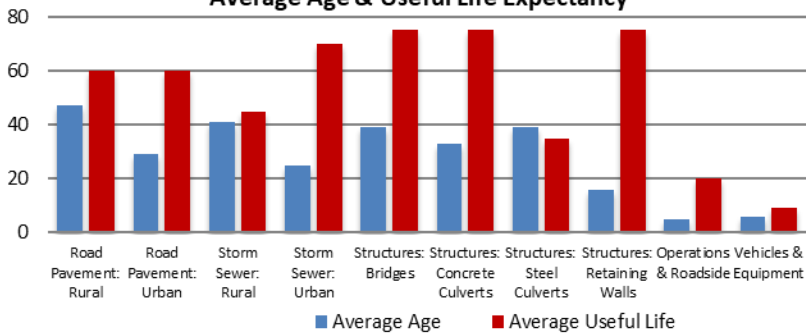
Portfolio Replacement Value Update (Millions)

2018 Infrastructure Replacement Value	$3,901
Changes since 2018	$139
New, replaced & rehabilitated assets	$58
Updated replacement value	$81
Decommissioned Assets	$0
2019 Infrastructure Replacement Value	$4,040

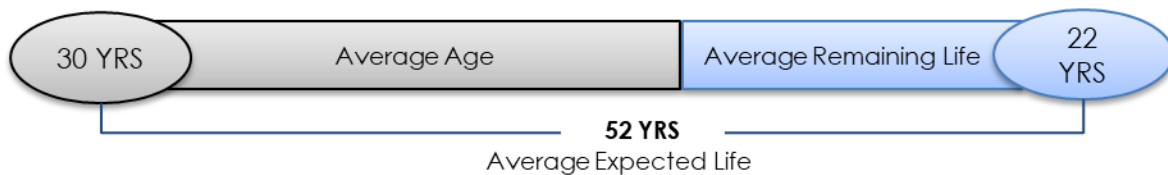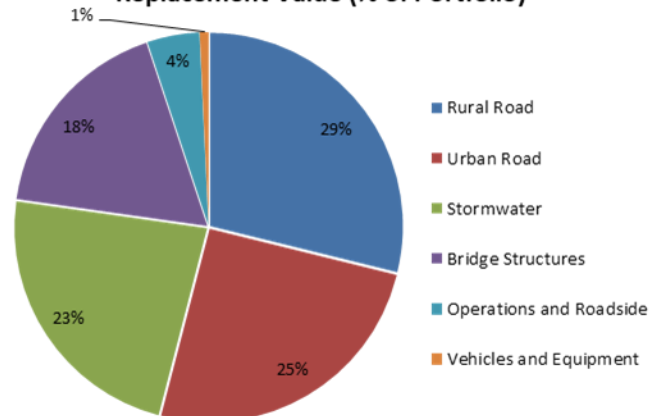The average asset has reached **58%** of its useful life

1.8% of replacement value is planned to be spent in 2020 budget on rehabilitation and replacement
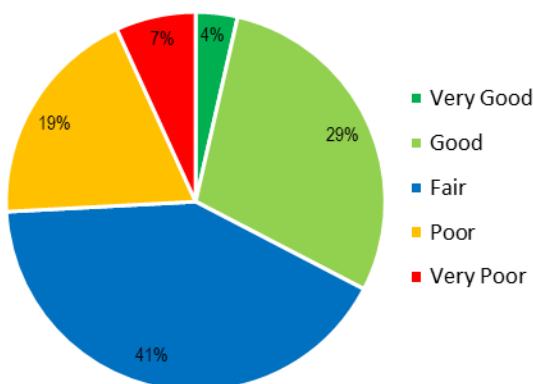
2019 Summaries

Average Age & Useful Life Expectancy

Legend: ■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

- 29% Rural Road
- 25% Urban Road
- 23% Stormwater
- 18% Bridge Structures
- 4% Operations and Roadside
- 1% Vehicles and Equipment

30 YRS — Average Age | Average Remaining Life — 22 YRS

52 YRS Average Expected Life

Condition Grade

- 4% Very Good
- 29% Good
- 41% Fair
- 19% Poor
- 7% Very Poor

74% of assets are in fair or better condition

72% of road pavement with asset management work scheduled in 10 year capital plan

Of the 26% of assets in poor or very poor condition, all bridge and large culverts have been identified for rehabilitation or replacement projects. These assets primarily include: 1 bridge, 15 large culverts, and 1437 lane/kms of road pavement.

Future Outlook to 2023

The Region has several upcoming capital projects planned to enhance its ability to meet current and projected transportation demands, including:

➢ Various roads capital improvement projects as determined in the 10-year Roads Capital Plan

➢ Various bridge and culvert rehab / replacement projects

➢ Various road pavement rehab and preventative treatment projects

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	B	B	→
Condition	B	B	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target		2019 Results	Comments
Average Pavement Condition Index (PCI) Scores	Road Maintenance Class	Target PCI	2019 PCI	The Region's latest Transportation Pavement Asset Management Plan (AMP) proposed the targeted Pavement Condition Indices based on road maintenance class levels. Corporate Finance has committed extra funding levels to raise the PCI conditions closer towards the targets.
	1	80 (Good)	75 (Fair)	
	2	75 (Fair)	66 (Fair)	
	3	75 (Fair)	66 (Fair)	
	4	70 (Fair)	67 (Fair)	
Minimum Bridge Condition Index Score	100% of Bridge Structures by Count with BCI > 60 (Fair)		95% of Bridge Structures by Count with BCI > 60 (Fair)	The Region's latest Bridge and Structures Asset Management Plan (AMP) proposed the targeted Bridge Condition Index to be greater than 60 for any bridge and structure in the Region. Corporate Finance has committed extra funding levels to enhance the BCI conditions towards the targets, with particular attention to the ones with a BCI less than 60.
Percentage of pavement with a condition assessment rating of fair or better condition by replacement values	N/A		66%	Pavement Condition Index (PCI) 60 or above are considered fair or better conditions for pavement.
Percentage of bridge and structures with a condition assessment rating of fair or better condition by replacement values	100%		97%	Bridge Condition Index (BCI) 60 or above are considered fair or better conditions for bridge and structures.
Percentage of bridge and structures with no load restriction	100%		99.8%	One bridge is load restricted in 2019. Kennedy Road Bridge (north of Mt. Albert Rd.) load restriction was implemented in 2019 and timber deck replacement is planned for 2020.

(A) Water Services
$2,303 M

Asset Management Grading Strategy

In York Region, water services are delivered through a two-tier system. The Region is responsible for securing and delivering drinking water to the nine local municipalities, which in turn distribute it to residents and businesses.

The Drinking Water Quality Management System (DWQMS) framework is used to manage day to day risks to the water supply system by identifying possible hazards, assessing the level of risk, and identifying appropriate procedures to mitigate the risk.

Through these services, the Region:

- provides safe, reliable drinking water to local municipalities and York Region residents;
- monitors and maintains the water network in a good state of repair to ensure sustainable delivery of services; and
- ensures servicing is available to meet current needs and support future growth.

In addition to the ongoing proactive maintenance and monitoring carried out by staff at every facility, the Region administers prioritized Asset Management Programs for each facility class, which includes regular condition assessments.

Asset Portfolio

- 2 Surface Water Treatment Plants
- 24 Groundwater Treatment Facilities (including 40 Production Wells)
- 29 Elevated Tanks & 15 Storage Reservoirs
- 22 Pumping Stations
- 360 km of Transmission Mains including chambers and maintenance holes
- 8 Solar Arrays at water sites

Changes in Asset Portfolio

- **Maple PD8 PS Pump 4**

- **Solar Arrays will no longer receive dedicated SOIR updates and arrays at water sites have been included in the water asset portfolio**
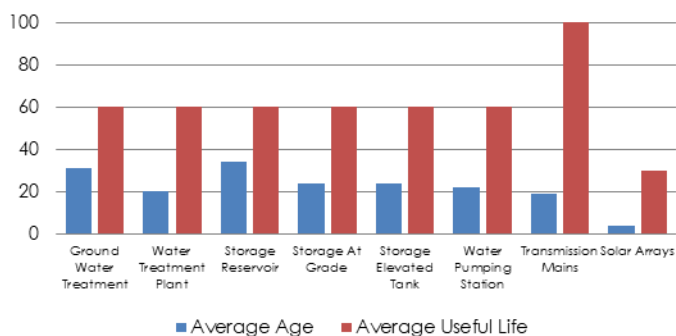
Portfolio Replacement Value Update

2018 Infrastructure Replacement Cost	$2,236.9 M
Changes since 2018	$65.80 M
Addition of solar arrays to portfolio	$0.75 M
New, replaced & upgraded assets	$1.50 M
Updated replacement value	$63.55 M
Decommissioned Assets	$0.0 M
2019 Infrastructure Replacement Cost	$2,302.7 M

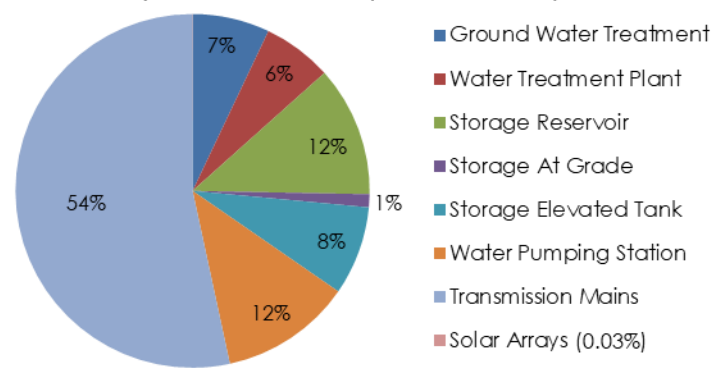The average asset has reached **30%** of its useful life

On average, **1.1%** of replacement value is spent each year on rehabilitation and replacement
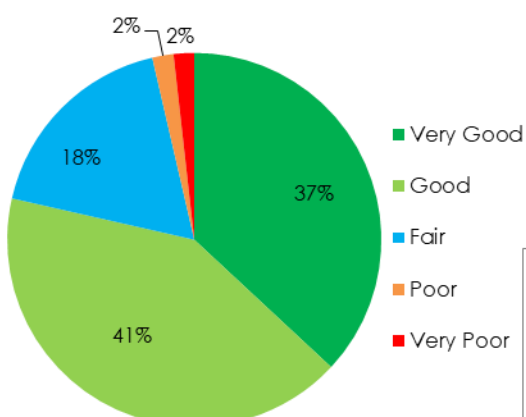
2019 Summaries

Average Age & Useful Life Expectancy

Legend: ■ Average Age ■ Average Useful Life

22 YRS Average Age — Average Remaining Life — **59 YRS**

81 YRS Average Expected Life

Replacement Value (% of Portfolio)

- Ground Water Treatment — 7%
- Water Treatment Plant — 6%
- Storage Reservoir — 12%
- Storage At Grade — 1%
- Storage Elevated Tank — 8%
- Water Pumping Station — 12%
- Transmission Mains — 54%
- Solar Arrays (0.03%)

Condition Grade

- Very Good — 37%
- Good — 41%
- Fair — 18%
- Poor — 2%
- Very Poor — 2%

96% of assets are in fair or better condition

100% of facilities included in inspections programs in 10 year capital plan

Of the 4% of assets in poor or very poor condition, all have been identified for rehabilitation or replacement projects. These assets include 2 reservoirs and 6 elevated tanks.

