2020 STATE OF THE INFRASTRUCTURE REPORT

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

York Region

Contents

1. Introduction

In 2018, York Region Council adopted both an update to the Corporate Asset Management Policy and 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. The Policy details the Region's Asset Management objectives and strategic steps to achieve them, as well as roles and responsibilities critical to successful implementation of the Region's asset management programs. Responsibility of asset management is shared across Regional departments and all planning, delivery, operations, maintenance and monitoring functions therein to effectively and continually assess, evaluate and improve asset management programs while delivering services to residents and businesses.

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
- 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

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 2020 portfolio replacement figure at the end of Q4 of 2020 was $16.9 billion.

The increase is due to several variables. See Table 2.2 for insights into portfolio changes.

2. 2020 Corporate State of Infrastructure Report Summary

The 2020 Corporate State of Infrastructure Report provides an understanding of the assets owned by the Region that are used to support each service area. This summary provides an overall analysis of how well the Region's infrastructure performed and a snapshot of the current service offerings and future outlook.

2.1 York Region 2020 Results

Replacement Cost **$16.9B**   Grade **A-**   Trend →

The total 2020 replacement cost of assets is $16.9 billion. The average performance grade is a A- with an overall "Maintain" trend.

2.2 York Region Service Areas ($16.9 Billion)

The following table provides a summary of 2020 replacement values by service area:

Service Area	2020 Replacement Cost ($ M)	2019 Replacement Cost ($ M)	YOY Change ($ M)	Summary of Changes to Replacement Costs
Wastewater	$5,320.0	$5,192.4	$127.6	Replacement cost increase over the previous year is due to indexing costs from 2019 Q4 to 2020 Q4. Environmental Services reviews and updates its replacement cost models on a regular basis to reflect changing conditions and new information.
Roads	$4,148.0	$4,040.0	$108.0	Major items added to the portfolio include: • Leslie Street improvement from Wellington St. to St. Johns SDRD (2kms), including 2 new structural culverts • Continue preserving and rehabilitating various Regional roads and bridge structures • Continued upgrading traffic control systems
Water	$2,359.0	$2,302.7	$56.3	Replacement cost increase over the previous year is due to indexing the costs from 2019 Q4 to 2020 Q4. Environmental Services reviews and updates its replacement cost models on a regular basis to reflect changing conditions and new information.
Transit	$2,063.0	$1,748.0	$315.0	Major items added to the portfolio include: • Continue improvements on buildings / garages / terminals, including purchasing of Newmarket Terminal in February 2020 • Replacement and addition of bus fleet, particularly adding six new electric buses for the first time in the Region • Upgrade of Transit Management Centre operation system and Transit Signal Priority (TSP) on board systems • Completion of VIVA bus rapidway lanes on Yonge St. in Richmond Hill and Bathurst St. / Centre St. in Vaughan / Richmond Hill
Housing Services	$1,002.0	$967.0	$35.0	Replacement cost increase over the previous year is due to indexing the costs from 2019 Q4 to 2020 Q4.
Property Services	$816.8	$517.3	$299.5	Major items added to the portfolio include: • 17150 Yonge Street, York Region Administrative Centre Annex • 10988 Warden Avenue, South East Rural Roads Maintenance Facility
Forestry	$544.9	$531.8	$13.1	Major items added to the portfolio include: • 1,883 street trees • 1.25 km of enhanced streetscape • 1,245 m of new access trails • 1 parking lot added to the Regional Forest
Police Services	$349.3	$276.7	$72.6	A major item added to the portfolio includes: • New Marine Facility opened 2020

|				
Waste Management	$179.5	$175.1	$4.4	Replacement cost increase over the previous year is due to indexing costs from 2019 Q4 to 2020 Q4.
Information Technology	$72.2	$73.8	$-1.6	Major items added to the portfolio include: • Retired assets across all asset classes - $10.6M • 51 Network sites added
YorkNet	$37.3	$25.3	$12.0	Added approximately 120 kms of fibre to the network in 2020. This network growth represents critical infrastructure that supports many important administrative services across the Region including hospitals, universities, local municipal operations, libraries, schools, and police services.
Paramedic Services	$28.6	$26.9	$1.7	Annual Replacement Schedule for vehicles and equipment
Senior Services	$7.5	$7.3	$0.2	Replacement cost increase over the previous year is due to indexing costs from 2019 Q4 to 2020 Q4.

2.3   Condition Grade by % Replacement Value

88% of the Region's assets are in fair to very good condition (except Police Services for which condition information was not available). The following table and charts outline the 2020 physical asset condition grades in the poor to very poor category for each service area. These calculations are based on the percentage of asset replacement value in each of the five condition grades at the end of 2020.

Service Area	Replacement Value	Poor	Very Poor
Wastewater	$5,320	$169	$175
Roads	$4,148	$842	$412
Water	$2,359	$48	$45
Transit	$2,063	$94	$111
Housing Services	$1,002	$0	$0
Property Services	$817	$12	$0
Forestry	$545	$12	$0

Service Area	Replacement Value	Poor	Very Poor
Police Services	$349	N/A*	N/A*
Waste Management	$179	$5	$0
Information Technology	$72	$25	$11
YorkNet	$37	$0	$0
Paramedic Services	$29	$2	$3
Senior Services	$8	$2	$2

*Excluding data from YRP, which was unavailable

2020 Service Area Replacement Values ($ in Millions)
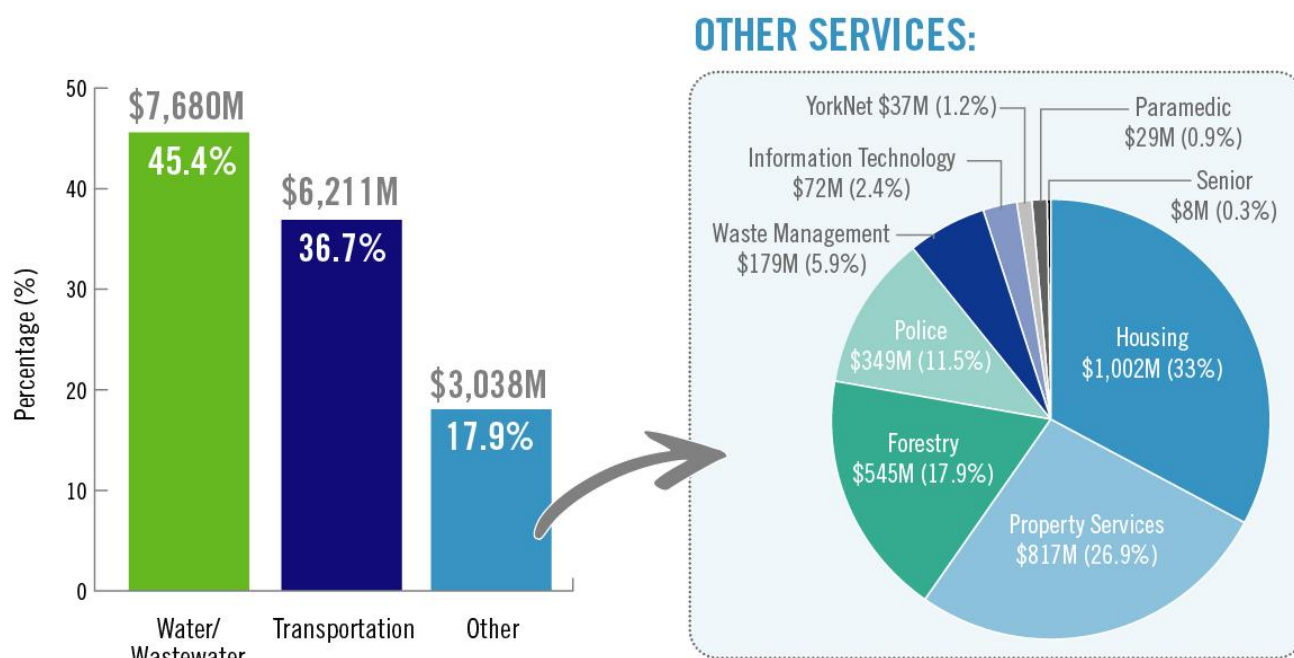
Figures are rounded to nearest whole number

2.4   Service Area Profile Summary

The following table provides a summary of the 2020 Replacement values, grades, trends, and future outlook by service area. The overall service area portfolio grades are based on asset reliability, capacity and condition metrics. These metrics will undergo more detailed review leading up to the Corporate Asset Management Plan update in 2024 and are subject to change as a result of continuous improvement efforts.

Service Area	Overall Grade & Trend	Replacement Value ($ M)	Grade & Trend (→) to 2024		
			Reliability	Capacity	Condition
Wastewater	A →	$5,320.1	A →	A →	A →
Roads	B →	$4,148	A →	B →	B →
Water	A →	$2,359.4	A →	A →	B →
Transit	B →	$2,063	A →	B →	B →
Housing Services	B →	$1,002	B →	B →	B →
Property Services	B ↗	$816.8	B ↗	n/a	B ↗
Forestry	A →	$544.9	A →	B →	A →
Police Services	B →	$349.3	A →	B →	B →
Waste Management	A →	$179.5	A →	A →	B →
Information Technology	B →	$72.2	B →	A →	C ↗
YorkNet	A →	$37.3	A →	A →	A →
Paramedic Services	A →	$28.6	A →	A →	B →
Senior Services	B →	$7.5	A →	A →	C ↗

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SERVICE AREA PROFILES

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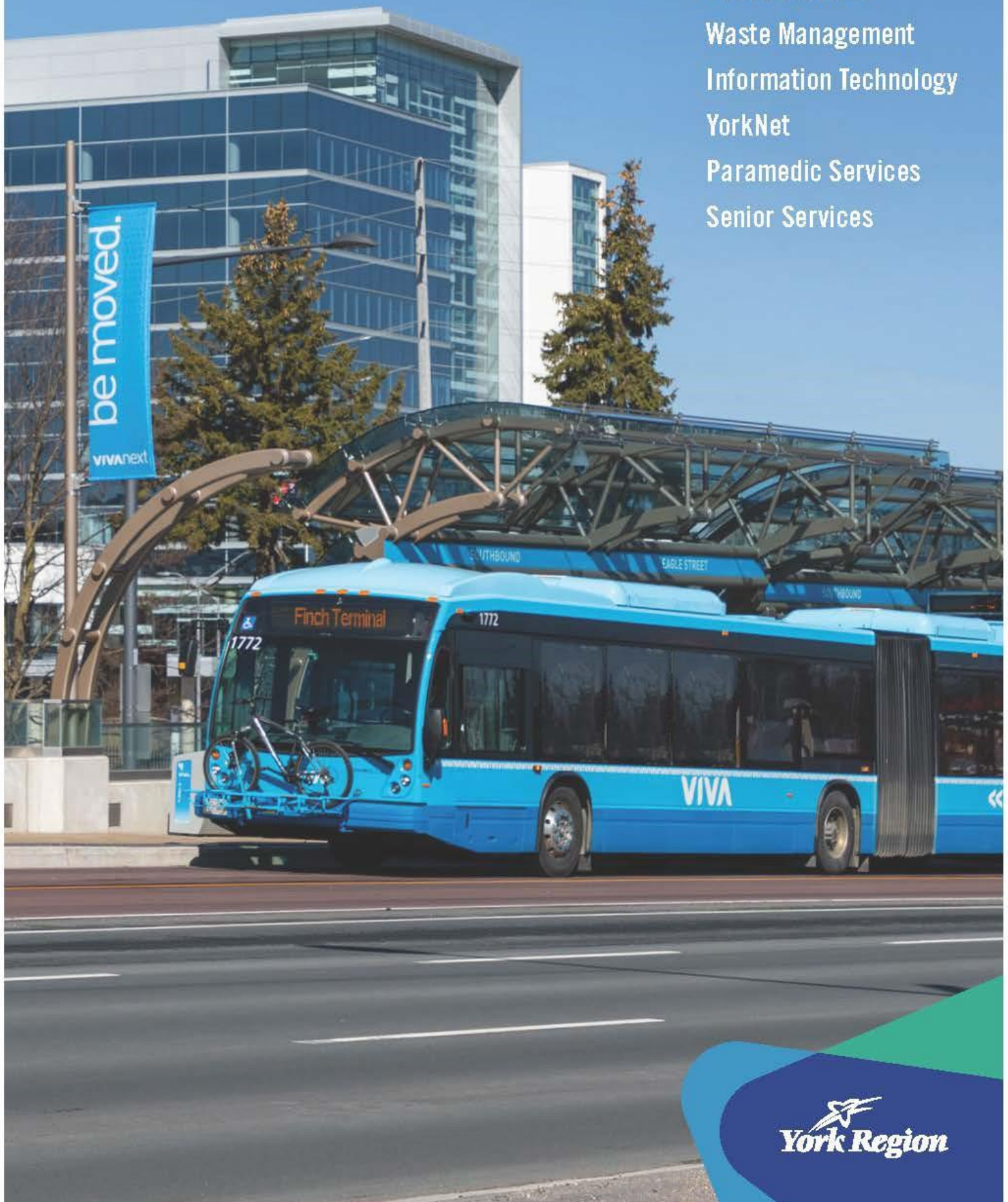
York Region

(A) Wastewater Services
$5,320M

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 with 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

- **No major changes to the wastewater services asset portfolio in 2020**

Portfolio Replacement Value Update

2019 Infrastructure Replacement Cost	$5,192.4 M
Changes since 2019	$127.7
New, replaced & upgraded assets	$0.0
Updated replacement value	$127.7
Decommissioned Assets	$0.0
2020 Infrastructure Replacement Cost	$5,320.1 M