Future Outlook to 2022

The Region has several upcoming capital projects planned to maintain its ability to meet current and projected water demands, including:

- ➢ Elevated tank and Reservoir upgrades as determined through the Region's multi-year inspection program;
- ➢ Bayview Pumping Station upgrades; and
- ➢ Lake Simcoe Mussel Control Strategy.
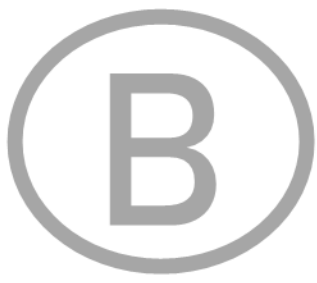
Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2022.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	B	→
Capacity	A	A	→
Condition	B	B	→
Financial	C	B	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Percent of urban properties serviced by the municipal water system	95%	95%	Servicing in town and village areas are considered urban, but often cannot be achieved cost-effectively
Number of unplanned service interruptions attributed to York Region infrastructure	0	3	Three minor service interruptions attributable to watermain breaks or watermain service connection work
Per cent of growth accounted for in servicing Master Plan	100%	100%	Life cycle costs for all identified growth infrastructure is included in this Corporate Asset Management Plan
Percent of samples that met Ontario Drinking Water Standard	100%	99.98%	More information regarding this metric is included in the Region's Annual Drinking Water Report
Number of boil water advisory notices per year attributed to York Region infrastructure failure	0	0	Boil water advisories are monitored through existing Integrated Management System indicators
Percent of urban properties serviced with fire flow by the municipal water system	100%	100%	Water System is planned and designed to provide fire protection
Infrastructure Replacement value per capita	Maintain with inflation (2018 Result: $1,877)	$1,940	Increased quantity of infrastructure directly results in higher lifecycle costs. Maintaining a consistent intensity of infrastructure generally indicates a stable and sustainable long term lifecycle need
Percent of infrastructure captured in the User Rate Study	100%	100%	This metric indicates the per cent of wastewater infrastructure that is accounted for in the most recent Council-approved rate study in 2015. Any infrastructure not included may result in a financial shortfall

B Transit
$1,748M

Asset Management Grading Strategy

This service area provides reliable, convenient and seamless travel across the nine local municipalities, and easy access to the Toronto Transit Commission and provincial GO Transit systems. It maintains the transit assets in a state of good repair. It also operates and maintains bus rapid transit assets on behalf of Metrolinx.

Advanced technologies are widely applied in the Transit branch to ensure efficient bus operations and data collections. Global Positioning System / Automatic Vehicle Location System (GPS/AVL), advanced customer service on-line and mobile applications, integrated PRESTO smart fare payment systems, Advanced Safety and Security Systems, Passenger Information Systems, Computer Aided Dispatch (CAD) Systems, and operations technology with bus pre-emption functions are examples of technology applications applied to the Transit Service. Transit conducts mandatory inspections on 25 per cent of its bus vehicles each quarter (allowing for all vehicles to be inspected each year) to ensure legislative compliance, safety and appearance. Each transit stop and terminal is inspected at various frequencies throughout the year and any deficiencies are reported as part of the inspection. Deficiencies are logged into "Bus Stop Manager" and Cityworks. This is in addition to issues registered from customer calls through the new Customer Relationship Management (CRM) system. Any deficiencies create a work order and are corrected in a timely manner.

Asset Portfolio

- 448 Conventional York Regional Transit (YRT) buses
- 115 Bus Rapid Transit (Viva) buses
- 27 Mobility Plus buses
- 6 Region Owned and 9 Leased Terminals
- 4 Garages
- 5,300+ Transit stops including platforms, shelters and coordinated street furniture
- Traffic assets, transit assets, and roadway assets including pavement

Changes in Asset Portfolio

Major items added include:
- **Toronto York Spadina Subway Extension (TYSSE) infrastructure – the Region does not own the TYSSE assets, and the cost valuation for TYSSE included in this report represents the Region's contribution to (benefit from) the subway extension project**
- **Continuous construction of bus rapidway lanes**
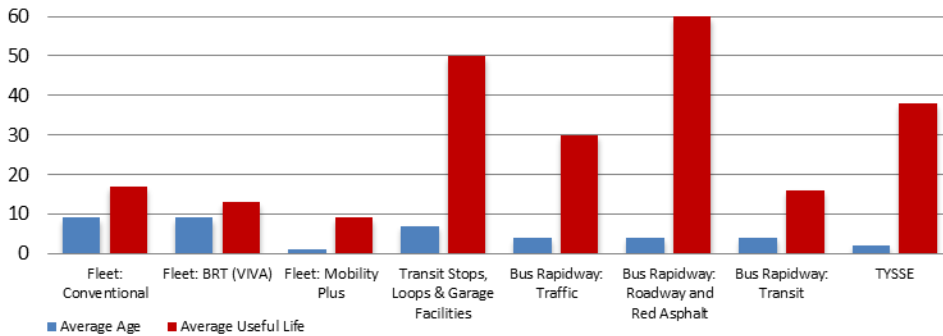- **Additional terminals and replacement of fleet**

Portfolio Replacement Value Update

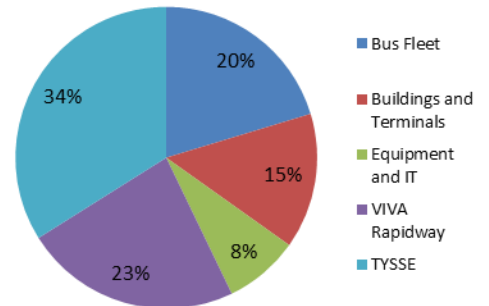|	
2018 Infrastructure Replacement Value	$1,084
Changes since 2018	$664
New, replaced & rehabilitated assets	$683
Updated replacement value	$0
Decommissioned Assets	($19)
2019 Infrastructure Replacement Value	$1,748

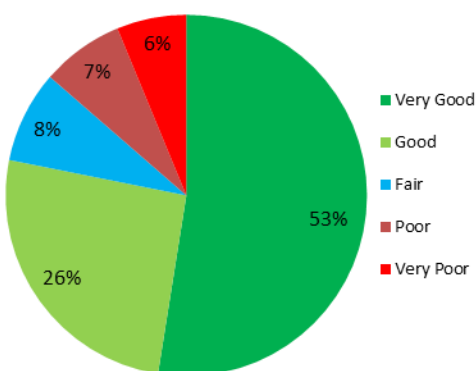The average asset has reached

25% of its useful life

2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

- Bus Fleet — 20%
- Buildings and Terminals — 15%
- Equipment and IT — 8%
- VIVA Rapidway — 23%
- TYSSE — 34%

7 YRS — Average Life — Average Remaining Life — 22 YRS

29 YRS
Average Expected Life

Condition Grade

- Very Good — 53%
- Good — 26%
- Fair — 8%
- Poor — 7%
- Very Poor — 6%

87% of assets are in fair or better condition

100% of bus fleet vehicles with end of life replacement scheduled in future budget

Of the 13% of assets in poor or very poor condition, all have been identified for rehabilitation or replacement in upcoming years. These assets are primarily bus fleet vehicles approaching end of their expected lives, which are scheduled for replacement.

Future Outlook to 2023

Transit has several upcoming capital projects planned to enhance its ability to meet current and projected public demands, including:
- Electric bus transition plan including vehicles and related supporting infrastructure
- 55 Orlando bus garage is being expanded in order to amalgamate southeast division fleet with BRT fleet and provide service from one Region owned facility
- Identification of future bus garage needs to support service growth
- Completion of bus rapidway (VIVA) constructions on Yonge St., in Richmond Hill
- Continue replacing end of life bus fleet vehicles
- Additional transit terminals

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	B	B	→
Condition	B	B	→

Level of Service Performance Card

Technical Level of Service	Target	2019 Results	Comments
On-time performance for conventional buses	90%	91%	This is an important measure of vehicle asset reliability, notwithstanding that other factors may affect on-time performance such as scheduling, traffic, etc.
On-time performance for VIVA buses	95%	93%	On-time performance service levels of VIVA rapidway buses were consistently above 95% from 2014 to 2017, whereas the performance was slightly under 95% for the year of 2019. Transit Services strives to improve the on-time performance for VIVA buses in future.
Mean Distance between Failures	14,000 ~16,000kms	>19,000kms	This is a measure of reliability that expresses the average distance travelled by the fleet before a reportable mechanical failure (i.e. incidents precluding a bus from completing its trip or starting its next scheduled trip). The greater the MDBF, the less the fleet is encountering mechanical issues. The Transit Branch has been consistently meeting and improving the targeted level of service for Mean Distance between Failures for the past five years.
Percentage of asset with a condition assessment rating of fair or better condition by replacement values	TBD	86%	Condition ratings by replacement values for all transit assets are included in the assessment, which cover buildings, terminals, bus stops, loops, bus fleet, equipment and IT, rapidways, and Spadina subway extension infrastructure. Bus fleet vehicles that are rated as Poor or Very Poor conditions indicate that their ages are close to or approaching the expected service lives, which does not necessarily reflect the actual operating conditions as all bus fleet vehicles are routinely maintained and inspected to ensure safe and reliable conditions. Transit Services plans to conduct garage building condition assessment in 2020/2021, following the previously completed assessment in 2017. The assessment cycle of 3-4 years is well in line with industry best practices. Condition assessment for various bus terminals was recently completed.
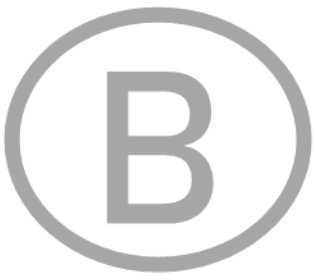
B Housing Services
$967M

Asset Management Grading Strategy

As Housing Service Manager, York Region funds more than 6,909 units, of which 2,860 are owned and managed by Housing York Inc., York Region's Municipal Housing Corporation.