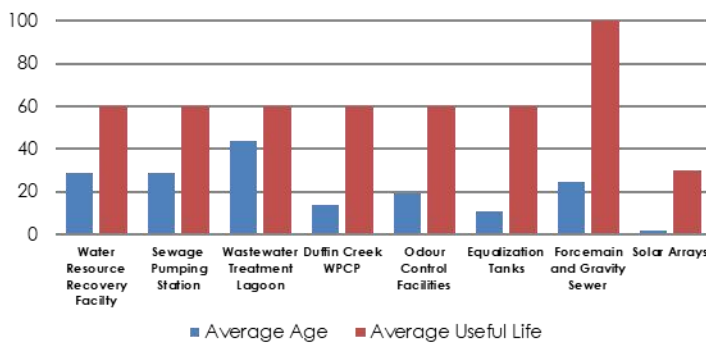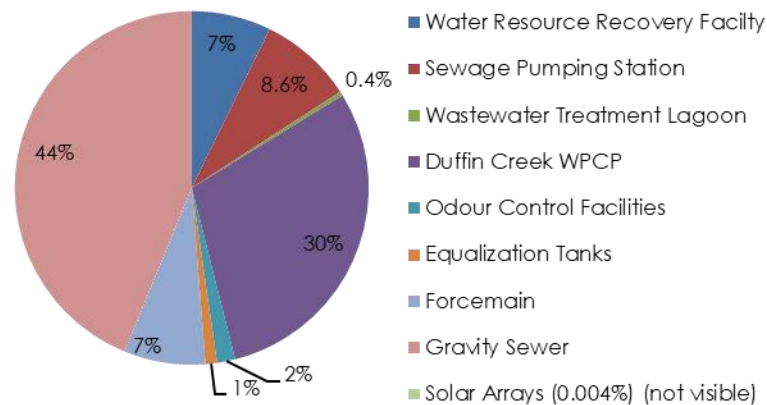The average asset has reached
28%
of its useful life

On average,
1.4%
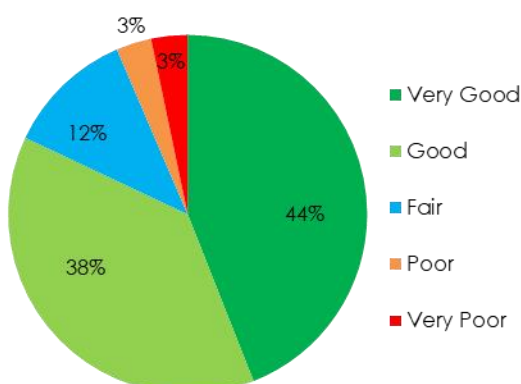of replacement value is spent each year on rehabilitation and replacement

2020 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

22 YRS Average Age — Average Remaining Life — **58 YRS**

80 YRS
Average Expected Life

Replacement Value (% of Portfolio)

- ■ Water Resource Recovery Facilty
- ■ Sewage Pumping Station
- ■ Wastewater Treatment Lagoon
- ■ Duffin Creek WPCP
- ■ Odour Control Facilities
- ■ Equalization Tanks
- ■ Forcemain
- ■ Gravity Sewer
- ■ Solar Arrays (0.004%) (not visible)

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 2024

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

➤ Duffin Creek WPCP upgrades
➤ Various Water Resource Recovery Facility and Sewage Pumping Station upgrades as determined through the Region's multi-year inspection program;
➤ Trunk Sewer rehabilitation

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	A	A	→
Condition	A	A	→
Financial	B	B	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target	2020 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	0	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 percent 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 (2019 Result: $4,473)	$4,543	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.

Approval: Director signoff

Name: Wendy Kemp   **Signature:** *Wendy Kemp*   **Date:** Jun 23, 2021
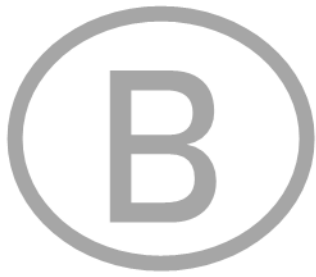
(B) Roads
$4,148M

Asset Management Grading Strategy

York Region manages over 4,200 lane kilometres of Regional roads. York Region's roads are maintained and improved regularly, assisting in the safe and efficient transport of goods and people between urban and rural areas. York Region provides many routine and by request services to ensure that motorists are safe and that the road network is maintained. York Region 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 Pavement Condition Index (PCI) for each road segment to enable network level analyses. A Pavement Management System (Roadmatrix) is implemented to analyze the PCI data and provide recommendations to the annual pavement treatment program. All bridges and structures are inspected every two years as per legislative requirements. 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 used for work order and service request tracking against assets.

Asset Portfolio

- 4,318 lane-kms of Regional Roads
- 1,845 km of Storm Pipes, Outfalls & Ditches
- 145 Bridges and 199 Structural Culverts
- 87 Retaining Walls
- 37,600+ Signs
- 530 Vehicles and Equipment
- 5 Maintenance facilities

Changes in Asset Portfolio

Major items added include:
- Leslie Street improvement from Wellington St. to St. Johns SDRD (2kms), including 2 new structural culverts
- Additional bus rapid transit lanes on Yonge Street from Highway 7 to 19th Avenue/Gamble Road
- Continue upgrading traffic control systems
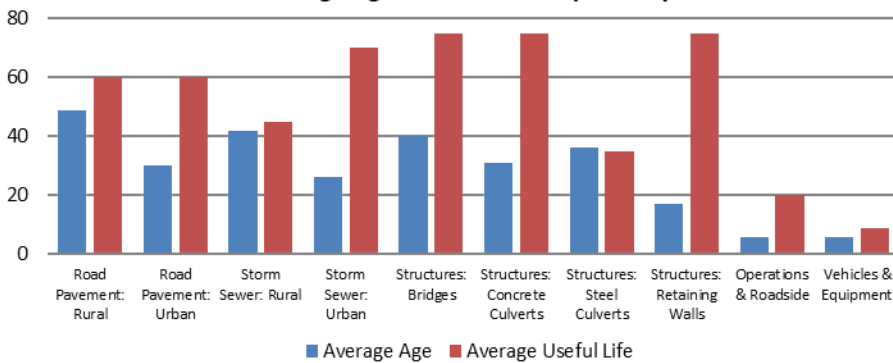
Portfolio Replacement Value Update (Millions)

2019 Infrastructure Replacement Value	$4,040
Changes since 2019	$108
New, replaced & rehabilitated assets	$27
Updated replacement value	$81
Decommissioned Assets	$0
2020 Infrastructure Replacement Value	$4,148