Housing Service's asset management drivers are:

- Future population and asset growth;
- Aging infrastructure; and
- Asset Condition

To meet the increasing demands, Housing Services has planned for five additional developments over the next ten years.

Housing Services conducts building condition assessments through consultants to maintain up-to-date information on each facility on a five-year cycle. This helps with minimizing the lifecycle cost of each facility. In addition, Housing Services also conducts ASHREA level 2 energy audits for every facility on five-year rolling cycle.

Furthermore, Housing Services develops an annual capital plan based on a prioritization system using a risk assessment framework and updates Facility condition Index annually.

Asset Portfolio

- 4 Emergency and Transitional Housing Facilities
- 11 Low Rise Housing Apartment Buildings
- 20 Mid & High Rise Housing Apartment Buildings
- 7 Townhouse Complexes

Changes in Asset Portfolio

Major items added include:

➤ **The addition of Woodbridge Lane high-rise building has officially been added to the HYI portfolio adding an additional 162 units of affordable housing.**

Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$905M
Changes since 2018	$62M
New, replaced & rehabilitated assets	$44M
Updated replacement value	$923M
Decommissioned Assets	$0
2019 Infrastructure Replacement Value	$967M

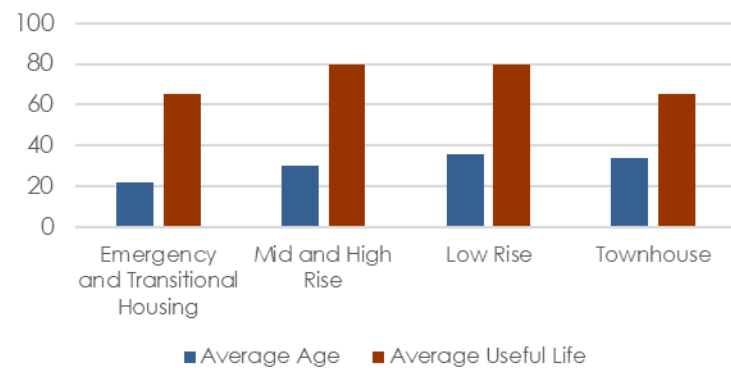The average asset has reached **37%** of its useful life
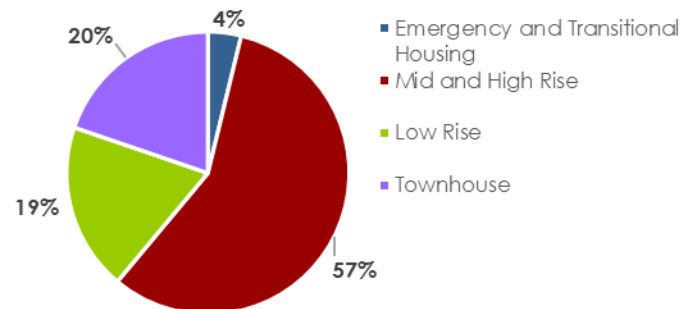
On average, **1.1%** of replacement value is spent each year on rehabilitation and replacement

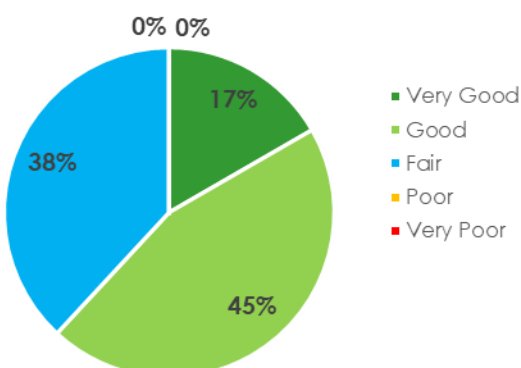### 2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

- 4%
- 20%
- 19%
- 57%

■ Emergency and Transitional Housing
■ Mid and High Rise
■ Low Rise
■ Townhouse

30 YRS — Average Age — Average Remaining Life — 42 YRS

73 YRS
Average Expected Life

Condition Grade

- 0% 0%
- 17%
- 38%
- 45%

■ Very Good
■ Good
■ Fair
■ Poor
■ Very Poor

62% of assets are in good or better condition

98% of facilities with asset management work scheduled in 10 year capital plan

Although housing uses a 5 scale grading scale, no facilities were identified as in poor or very poor condition

Future Outlook to 2023

The Region has several upcoming capital projects planned to enhance the housing stock, including:

- 265 seniors housing apartment units in Markham – anticipated construction completion 2022;
- 100 mixed housing apartment units in Whitchurch-Stouffville – Anticipated completion Q4 2022; and
- Passive house apartment units in Newmarket – Anticipated start 2022

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	B	B	→
Capacity	B	B	→
Condition	B	B	→
Financial			

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Number of housing units per Acre	TBD	27.7	This metric measures development potential
Facility Condition Index	5% or less	3.3%	This metric is defined as FCI (C+2yrs)= Deferred Maintenance Total (current year need) + Plan Years 1 & 2 (following current year) / Current Replacement Value
Facility Needs Index	TBD	N/A	This metric is defined as FNI (C+5yrs)= Deferred Maintenance Total (current year need) + Plan Years 1 to 5 (following current year) / Current Replacement Value. Future Level of Service
Renewal Investment Rate	1.7-2.5%	1.1%	Renewal investment rate is defined as average annual reinvestment over the next 10 years/current replacement value
Aesthetics	2 or less	1.9	This metric is defined as suitability of facility exterior and interior aesthetics
Amenities	2 or less	2.0	This metric is defined as availability and suitability of facility amnesties considering location, configuration and comfort

Detailed information about the level of service metrics are included in the Community and Health Services Asset Management Plan
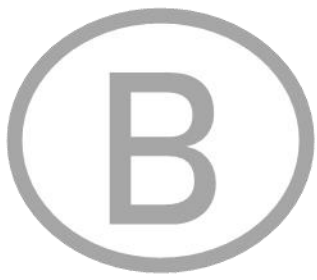
(B) Forestry
$531.8M

Asset Management Grading Strategy

York Region owns and manages a diverse network of planted and natural vegetation communities, and associated recreational and supporting infrastructure collectively known as green infrastructure.

York Region Natural Heritage and Forestry staff and contracted services monitor and maintain all Regional street trees to maximize the expected life. Management activities in the York Regional Forest are regularly undertaken to promote forest health & provide an exceptional visitor experience.

Forestry staff are currently engaged in proactive initiatives to study and prepare for the effects of climate change, invasive species, and urbanization.

Most assets are relatively new due to recent growth in the urban forest and construction of the Bill Fisch Forest Stewardship and Education Centre. Overall, the Region's Forestry assets are largely in good or very good condition.

Asset Portfolio

- Urban Forest: 69,311 street trees, 22,878 shrubs, and 46,941 perennials including landscaped boulevard and centre median planters

- York Regional Forest: 2,387 hectares including forested and non-forested areas, roads, parking facilities, trails, fences

- The Bill Fisch Forest Stewardship and Education Centre

Changes in Asset Portfolio

Major items added include:
- **2,500 street trees added to the inventory**
- **2.9 km of enhanced streetscape**
- **1 parking lot added to the Regional Forest**
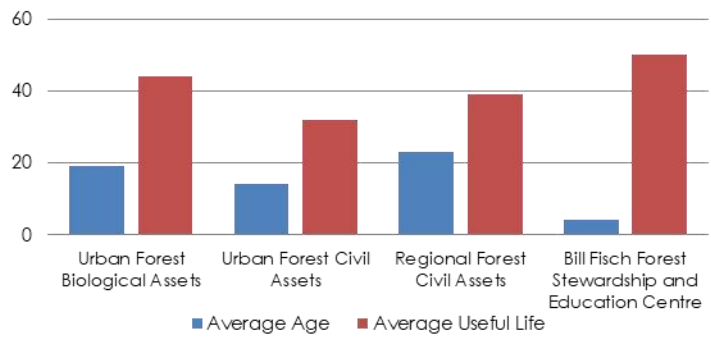
Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$516.4M
Changes since 2018	$15.4M
Addition of solar arrays to portfolio	0.4M
New, replaced & upgraded assets	TBD ($0.0M*)
Updated replacement value	$15.0M
Decommissioned Assets	$0.0
2019 Infrastructure Replacement Value	$531.8M

* Replacement Values for new assets are calculated by a third party during each Asset Management Plan update. The next plan update will develop a green infrastructure replacement cost model with functionality to calculate updated replacement values for new assets on demand.
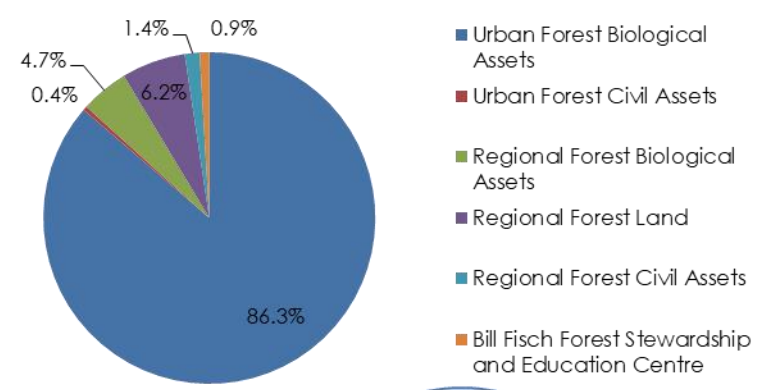
The average asset has reached **43%** of its useful life
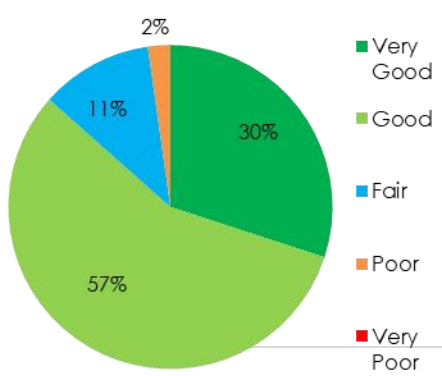
2019 Summaries

Average Age & Useful Life Expectancy

(Bar chart with categories: Urban Forest Biological Assets, Urban Forest Civil Assets, Regional Forest Civil Assets, Bill Fisch Forest Stewardship and Education Centre)
Legend: ■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

1.4% 0.9%
4.7%
0.4%
6.2%
86.3%

Legend:
- Urban Forest Biological Assets
- Urban Forest Civil Assets
- Regional Forest Biological Assets
- Regional Forest Land
- Regional Forest Civil Assets
- Bill Fisch Forest Stewardship and Education Centre

19 YRS — Average Life — Average Remaining Life — **24 YRS**

43 YRS
Average Expected Life

Condition Grade

2%
11%
30%
57%

Legend:
- ■ Very Good
- ■ Good
- ■ Fair
- ■ Poor
- ■ Very Poor

84% of street trees are in fair or better condition

100% of the York Regional Forest conforms to Forest Stewardship Council Certification criteria

The 2% of Green Infrastructure assets in poor condition are included in the York Regional Forest and Street Tree programs.

Future Outlook to 2022

The Region has several upcoming capital projects planned to enhance its ability to manage green infrastructure and meet its levels of service through:

➤ Expanding the existing GIS database of asset information

➤ Providing additional tree plantings

➤ Condition assessment of civil assets

➤ Updating the Green Infrastructure Asset Management Plan
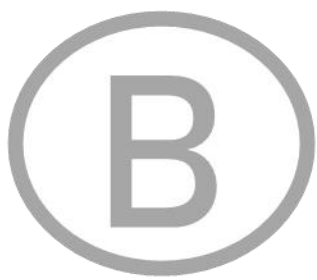
Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2022.

Criteria	Grade		Trend to 2022
	2018	2019	
Reliability	B	A	→
Capacity	B	B	→
Condition	B	A	→
Financial	-	-	

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Area of sensitive habitat protected	25% of the YRF area	32%	This metric assesses the land area protected through nature reserve areas and special management areas. These sensitive areas are identified as being significant in terms of biodiversity and/or uniqueness. Examples include forest communities, wetlands, meadows, etc. The Region identifies these areas through the Legacy Conservation Forests Strategy.
Percent area of forest regeneration to acceptable levels	> current	99%	This metric looks at proportion of the forest that is regenerating to acceptable levels. It is determined by the forest regeneration area versus the total forest area as recorded in the forest inventory database.
Percent conformance to FSC Regional standards	> 88%	100%	This metric looks at conformance with Forest Stewardship Council Certification criteria and it is determined by compliance with the standards set by the Forest Stewardship Council as auditied.
Length of trail available for recreational use (km)	TBD	150.67 km total trail length, including 4.3 km accessible trail length	This metric looks at the length of trails available for public use. It is measured by the number of km of trails available for use.
Percent of available planting space occupied by street trees	95%	78%	This metric is assessed by measuring the available planting area within urban Regional road right of ways that are occupied by street trees.
Percent of Street Trees in good or satisfactory health	90%	*84%	*This data is gathered every 5 years based on the most recent version of the York Region Street Tree Health Assessment Report. The number reported in this update is based on the results from the 2015 report. The results of the 2020 Street Tree Heath Assessment Report will be used to support the internal 2020 SOIR update.
Percent proportion of street trees by species as an indicator of resiliency to threats	Most commonly occuring species is less than 10%	Ivory silk lilac composes 10% of total amount of trees	This metric assesses the resiliency of the Urban Forest, specifically street trees to threats (e.g invasive species & climate change) by measuring the percentage of the street tree population comprised of a single species.
Net amount of water consumed per year (Bill Fisch Forest Stewardship and Education Centre)	0 litres	0 litres	Net water consumption is calculated based on quantity of water consumed from sources external to the property.

(B) Property Services
$517.3M

Asset Management Grading Strategy

In York Region, Property Services plans for growth and upgrade of Regional facilities, acquires property for Regional uses, manages capital construction projects, is responsible for facility maintenance and day to day building operations, including security and parking services.

Property Services strives to meet the principles of a consistent and coordinated approach to asset management by planning and implementing asset renewal strategies and projects.

Through these services, the Region:

- Provides safe and accessible facilities for public access to Regional Services and Council;
- Maintains facilities that promotes and makes possible the delivery of Regional services;
- Conducts prioritized condition assessments to monitor and maintain the facilities in a good state of repair to ensure a reliable asset base for Regional care facilities, paramedic stations and roads maintenance yards

Asset Portfolio

- 4 Administrative Office Facilities
- 5 Mixed Use Facilities
- 2 Long Term Care Homes
- 17 Paramedic Response Stations (owned)
- 5 Road Maintenance Yards

Changes in Asset Portfolio

Major items added include:

➢ **Paramedic Response Station # 25 Markham South East**
➢ **Paramedic Response Station # 16 Newmarket North West**

Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$494.9 M
Changes since 2018	$22.5 M
New, replaced & rehabilitated assets	$8.1 M
Updated replacement value	$14.4 M
Decommissioned Assets	$0.0
2019 Infrastructure Replacement Value	$517.3 M

The average asset has reached
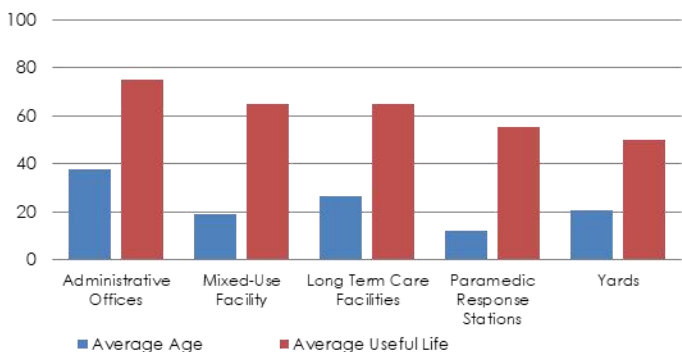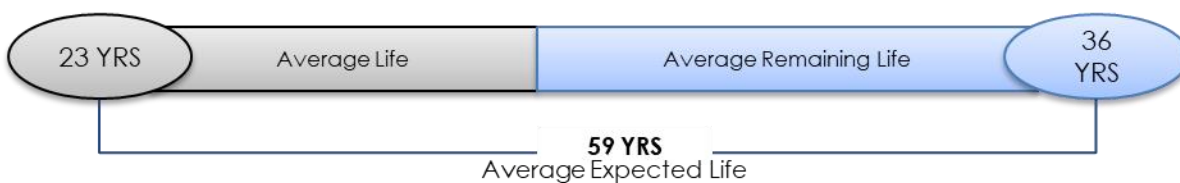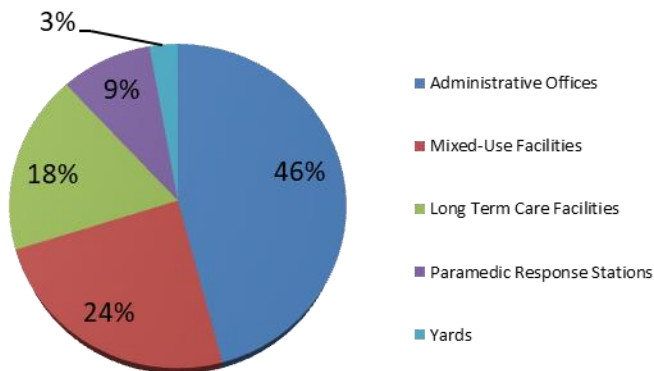
39%

of its useful life

On average,

1.1%

of replacement value is spent each year on rehabilitation and replacement

2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

- ■ Administrative Offices 46%
- ■ Mixed-Use Facilities 24%
- ■ Long Term Care Facilities 18%
- ■ Paramedic Response Stations 9%
- ■ Yards 3%

23 YRS — Average Life — Average Remaining Life — 36 YRS

59 YRS
Average Expected Life

Condition Grade

- ■ Very Good 5%
- ■ Good 75%
- ■ Fair 18%
- ■ Poor 2%
- ■ Very Poor
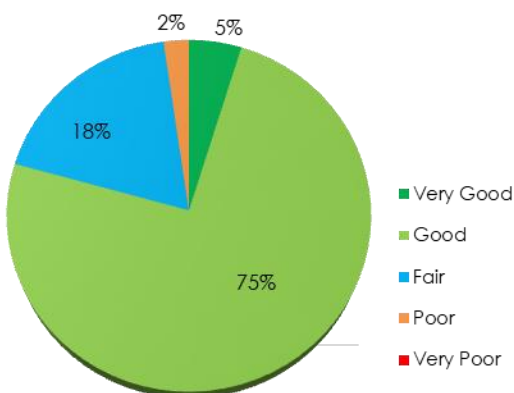
98%

of assets are in fair or better condition

By 2020, 17150 Yonge Street will increase the replacement value of the portfolio

by **51%**

Future Outlook to 2023

Property Services asset portfolio is expected to grow and the condition improve as new facilities are added to the portfolio, older outdated buildings are decommissioned and leased properties are replaced by owned:

➢ 17150 Yonge Street;
➢ (5) new Paramedic Response Stations; and
➢ Renovations to York Region Administrative Centre

Of the 2% of assets in poor condition, all have been identified for replacement projects. These assets include: 62 Bayview Parkway and 22 Prospect Street, both located in Newmarket.

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	B	B	↗
Capacity	C	C	↗
Condition	B	B	↗
Financial	Not Graded	Not Graded	

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Facility Condition Index: Administrative Offices and Mixed-Use Facilities	Maintain Facility Condition Index below 5% through ongoing BCA and renewal investment programs	3.9%	This industry standard indicator measures the total capital cost of backlog / deferred repairs at a facility, plus the projected capital needs for the next two years, to the current replacement value of the facility. The resulting ratio is used to determine the overall condition of the asset, and is used to guide investments within the portfolio
Facility Condition Index: Long Term Care Homes		3.8%	
Facility Condition Index: Paramedic Response Stations		2.2%	
Facility Condition Index: Road Maintenance Yards		3.8%	

B Police Services $276.7M

Asset Management Grading Strategy

York Regional Police (YRP) provides crime prevention and law enforcement in the nine local municipalities that comprise York Region.   YRP assets support its sworn and civilian members in providing these services. This plan specifically covers assets that supports police when responding to emergency calls.