The average asset has reached **59%** of its useful life
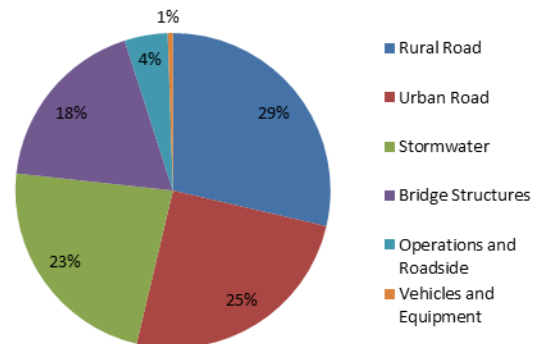
1.6% of replacement value is planned to be spent in the 2021 budget on rehabilitation and replacement
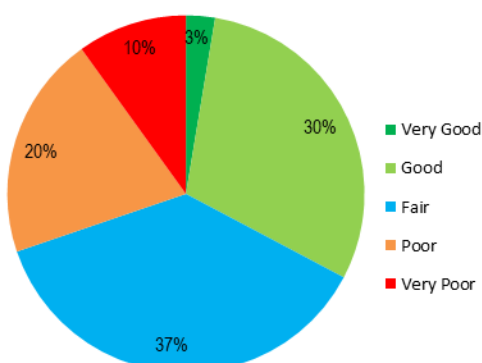
2020 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

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

36 YRS Average Used Age | Average Remaining Life **24 YRS**

60 YRS Average Expected Life

Condition Grade

- Very Good 3%
- Good 30%
- Fair 37%
- Poor 20%
- Very Poor 10%

70% of assets are in fair or better condition

68% of road pavements are to be improved within the next 10 years.

Of the 30% of assets in poor or very poor condition, all bridges and structures have been identified for rehabilitation or replacement within 10-Year Roads and Transit Capital Construction Program. These assets include: 4 bridges and 21 large culverts.

Future Outlook to 2024

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 road pavement rehab and preventative treatment projects
➢ Various bridge and culvert rehab / replacement projects

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2019, 2020 and the trend to 2024.

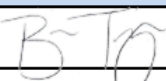| Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	B	B	→
Condition	B	B	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target		2020 Results	Comments
Average Pavement Condition Index (PCI) Scores	Road Maintenance Class	Target PCI	2020 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)	73 (Fair)	
	2	75 (Fair)	65 (Fair)	
	3	75 (Fair)	64 (Fair)	
	4	70 (Fair)	64 (Fair)	
Percentage of pavement with a condition assessment rating of fair or better condition by replacement values	N/A		58%	Pavement Condition Index (PCI) 60 or above are considered fair or better conditions for pavement.
Minimum Bridge Condition Index Score	100% of Bridge Structures by Count with BCI > 60 (Fair)		93% 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 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%		100%	There is no load restricted bridge in the Region currently. The only previously load restricted bridge - Kennedy Road Bridge (north of Mt. Albert Rd.) was rehabilitated with load restriction lifted in 2020.

Approval: Director signoff			
Name: Brian Titherington	**Signature:**		**Date:** August 31, 2021

(A) Water Services
$2,359 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

- **No major changes to the water services asset portfolio in 2020**
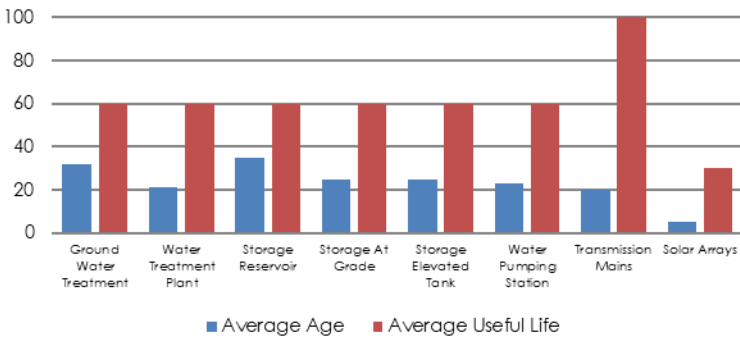
Portfolio Replacement Value Update

2019 Infrastructure Replacement Cost	$2,302.7 M
Changes since 2019	$56.7 M
New, replaced & upgraded assets	$0.0 M
Updated replacement value	$56.7M
Decommissioned Assets	$0.0 M
2020 Infrastructure Replacement Cost	$2,359.4 M

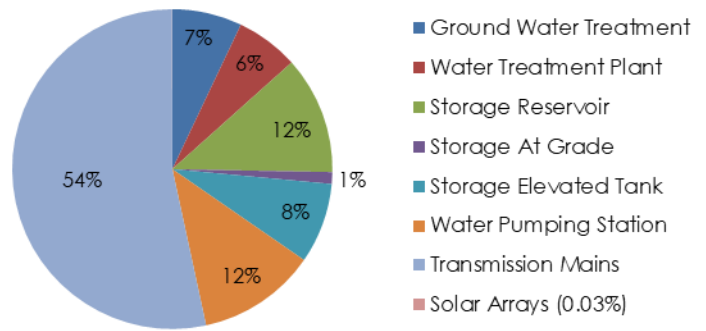The average asset has reached **32%** of its useful life

On average, **1.5%** of replacement value is spent each year on rehabilitation and replacement
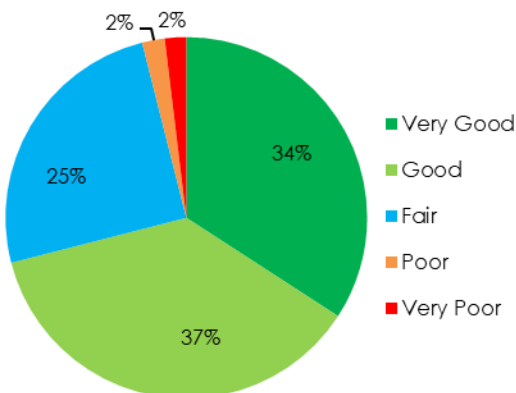
2020 Summaries

Average Age & Useful Life Expectancy

- Average Age
- Average Useful Life

23 YRS Average Age — Average Remaining Life — **58 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 — 34%
- Good — 37%
- Fair — 25%
- 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, 1 groundwater well, and 7 elevated tanks.

Future Outlook to 2024

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;

➢ Water transmission main replacements; and

➢ Lake Simcoe Mussel Control Strategy.

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
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 2020.

Technical Level of Service	Target	2020 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 failures	0	0	There were no identified service interruptions attributable to watermain breaks or other unplanned asset failures in 2020
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 samples that met Ontario Drinking Water Standard	100%	100%	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 (2019 Result: $1,940)	$1,971	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 percent 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

Approval: Director signoff

Name: **Wendy Kemp**   Signature: *Wendy Kemp*   Date: Jun 23, 2021

B
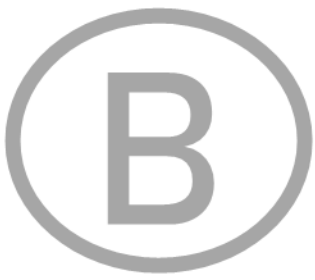
Transit
$2,063M

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, Brampton Transit, and provincial GO Transit systems. It maintains the transit assets in a state of good repair. 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

- 436 Conventional York Regional Transit (YRT) buses
- 113 Bus Rapid Transit (Viva) buses
- 24 Mobility Plus buses
- 6 Electric buses
- 6 Region Owned & 7 Leased Terminals, 4 Garages
- 5,000+ Transit stops including platforms, shelters and coordinated street furniture
- Transit management systems and equipment