YRP's goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers.

The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance
- Managing the impact of growth through demand management and infrastructure investment
- Taking a lifecycle approach to developing cost-effective management strategies for the long term that meet the defined level of service
- Identifying, assessing and appropriately controlling risks
- Linking to a long-term financial plan which identifies required, affordable expenditure and how it will be allocated

Asset Portfolio

- Seven Police-owned facilities
- Telecommunication Towers and Equipment
- Information Technology Assets (Hardware, IT Infrastructure and Applications)
- Fleet:
  o 711 Vehicles
  o One Helicopter
  o Seven Vessels
- Specialized Equipment
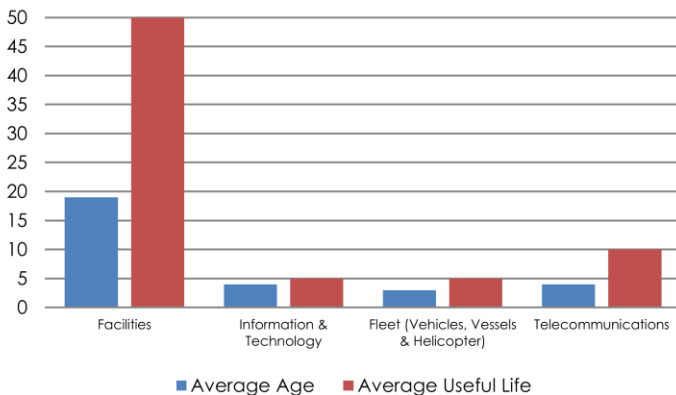
Changes in Asset Portfolio

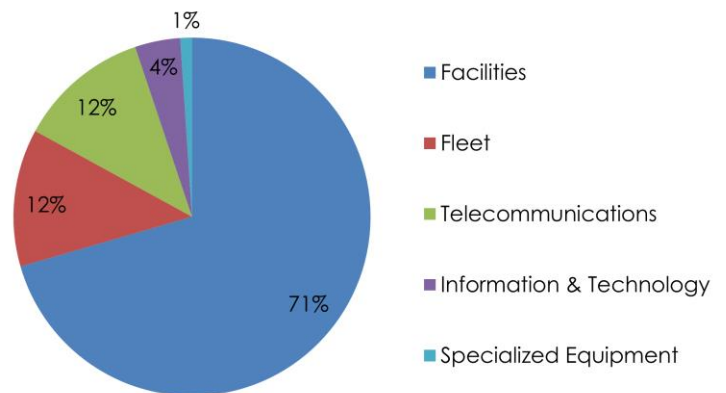➢ No Major Changes in Portfolio for 2018

Portfolio Replacement Value Update

2017 Infrastructure Replacement Value	$265.5
Changes since 2017	$0.0
New, replaced & rehabilitation assets	$11.7
Updated replacement value	$10.1
Decommissioned Assets	$10.6
2018 Infrastructure Replacement Value	$276.7

2018 Summaries (Based on 2017 Data)

Average Age & Useful Life Expectancy

Replacement Value (% of Portfolio)

Future Outlook to 2022

York Regional Police will continue to add new equipment and fleet assets to meet the region's growth. Future facility expenditures for YRP include the construction of a new #1 District Headquarters, and Marine Unit Headquarters. Renovations to current facilities are undertaken based on building condition assessments.

Condition Grade

(Based on 2017 Data)
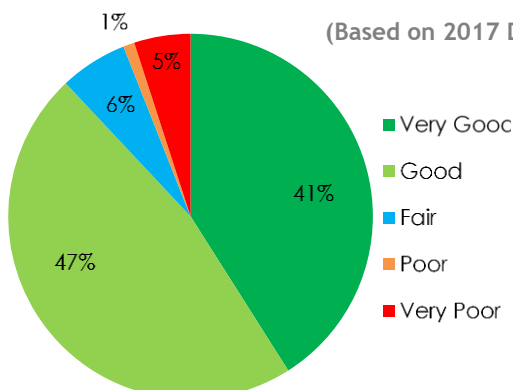
94% of assets are in fair or better condition

Buidling condition assessments are performed on YRP facilities every five years by an external consultant. In addition, preventative maintenance schedules are in place for YRP equipment, facilities and vehicles. For vehicles and helipcopters, maintenance schedules are being followed based on manufacturer recommendations.

State of Infrastructure Performance Card

The following table shows and describes the performance grades for the three criteria, for 2017, 2018 and the trend to 2022.

Criteria	Grade		Trend to 2022
	2017	2018	
Reliability	A	A	➜
Capacity	B	B	➜
Condition	B	B	➜
Financial	-	-	➜

B Waste Management
$175.1M

Asset Management Grading Strategy

This service area works in partnership with the Region's local municipalities to ensure proper disposal of solid waste. It also operates public drop-off depots for materials not managed at curbside such as electronic waste, scrap metal, and household hazardous waste.

York Region's Waste Management facilities are operated by third-party contractors. At the York Region Waste Management Centre and the Durham York Energy Centre, the contractors are required to perform regular assessments and undertake rehabilitation works necessary to ensure the facilities continue to operate at or above a stipulated level of service as specified in the operation agreements. The Contractor's maintenance activities are monitored by York Region and verified by independent third-party consultants.

At the public waste drop-off facilities, the Region manages condition assessments and undertakes rehabilitation work as required.

Asset Portfolio

- 2 Community Environmental Centres (each with a Household Hazardous Waste Depot)
- 2 standalone Household Hazardous Waste Depots
- 1 Transfer Station with a Household Hazardous Waste Depot
- 1 co-owned Energy from Waste Facility
- 1 Material Recovery Facility and Transfer Station

Changes in Asset Portfolio

➤ No facilities added to or removed from portfolio in 2019
➤ 15 pieces of mechanical equipment added to the Materials Recovery Facility
➤ 6 pieces of infrastructure were replaced or upgraded at drop-off facilities
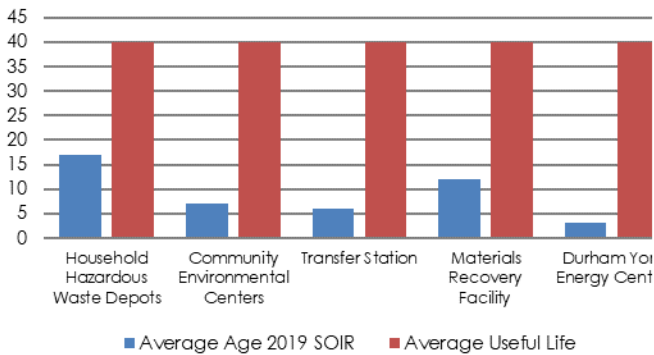
Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$168.5M
Changes since 2018	$6.6M
Addition of solar arrays to portfolio	$0.04M
New, replaced & rehabilitated assets	$1.7M
Updated replacement value	$4.9M
Decommissioned Assets	$0.0M
2019 Infrastructure Replacement Value	$175.1M

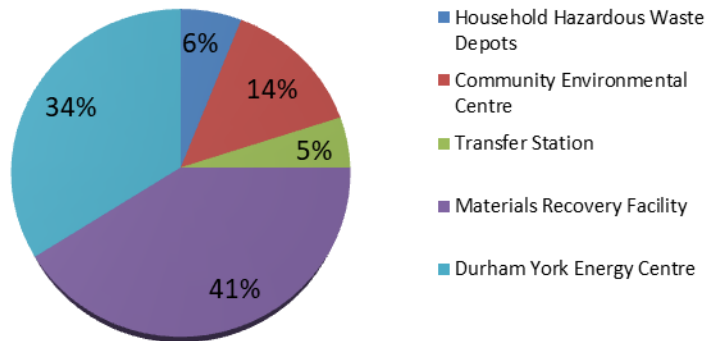The average facility has reached

21%
of its useful life

On average,

0.9%
of replacement value is spent each year on rehabilitation and replacement
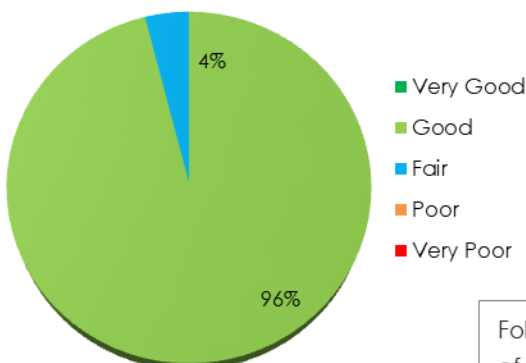
2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age 2019 SOIR   ■ Average Useful Life

Replacement Value (% of Portfolio)

- ■ Household Hazardous Waste Depots
- ■ Community Environmental Centre
- ■ Transfer Station
- ■ Materials Recovery Facility
- ■ Durham York Energy Centre

6% · 14% · 5% · 41% · 34%

8 YRS Average Age | Average Remaining Life | **32 YRS**

40 YRS Average Expected Life

Condition Grade

4% · 96%

- ■ Very Good
- ■ Good
- ■ Fair
- ■ Poor
- ■ Very Poor

100%
of facilities are in fair or better condition

The Region is in the process of amending existing approvals to increase the maximum annual processing limit from 140,000 to 160,000 tonnes per year at the Durham York Energy Centre. Additional processing can be accomplished using existing infrastructure with no capital upgrades.

Following recent rehabilitation and upgrade works, all of the waste management facilities are in fair or good condition. Condition assessments of all facilities will be completed within the next two years.