Changes in Asset Portfolio

Major items added include:
- Continue improvements on buildings / garages / terminals, including purchasing of Newmarket Terminal in February 2020
- Replacement and addition of bus fleet, particularly adding six new electric buses for the first time in the Region
- Upgrade of Transit Management Centre operation system and Transit Signal Priority (TSP) on board systems
- Completion of VIVA bus rapidway lanes on Yonge St. in Richmond Hill and Bathurst St. / Centre St. in Vaughan / Richmond Hill
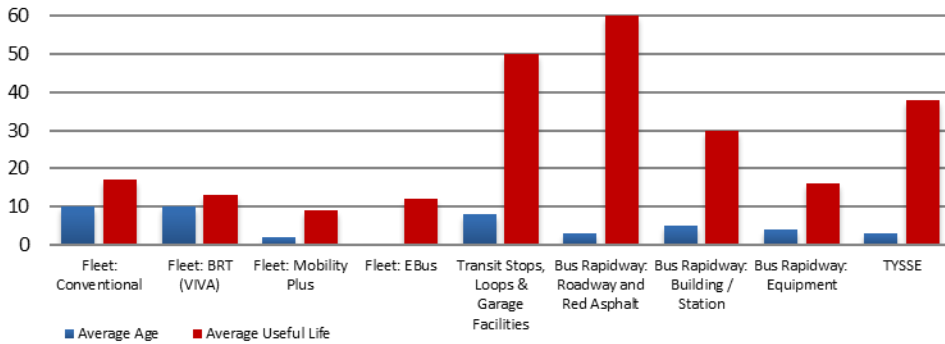
Portfolio Replacement Value Update (Millions)

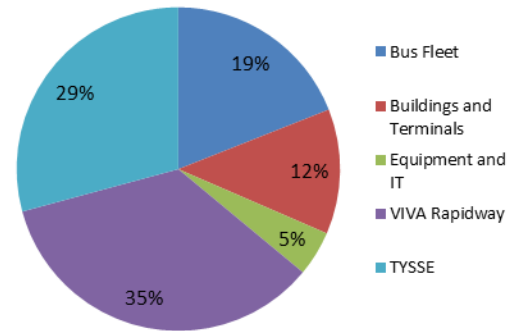|	
2019 Infrastructure Replacement Value	$1,748
Changes since 2019	$315
New, replaced & rehabilitated assets	$376
Updated replacement value	$0
Decommissioned Assets	($61)
2020 Infrastructure Replacement Value	$2,063

The average asset has reached
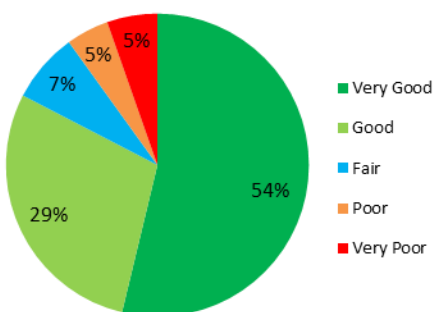
28% of its useful life

2020 Summaries

Average Age & Useful Life Expectancy

■ Average Age   ■ Average Useful Life

Replacement Value (% of Portfolio)

- ■ Bus Fleet — 19%
- ■ Buildings and Terminals — 12%
- ■ Equipment and IT — 5%
- ■ VIVA Rapidway — 35%
- ■ TYSSE — 29%

9 YRS — Average Used Life | Average Remaining Life | 23 YRS

32 YRS
Average Expected Life

Condition Grade

- ■ Very Good — 54%
- ■ Good — 29%
- ■ Fair — 7%
- ■ Poor — 5%
- ■ Very Poor — 5%

90% of assets are in fair or better condition

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

Of the 10% 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 2024

Transit has several upcoming capital projects planned to enhance its ability to meet current and projected public demands, including:
- Continue expanding 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
- 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 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	B	B	→
Condition	B	B	→

Level of Service Performance Card

Technical Level of Service	Target	2020 Results	Comments
On-time performance for conventional buses	90%	94%	This is an important measure of vehicle asset reliability, notwithstanding that other factors may affect on-time performance such as scheduling, traffic, etc. An excellent level of on-time performance (94%) was observed for the conventional buses in 2020.
On-time performance for VIVA buses	95%	97%	On-time performance service level of VIVA rapidway buses achieved a remarkable 97% in 2020. Transit Services strives to maintain a high level of on-time performance for VIVA buses in future.
Mean Distance between Failures	15,000kms	>22,000kms	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	90%	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.

Approval: Director signoff

Name: Brian Titherington   **Signature:**   **Date:** August 31, 2021

B

Housing Services
$1,002M

Asset Management Grading Strategy

As Housing Service Manager, York Region funds more than 6,893 units, of which 2,860 are owned and managed by Housing York Inc., York Region's Municipal Housing Corporation. The HYI figure includes 103 Emergency & Transitional Housing Units.

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 ASHRAE 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

No major changes to portfolio for 2020.

Portfolio Replacement Value Update

2019 Infrastructure Replacement Value	$852M
Changes since 2019	$150M
New, replaced & rehabilitated assets	$10M
Updated replacement value	$140M*
Decommissioned Assets	$0
2020 Infrastructure Replacement Value	$1,002M

*Asset valuation study

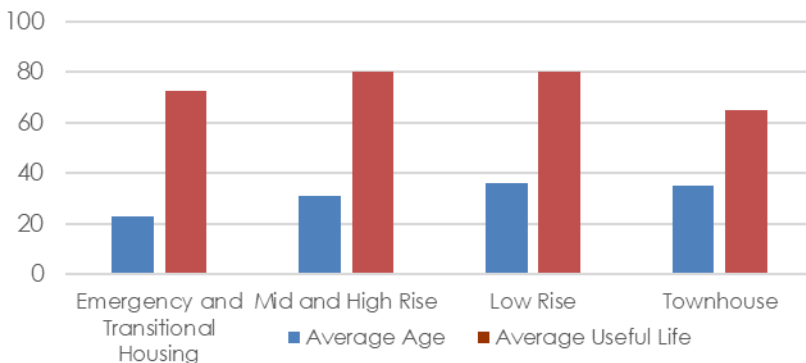The average asset has reached **43%** of its useful life
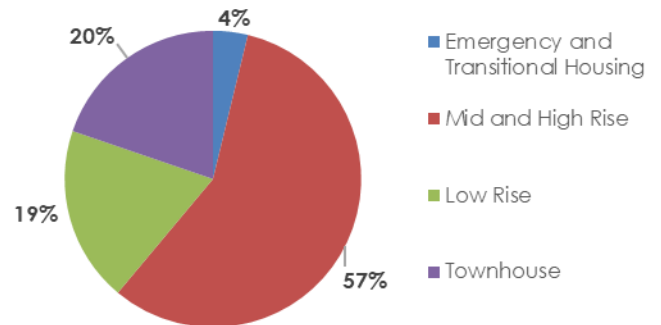
On average, **1.0%** of replacement value is spent each year on rehabilitation and replacement

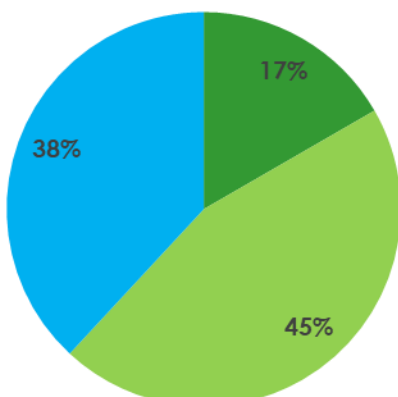### 2020 Summaries

Average Age & Useful Life Expectancy

Replacement Value (% of Portfolio)

- Emergency and Transitional Housing — 4%
- Mid and High Rise — 57%
- Low Rise — 19%
- Townhouse — 20%

31 YRS Average Age | Average Remaining Life **41 YRS**

72 YRS Average Expected Life

Condition Grade

- Very Good — 17%
- Good — 45%
- Fair — 38%
- Poor
- Very Poor

100% of assets are in fair or better condition

100% of facilities have asset management work scheduled in the 10- year capital plan

Housing uses a five part grading scale. There are no facilities identified as 'poor' or 'very poor condition'.

Future Outlook to 2024

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;
- 97 mixed housing apartment units in Whitchurch-Stouffville – Anticipated completion Q4 2022; and
- 24 units of prefabricated transitional housing – Anticipated completion in 2021

Asset Management Grading Strategy

The following table summarizes the performance grades for the four criteria, for 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	B	B	→
Capacity	B	B	→
Condition	B	B	→
Financial	N/A	N/A	N/A

Level of Service Performance Card

The following table summarizes the level of service results for 2020.

| Technical Level of Service*	Target	2020 Results	Comments
Number of housing units per acre	TBD	27.7	This metric measures development potential
Facility Condition Index (FCI)	5% or less	3.75%	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. FCI (C+2yrs)= Deferred Maintenance Total (Current year need) + (Next 2 years of needs) ÷ Current Replacement Value
Renewal investment rate	1.7-2.5%	1.0%	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 amenities for use considering location, configuration and comfort

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

Approval: Director signoff

Name: Joshua Scholten   **Signature:**   **Date: Oct. 21, 2021**
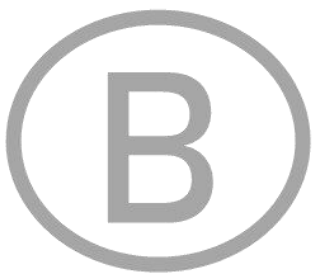
B Property Services
$816.8M

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

- 5 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:

➢ **17150 Yonge Street, York Region Administrative Centre Annex**

➢ **10988 Warden Avenue, South East Rural Roads Maintenance Facility**
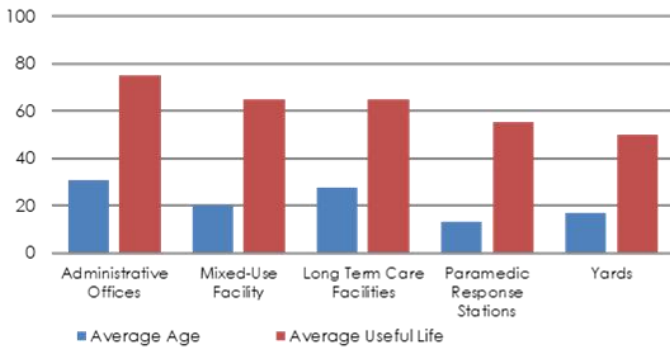

Portfolio Replacement Value Update

2019 Infrastructure Replacement Value	$517.3 M
Changes since 2019	$299.5 M
New, replaced & rehabilitated assets	$276.3 M
Updated replacement value	$23.3 M
Decommissioned Assets	$0.0
2020 Infrastructure Replacement Value	$816.8 M

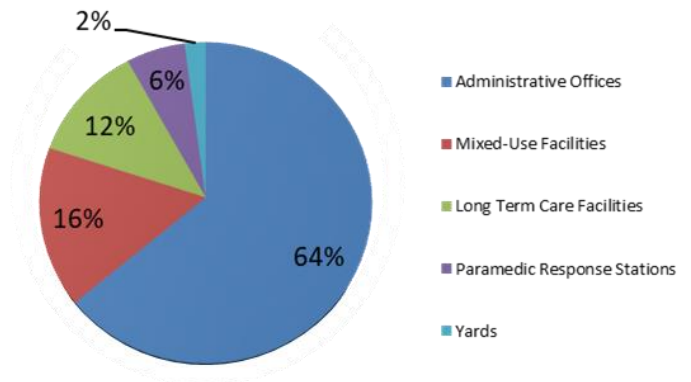The average asset has reached

31%

of its useful life

On average,

1.0%

of replacement value is spent each year on rehabilitation and replacement
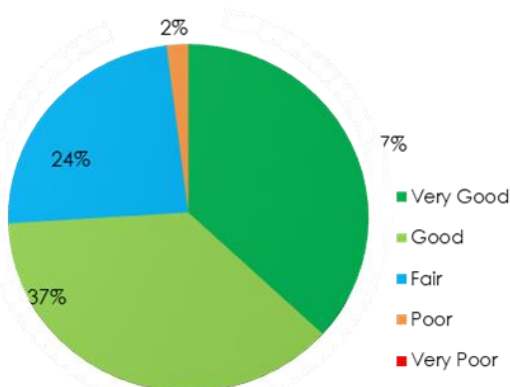
2020 Summaries

Average Age & Useful Life Expectancy

■ Average Age   ■ Average Useful Life

Replacement Value (% of Portfolio)

- Administrative Offices
- Mixed-Use Facilities
- Long Term Care Facilities
- Paramedic Response Stations
- Yards

2% / 6% / 12% / 16% / 64%

| 18 YRS | Average Life | Average Remaining Life | 41 YRS |

59 YRS
Average Expected Life

Condition Grade

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

2% / 7% / 24% / 37%

98%

of assets are in fair or better condition

In 2020, 17150 Yonge Street increased the replacement value of the portfolio

by **53%**

The 2% of assets in poor condition represents the facility located at 62 Bayview Parkway in Newmarket. This facility has been identified for decommissioning and disposal which is expected to take place in 2021.