Future Outlook to 2023

The Region has several upcoming capital projects planned to enhance its ability to meet current and projected solid waste demands, including:

➤ Replacement and upgrades to equipment at the York Region's Waste Management Centre
➤ Replacement and upgrades to equipment at drop-off facilities

Asset Management Grading Strategy

The following table shows and describes the performance grades for the four criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	B	B	→
Condition	B	B	→
Financial	A	A	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Number of complaints due to performance/failure of the facility received per year from Local Municipalities/Customers	0/year	0	This metric looks at complaints filled by the Local Municipalities/Customers due to asset-related failures at the Region's waste management facilities.
Number of Environmental Compliance Approval (ECA) compliance issues due to performance/failure of the facility	100% compliance	100%	By law, the Region must meet the specified asset monitoring/maintenance conditions set out in the ECA for each of it's waste management facilities.
Per cent of solid waste diverted from landfill	90%	94%	The Region must report annually to the MOECP on its diversion rate to satisfy the DYEC ECA. In 2019, the Region achieved a 94% diversion from landfill rate, surpassing the target of 90% established in the Official Plan.
Number of public or staff Health, Safety & Environment issues due to performance/failure of the building, facility equipment or roadways	100%	100%	By law, the Region must provide a safe and healthy workplace for staff as per Ontario's Occupational Health & Safety Act. Under the ISO 14001 program, the Region has operation and emergency procedures that developed to protect public, staff and environment.
Availability of facility to receive (if applicable) materials delivered by Local Municipalities/Customers	100%	100%	The Region has service agreements with each of the Local Municipalities/Customers. This includes the ability of the Region to receive municipal curbside waste (garbage, blue box recyclables, and source separated organics) as agreed/stated.
Tonnes of materials delivered less than available receiving capacity	No more than 140,000 tonnes/year (system capacity)	Processed approximately 78,000 tonnes	The Region's Materials Recovery Facility can process up to 140,000 tonnes of blue box recyclables annually. Sufficient processing capacity remains available as the facility processed approximately 78,000 tonnes of recyclables from Local Municipalities in 2019.

(B) Information Technology Services $73.8M

Asset Management Grading Strategy

York Region staff rely on the Region's technology infrastructure to perform crucial daily business activities. Our technology infrastructure enables staff to quickly connect to hardware, software, data, and citizens in order to deliver the Region's services.

The Finance department's Information Technology Services (IT Services) branch is responsible for building, operating and maintaining the Region's corporate technology infrastructure. This includes procuring, operating, maintaining and disposing of the end-user devices, network switches, firewalls, routers, servers, software and data centres that make up the technology infrastructure.

A technology asset's condition is primarily determined based on its age.

Generally, after the asset has been in use for a pre-specified amount of time, it is replaced through a scheduled equipment refresh. However, an asset's age is not always fully indicative of its condition. Assets that are functioning well and continue to provide the expected level of service can remain in use past their scheduled refresh date. Likewise, assets that are not providing the expected level of service may be removed from service before the scheduled refresh date.

The IT Services branch provides reliable technology infrastructure, end-user devices and support services that meet the Region's requirements and capacity demands, enabling departments to provide their services to citizens.

Asset Portfolio

- 18,363 Computers (including Monitors & Docking Stations)
- 979 Printers
- 5,375 Cellular (Mobile Phones, Pagers & Wireless Modems including Machine to Machine)
- 8,687 Network & Data Centre (includes Network Switches, Phones, Firewalls, Routers, Servers & Storage)
- Software (applications, systems etc.)

Changes in Asset Portfolio

Major item added:
➢ Software assets - $24.8M (not evaluated in 2018 SOIR)

Portfolio Replacement Value Update (ITS owned and managed technology)

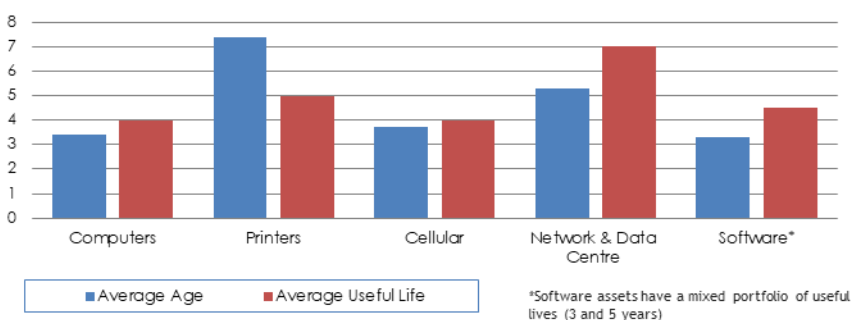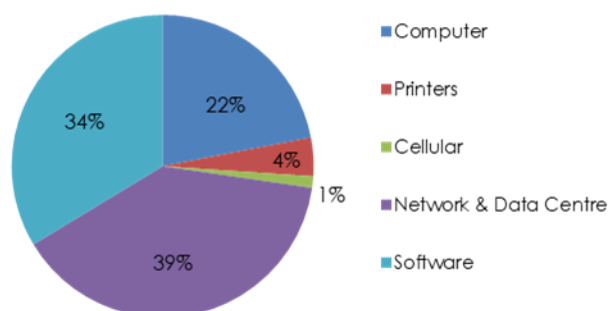|	
2018 Infrastructure Replacement Value	$42.3M
Changes Since 2018	$31.5
New, Replaced & Rehabilitated Assets	$5.97
Decommissioned Assets	$3.53
2019 Infrastructure Replacement Value	$73.8

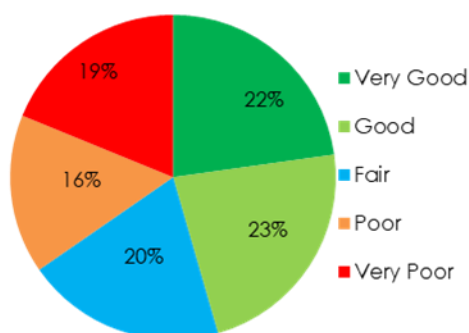The average asset has reached

94%

of its useful life

2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age   ■ Average Useful Life

*Software assets have a mixed portfolio of useful lives (3 and 5 years)

Replacement Value (% of Portfolio)

- ■ Computer — 22%
- ■ Printers — 4%
- ■ Cellular — 1%
- ■ Network & Data Centre — 39%
- ■ Software — 34%

4.6 YRS — Average Age — Average Remaining Life — 0.3 YRS

4.9 YRS
Average Expected Life

Condition Grade

- ■ Very Good — 22%
- ■ Good — 23%
- ■ Fair — 20%
- ■ Poor — 16%
- ■ Very Poor — 19%

65.7% of assets are in fair or better condition

Of the 19% of assets considered to be in "very poor" condition, a large majority are software and PC monitors that are being used beyond their expected life because their performance continues to meet the end user's expectations. The current printer fleet also accounts for a significant portion of the "very poor" assets; 57% of the Region's printers are in very poor condition. Ongoing refresh projects in 2020 will continue to address these assets.

Future Outlook to 2023

Technology is constantly changing and improving, resulting in a short lifespan for technology assets. This, along with the need to move, re-assign, decommission and replace assets during their lifecycle, makes it challenging to track inventory. The short lifespan also makes long-term planning challenging, since predicting what technology may look like in the next three to five years is difficult.

In the future, IT Services is looking to perform a disaggregated analysis of the Region's software & monitor assets they exhibit different useful lifespans than others within the same asset class.

Asset Management Grading Strategy

The following table shows the performance grades for the four criteria for 2018 and 2019, and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	B	A	→
Capacity	A	A	→
Condition	B	B	→
Financial	B	B	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Replace aged assets that have reached beyond useful life	80%	92.2%	Timelines for the replacement of aged printers were impacted by the finalization of a procurement and contract with a new vendor. The scheduled PC Refresh has progressed well and exceeded plans. The future outlook continues to be promising.
Resolve incidents reported to the Service Desk in a timely manner	60% resolved < 1 day	• <1 day 70% • <1 week 13% • <2 weeks 7% • <1 month 5% • >= 1 month 5%	Service provided meets the requirements of the organization.
Out-of-warranty repairs to Computers are done in a timely and fiscally responsible manner	Less than 5%	1.6%	Service provided meets the requirements of the organization.
Provide a reliable & available IT technology infrastructure that meets the demands of the organization	99.9% Uptime	99.99%	Service provided exceeds the requirements of the organization.

A

Paramedic Services
$26.9M

Asset Management Grading Strategy

In York Region, Paramedic Services sits within the Paramedic and Seniors Services branch of the Community and Health Services department.

Through Paramedic Services, the Region provides emergency and non-emergency medical response for the Municipalities within York Region, including:
- patient assessment, lifesaving treatment, and monitoring
- safe and timely transport to appropriate facilities for continuing medical care.

In addition to the ongoing proactive maintenance and monitoring carried out by staff, the Region adheres to strict legislative and regulatory requirements related to its fleet and equipment.

Service planning is guided by a 10-Year Resources and Facilities Master Plan. This plan identifies optimal station locations, staffing and vehicle requirements over a 10 year period to meet the needs of the Region's growing population. It is based on factors such as population trends, roadway development and travel time.

Asset Portfolio

- 17 Paramedic Response Stations (Reported under Property Services)
- 66 Ambulances
- 31 Rapid Response Units
- 283 Equipment (Defibrillators, Stretchers, Stair Chairs)
- 4 Trailers
- 1 Emergency Support Units
- 4 Special Response Units
- 1 Multi Patient Ambulance
- 2 Logistics Vehicles

Changes in Asset Portfolio

➤ Annual Replacement Schedule for vehicles and equipment
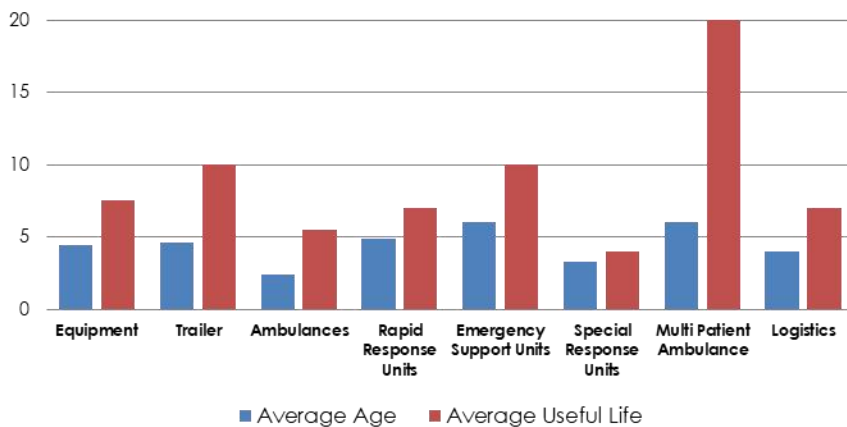
Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$23.2
Changes since 2018	$3.7
New, replaced & rehabilitation assets	$4.0
Updated replacement value	$1.1
Decommissioned Assets	$2.9
2019 Infrastructure Replacement Value	$26.9