Future Outlook to 2023

The Property Services asset portfolio is expected to have stable capacity, the condition and reliability will improve as facilities are renovated and rehabilitated, and older outdated buildings are decommissioned:

➢ (5) new Paramedic Response Stations

➢ Renovations to York Region Administrative Centre

➢ Multi-year Building Condition Assessment Program

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2019, 2020 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2019	2020	
Reliability	B	B	↗
Capacity	B	Not Graded	
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 2020.

| Technical Level of Service	Target	2020 Results	Comments
Facility Condition Index: Administrative Offices	Maintain Facility Condition Index below 5% through ongoing BCA and renewal investment programs	4.98%	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: Mixed-Use Facilities		2.32%	
Facility Condition Index: Long Term Care Homes		3.32%	
Facility Condition Index: Paramedic Response Stations		1.51%	
Facility Condition Index: Road Maintenance Yards		3.07%	

Note:

Property Services has not provided a grade for capacity in 2020 due to the impact of the pandemic. The capacity grade is intended to measure the asset's ability to provide accommodation space for staff, however, the mandatory requirement for staff to work from home resulted in this measure not being applicable in 2020. As the return to the office plan is under development and awaiting direction from Senior Management it is not possible to provide a trend to 2023. Property Services will resume reporting on capacity when the return to the office plan is further defined and implemented

Approval: Director signoff

Name: Michael Shatil   Signature: **Date:** July 5, 21
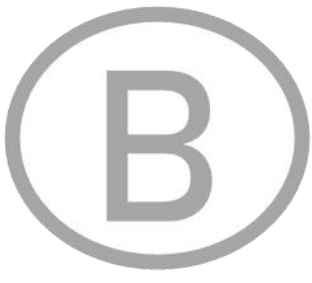
(B) Forestry
$544.9M

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.

Forestry staff are currently engaged in proactive initiatives to study, mitigate 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: 70,480 street trees, 22,998 shrubs, and 47,431 perennials including landscaped boulevard and center median planters
- York Regional Forest: 2,388 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:
- **1,883 street trees**
- **1.25 km of enhanced streetscape**
- **1,245 m of new access trails**
- **1 parking lot added to the Regional Forest**

Portfolio Replacement Value Update

2019 Infrastructure Replacement Value	$531.8M
Changes since 2019	$13.1M
New and Upgraded assets	TBD ($0.0M*)
Updated replacement value	$13.1M
Decommissioned Assets	$0.0
2020 Infrastructure Replacement Value	$544.9M

* 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.
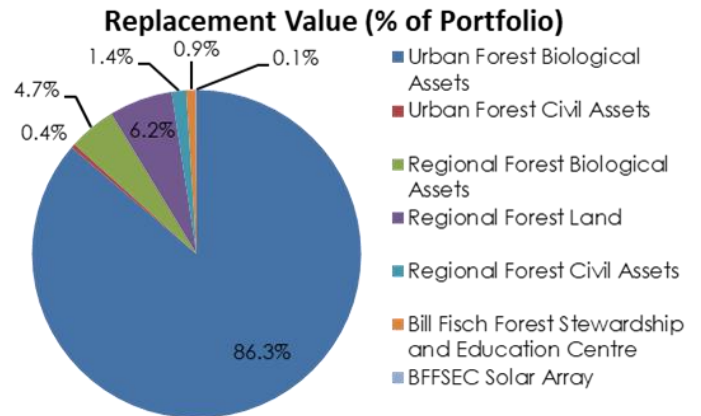
The average asset has reached **46%** of its useful life

Average Age & Useful Life Expectancy **
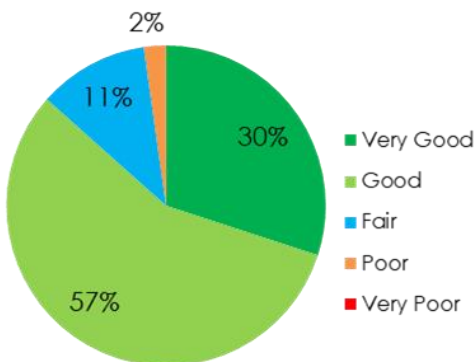

■ Average Age ■ Average Useful Life
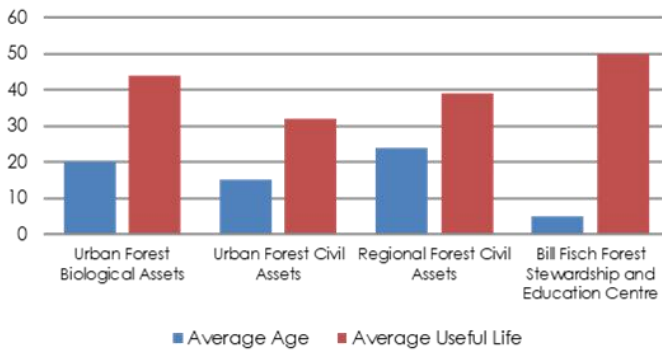
**York Regional Forest biological assets are excluded from the Average Age & Useful Life chart as they are self-sustaining natural communities with no measurable life expectancy.

2020 Summaries
Replacement Value (% of Portfolio)

- 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
- BFFSEC Solar Array

20 YRS	Average Age	Average Remaining Life	23 YRS

43 YRS
Average Expected Life

Condition Grade

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

98% of Green Infrastructure assets are in fair or better condition

The York Regional Forest has **100%** conformance 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 2023

The Region has several projects planned and ongoing 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
➢ Capital infrastructure Improvements in the York Regional Forest
➢ Additional condition assessments 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 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	B	B	→
Condition	A	A	→
Financial	-	-	

Level of Service Performance Card

The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target	2020 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, and meadows. These areas are identified 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 audited.
Length of trail available for recreational use (km)	TBD	152.08 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%	80%	This metric is assessed by measuring the available planting area within urban Regional road right of ways that are occupied by street trees.
Health of street tree and landscape plantings as a measure of aesthetics and performance of supporting assets	90%	87%	This metric will be measured by the percent of street trees which are in good or satisfactory health. Health ratings are assigned following a standardized procedure, including criteria for each health rating. This street tree health assessment is completed every five years. The last assessment was completed in 2020.
Percent proportion of street trees by species as an indicator of resiliency to threats	Most commonly occurring 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.

Approval: Director signoff

Name: **Laura McDowell**   Signature: Date: June 29, 2021

A

Police Services
$349.3M

Asset Management Grading Strategy

Asset Portfolio

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 member in providing these service. 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 al 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

- Eight Police-owned facilities
- Telecommunication Towers and Equipment
- Information Technology Assets (Hardware, IT Infrastructure and Applications)
- Fleet:
  - 722 Vehicles
  - One Helicopter
  - Seven Vessels
- Specialized Equipment

Changes in Asset Portfolio

New Marine Facility opened 2020

Portfolio Replacement Value Update

2019 Infrastructure Replacement Value	$332.6
Changes since 2019	$16.70
New, replaced & rehabilitation assets	$22.10
Updated replacement value	$4.80
Decommissioned Assets	($10.20)
2020 Infrastructure Replacement Value	$349.30