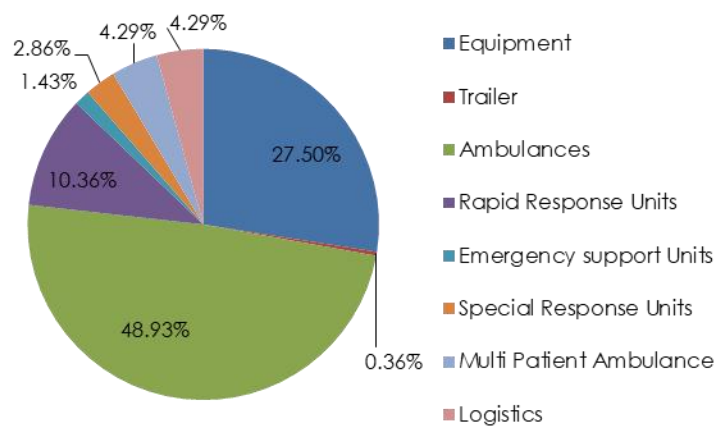The average asset has reached **8%** of its useful life

On average, **4.4%** of replacement value is spent each year on rehabilitation and replacement
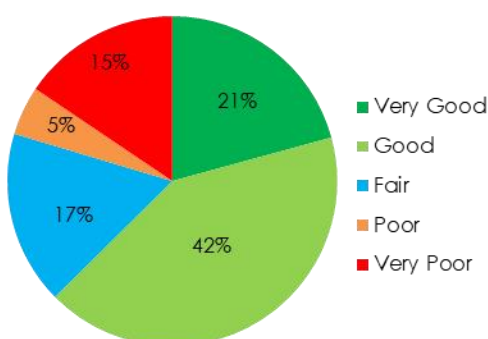
2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age   ■ Average Useful Life

Replacement Value (% of Portfolio)

- ■ Equipment — 27.50%
- ■ Trailer — 0.36%
- ■ Ambulances — 48.93%
- ■ Rapid Response Units — 10.36%
- ■ Emergency support Units — 1.43%
- ■ Special Response Units — 2.86%
- ■ Multi Patient Ambulance — 4.29%
- ■ Logistics — 4.29%

8.9 YRS	Average Life	Average Remaining Life	0.5 YRS

7.6 YRS
Average Expected Life

Condition Grade

- ■ Very Good — 21%
- ■ Good — 42%
- ■ Fair — 17%
- ■ Poor — 5%
- ■ Very Poor — 15%

80% of assets are in fair or better condition

Of the 20% of assets in poor or very poor condition, all have been identified for rehabilitation or replacement projects. These assets include 1 ambulances, multiple rapid response vehicles, and medical equipment. The medical equipment has been identified as poor based on the manufacture's recommended lifecycle.

Future Outlook to 2023

The Region has several upcoming capital projects planned to enhance its ability to meet current Paramedic Response times:
➤ Continue to replace medical equipment based on annual replacement program; and
➤ Update the 10-year Facility and Resources Master Plan to replace response vehicles and increase spare ratio.

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	A	A	→
Condition	B	B	→
Financial	-	-	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Emergency Response Time – Sudden Cardiac Arrest AED within 6 minutes	>60%	66%	Servicing in town and village areas are considered urban, but often cannot be achieved cost-effectively
Emergency Response Time – Canadian Triage and Acuity Scale (CTAS)1 : 8 minutes	>75%	76%	
Emergency Response Time – CTAS 2: 10 minutes	>80	83%	
Emergency Response Time – CTAS 3: 15 minutes	>90%	90%	
Emergency Response Time – CTAS 4: 20 minutes	>90%	93%	
Emergency Response Time – CTAS 5: 25 minutes	>90%	95%	
Standby Fleet	45%	32%	This is below target. The services will be exploring how to increase the standby fleet ratio.
Asset Renewal Rate – Percentage of assets beyond replacement year – Ambulances and vehicles (except logistics) and Equipment	0%	2.8%	For some assets such as stretchers PSS extends life through upgrades and preventative maintenance measures.
Service Interruptions - % uptime of systems ePCR (Electronic Patient Computer Recording)	99.9%	100%	
Unscheduled Maintenance	TBD	N/A	Future Level of Service

(A) YORKNET

$25.3M

Background

YorkNet (formerly YTN) is a wholly-owned subsidiary of the Region, incorporated on August 9, 2017 under the Business Corporations Act (Ontario).

YorkNet is responsible for the planning, acquisition/construction, maintenance, renewal and disposal of the Region's fibre assets. However, the Region will retain ownership of the assets in the medium term, as the network is built out or until otherwise determined.

The mandate of the corporation is to:

- Ensure connectivity of Regional facilities to enable efficiency and service delivery
- Assist MUSH sector (Municipalities, Universities, Schools, Hospitals) partners with connectivity needs
- Forster relationships with third party service providers to facilitate connectivity and economic development

The Region began building the fibre network in 2002 to link its facilities and other infrastructure, and by 2019 the network consisted of almost 300 kilometres of fibre along Regional roads.

Asset Portfolio

- 275 kms of fibre cabling
- 211.1 kms of conduit
- 327 Splice Enclosures
- 258 Gators
- 135 Patch Panels
- 13 Manholes
- 1,147 Handwells

Current asset inventory and past replacements have been estimated using the Region's accounting records and YorkNet's work order records. Internal YorkNet records provide an approximate value of the inventory of fibre.

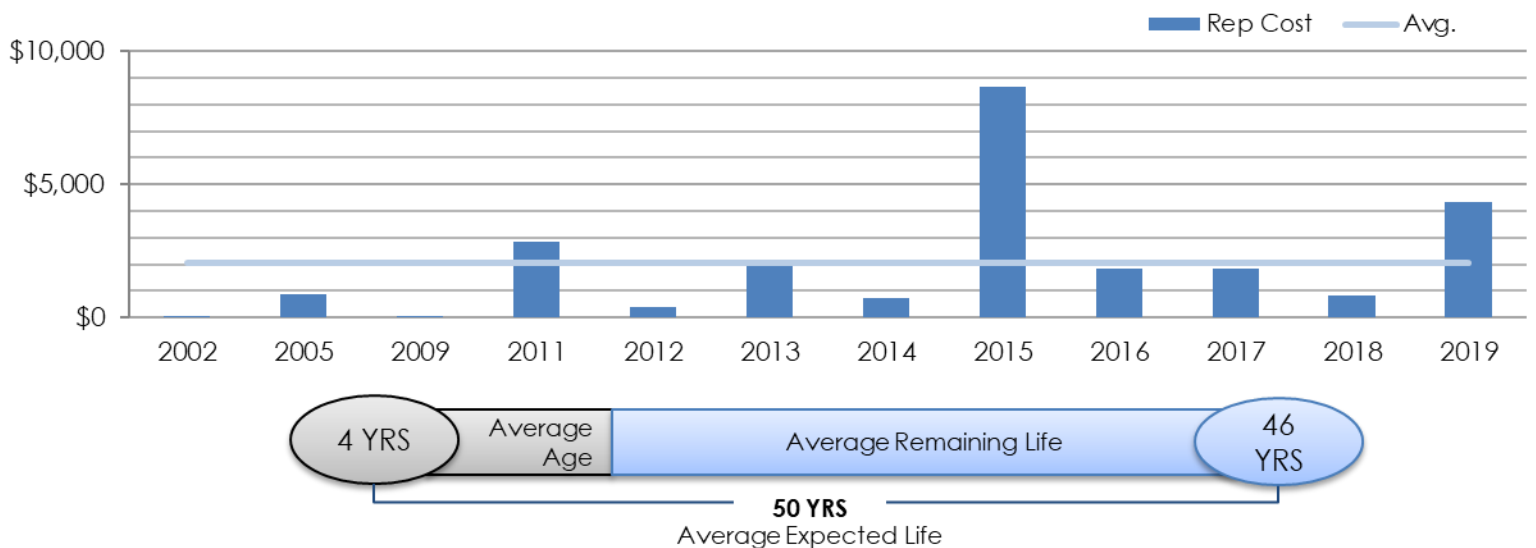## Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$20.1
Changes since 2018	$5.2
New, replaced & rehabilitated assets	$5.2
Updated replacement value	$0.0
Decommissioned Assets	$0.0
2019 Infrastructure Replacement Value	$25.3

The average asset has reached
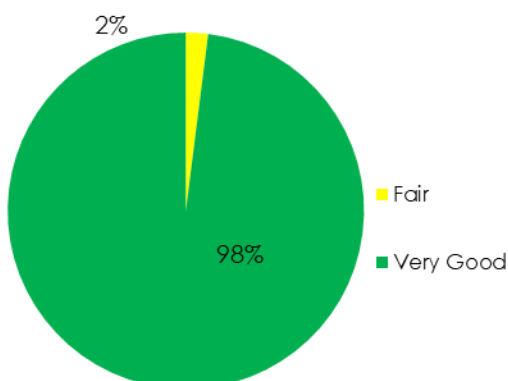
8%

of its useful life

On average, **1%** of replacement value is spent each year on rehabilitation and replacement with plans to increase this to **2%** over the next 5 years.

2019 Summaries

Replacement Cost by Year of Construction $000's

Legend: Rep Cost — Avg.

4 YRS | Average Age | Average Remaining Life | 46 YRS

50 YRS
Average Expected Life

Condition Grade

2%
98%
Fair
Very Good

Overall, dark fibre assets are in very good condition. It is anticipated that through repairs and upgrades, the overall grade will remain stable over the next 5 years.

Future Outlook to 2023

Future asset requirements are primarily focused on continuing to build the network as quickly as possible. By 2023, the network will have more than doubled in size going from 200 kms to more than 500 kms through the following initiatives:

- Connect to Innovate
- Fibre construction in Vaughan and Markham
- Fibre Swaps

In addition, YorkNet will be making increased investments in maintenance and repairs while also contributing to long-term asset management reserves.

Asset Management Grading Strategy

 The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	B	B	→
Condition	A	A	→
Financial	A	A	→

Level of Service Performance Card

As a new corporation, YorkNet is working to better define both existing and future service levels across the network. Fibre provides the Region with characteristics such as virtually unlimited bandwidth capabilities, rapid scalability to meet changing demands, network control, and increased cloud and big data capabilities. Service levels are based around providing uninterrupted services, increased connectivity, and enhanced network efficiency and speed. All of which depend on expanding the fibre network. Therefore, future asset requirements are primarily focused on continuing to build a network that achieves the greatest number of connections in the shortest amount of time.

Condition assessment is based on age and routine maintenance monitoring. As detailed earlier, YorkNet fibre assets are still relatively new and inspections and preventative maintenance work, repairs due to deterioration or unforeseen /emergency events, location calls to prevent accidental damage, and relocations to accommodate changes in surrounding assets are ongoing to maintain current service levels. All of these activities are expected to increase as the system expands.

A

Senior Services (Long-Term Care) $7.3M

Asset Management Grading Strategy

York Region owns and operates two municipal Long-Term Care Homes (Newmarket Health Centre and Maple Health Centre).

Newmarket Health Centre has 132 long-term care beds (119 long stay, 19 convalescent care and 3 respite care).

Maple Health Centre has 100 long-term care beds (82 long stay, 15 convalescent care and 3 respite care).

Through these services, the Region provides:

- resident assistance with activities of daily living
- 24-hour nursing and personal care
- on-site supervision and monitoring to ensure the safety and well-being of residents.

In addition to the ongoing proactive maintenance and monitoring carried out by staff at both facilities, the Region develops an annual asset replacement program based on asset lifecycle.

Asset Portfolio

- 2 Long Term-Care Homes (Reported under Property Services)
- 196 Interiors- Flooring
- 196 Interiors – Doors, Walls, Ceilings
- 200 Services – Plumbing, Fire Protection
- 150 Equipment – Communications*
- 32 Equipment – Environmental*
- 109 Equipment – Kitchen
- 271 Equipment – Lifts, Scales
- 1157 Equipment – Other*
- *Count of inventory may be understated as some assets are pooled and not

Changes in Asset Portfolio

➢ No major changes to portfolio for 2019
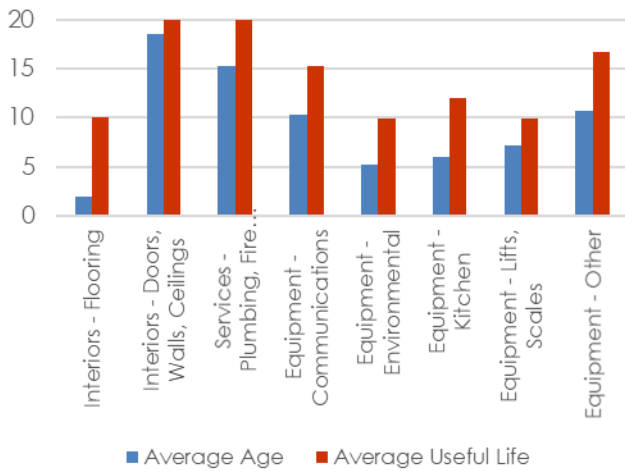

Portfolio Replacement Value Update

2018 Infrastructure Replacement Value	$7.0M
Changes since 2018	$268,325
New, replaced & rehabilitation assets	$128,015
Updated replacement value	$140,310
Decommissioned Assets	$0
2019 Infrastructure Replacement Value	$7.3M

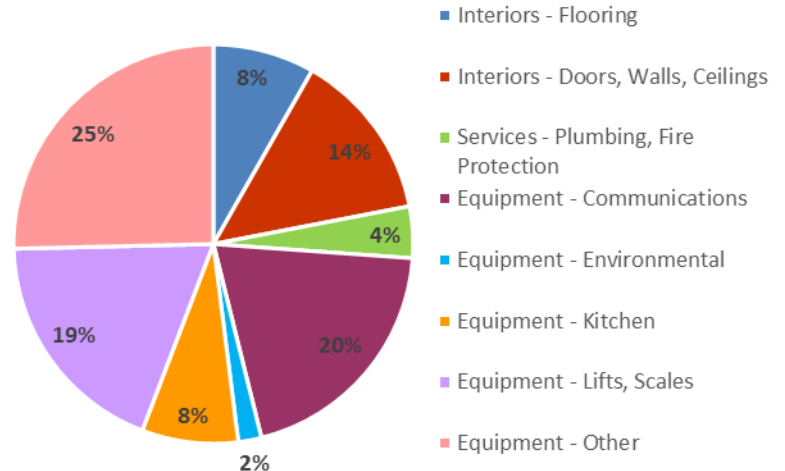The average asset has reached **61%** of its useful life

1.8% of replacement value was spent each year on rehabilitation and replacement
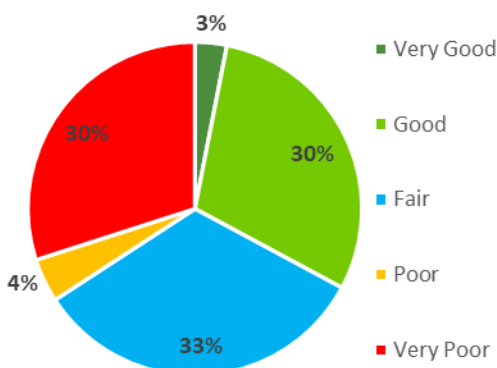
2019 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

- Interiors - Flooring
- Interiors - Doors, Walls, Ceilings
- Services - Plumbing, Fire Protection
- Equipment - Communications
- Equipment - Environmental
- Equipment - Kitchen
- Equipment - Lifts, Scales
- Equipment - Other

8 YRS — Average Age | Average Remaining Life — 5 YRS

14 Years
Average Expected Life

Condition Grade

- Very Good
- Good
- Fair
- Poor
- Very Poor

39% of assets are in fair or better condition

Of the 61% of assets in poor or very poor condition, all have been identified for rehabilitation or replacement projects. These assets include: the nurse call system, resident beds, ceiling lifts, and kitchen equipment.

Future Outlook to 2023

The Region has several upcoming minor capital projects planned in accordance with the asset replacement schedule. These includes, but limited to:

➢ Nurse Call system
➢ Resident beds
➢ Ceiling lifts
➢ Kitchen Equipment
➢ Flooring in resident rooms

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2018, 2019 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2018	2019	
Reliability	A	A	→
Capacity	A	A	→
Condition	B	B	→
Financial	-	-	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2019.

Technical Level of Service	Target	2019 Results	Comments
Asset Renewal Rate – Wandering Alert, Nursing Call systems, beds	0%	33.4%	This metric is defined as Percentage of assets beyond replacement year. The 2019 results exceed the target as the Nursing Call systems are being replaced at both homes.
Asset Renewal Rate – Mattresses, tubs, kitchen, cleaning, laundry equipment, wireless phone	15%	13.6%	This metric is defined as Percentage of assets beyond replacement year.
Service Interruptions – Wandering Alert System	100%	99%	This metric is defined as % uptime of systems.
Service Interruptions – Nurse Call System	100%	99.9%	This metric is defined as % uptime of systems.
Work Requests for Functional Issues	TBD	N/A	Future Level of Service.
Efficiency	TBD	N/A	This metric is defined as operating cost per long term care facility bed day. Future level of Service.

Detailed information about the level of service metrics are included in the Community and Health Services Asset Management Plan

4. Conclusion

As of Dec 2019, York Region owned and managed over $15.9 billion worth (replacement value) of infrastructure assets, which are vital to support the range of services delivered to the community. This replacement value has grown by over 60% from the time reported in the Region's first State of Infrastructure Report in 2013 and is expected to continue to grow to meet future population and economic growth demands.

The Region's population is expected to grow by 25% to 2031. Infrastructure systems will continue to expand and become more complex. To further improve the Region's future state of infrastructure reporting key focus should be met on the following:

- Create quantifiable measures to determine grades;
- Improve on asset condition evaluation methods; and
- Continue to put resources towards asset management.

The current state of data quality, confidence and gaps were identified. Each asset group has its own data methodology for assessing and evaluating the state of inventory and performance data. To ensure usefulness of the state of infrastructure reports robustness of the collected data needs to be verified and confirmed. This can be accomplished through the use of standard data sources, data standards and assurance programs. Reporting structures must be planned and set up to present data inventory on a regular and consistent basis. To achieve this, frequency of reporting must be decided and agreed within the Service Areas. Data improvement opportunities have been identified:

- Greater effort on data collection and consolidation by each Service Area through identification of standard data sources;
- Agree on data standards with the Service Areas (e.g., data should be verifiable, timely, and comparable over time); and
- Launch data quality and assurance programs ensure that data quality is not compromised, and meaningful decisions can be made through it.

The next State of Infrastructure Report is proposed in 2021. As each service area is unique, it has its own methodology for assessing and evaluating their state of inventory and performance data as it relates to the service area's levels of service and service area strategy. Overall grading of dissimilar assets groups and data roll up should be taken under caution as misinterpretation can result (E.g. Some assets may have a condition of very poor however, the risk of failure and service impact is low therefore the strategy may be to do nothing or run to failure).

5. Appendices

Table 1 – Performance Criteria Definitions

Reliability	***Measures the quality of service of the infrastructure delivers****. The grade reflects factors such as regulatory standards, risk, health and safety, and security.*
Capacity	***Measures the capacity available to meet servicing needs,*** *which generally declines as demand for services rises. The grade considers both current and projected demand.*
Condition	***Measures the physical condition,*** *which generally declines as infrastructure ages. The grade is based on observed damage and deterioration.*

Table 2 – Grading Definitions

Grade		Definition
(A)	Very Good	***Fit for the future:*** *Well maintained, good condition, new or recently rehabilitated.*
(B)	Good	***Adequate for now:*** *Acceptable, generally approaching mid-stage of expected service life.*
(C)	Fair	***Requires attention:*** *Signs of deterioration, some elements exhibit deficiencies*
(D)	Poor	***Increasing potential of affecting service:*** *Approaching end of service life, below standard, significant deterioration.*
(F)	Very Poor	***Near of past service life:*** *advanced deterioration, assets may be unusable.*

Table 3 – Forecast Future State Definitions

↗	***State is expected to improve:*** *infrastructure investments and asset management practices are improving in order to rehabilitate and replace aging infrastructure.*
→	***State to be maintained:*** *infrastructure investments and asset management practices are established and the performance of assets is expected to be steady in order to maintain the grade.*
↘	***State expected to degrade:*** *infrastructure may be at risk – opportunities exist to improve future asset performance to prevent a declining grade.*