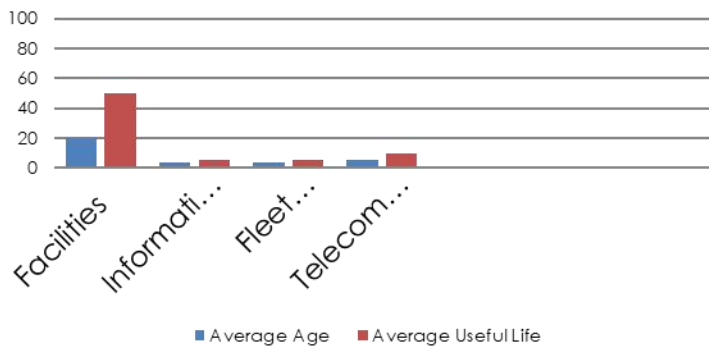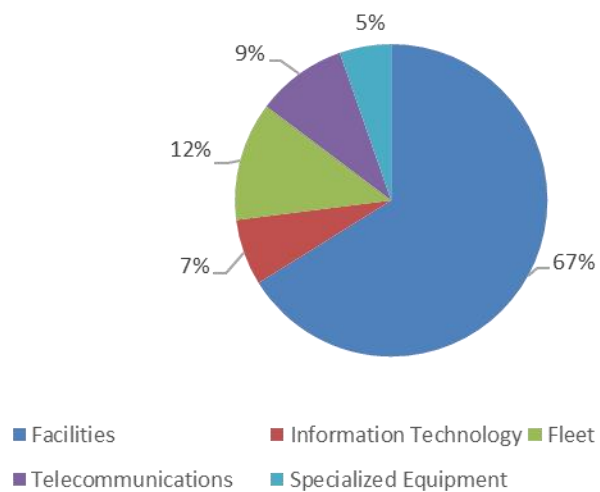The average asset has reached

38%

of its useful life

On average,

2.9%

of replacement value is spent each year on rehabilitation and replacement
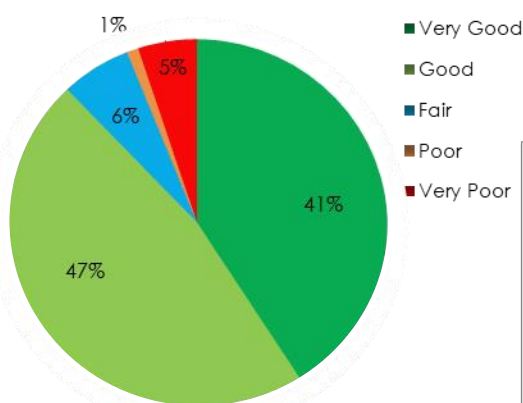
2020 Summaries

Average Age & Useful Life Expectancy

■ Average Age ■ Average Useful Life

Replacement Value (% of Portfolio)

- 5%
- 9%
- 12%
- 7%
- 67%

■ Facilities ■ Information Technology ■ Fleet
■ Telecommunications ■ Specialized Equipment

Condition Grade

- 1%
- 5%
- 6%
- 41%
- 47%

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

94%

of assets are in fair or better condition

Building 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. Vehicles and helicopter maintenance schedules are being adhered to based on manufacturer recommendations. Although facilities remain in good condition as a result of regular maintenance, capacity will become an issue in years to come.

Future Outlook to 2022

York Regional Police will continue to add new equipment and fleet assets to meet the Regions growth. York Regional Police will be adding the New One District Headquarters (Facility) located at 429 Harry Walker Parkway, Newmarket. This will add to the Police-owned facilities. The current One District (240 Prospect Street) will remain as a YRP facility used for other operational needs.
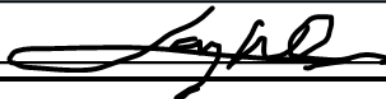
Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2019, 2020 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2019	2020	
Reliability	A	A	→
Capacity	B	B	→
Condition	B	B	→
Financial	B	A	→

B

Waste Management
$179.5M

Asset Management Grading Strategy

This service area works in partnership with the Region's local municipalities to ensure proper processing and disposal of solid waste. It also operates public drop-off depots to supplement curbside service as well as collect 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. Contractor maintenance activities are monitored by York Region and verified by independent third-party consultants. The Durham York Energy Centre is ISO 14001:2015 certified and the Waste Management Centre is ISO 9001:2008 certified.

At public waste drop-off facilities, the Region manages condition assessments and rehabilitation work as required. All public waste drop-off facilities are registered to ISO 14001 and ISO 9001.

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
- 1 Solar Array at a Waste Management Site

Changes in Asset Portfolio

➢ **No facilities added to or removed from portfolio in 2020**
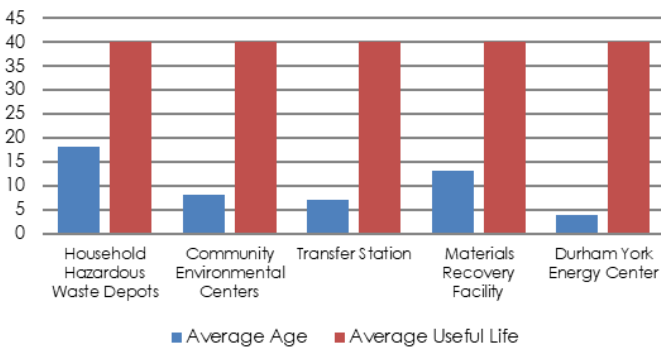
Portfolio Replacement Value Update

2019 Infrastructure Replacement Value	$175.1M
Changes since 2019	$4.4M
New, replaced & rehabilitated assets	$0.0M
Updated replacement value	$4.4M
Decommissioned Assets	$0.0M
2020 Infrastructure Replacement Value	$179.5 M

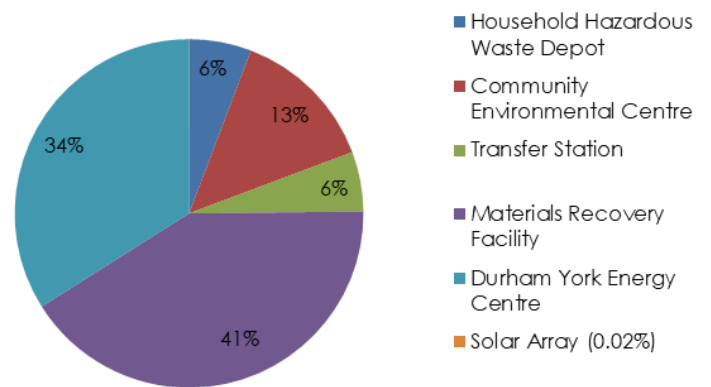The average facility has reached

23%

of its useful life

On average,

0.6%

of replacement value is spent each year on rehabilitation and replacement
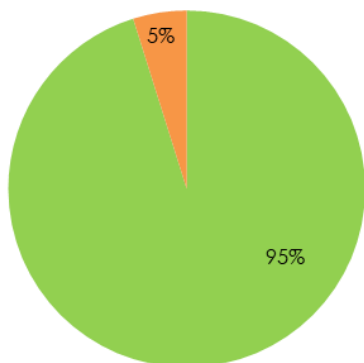
2020 Summaries

Average Age & Useful Life Expectancy

■ Average Age   ■ Average Useful Life

Replacement Value (% of Portfolio)

- Household Hazardous Waste Depot
- Community Environmental Centre
- Transfer Station
- Materials Recovery Facility
- Durham York Energy Centre
- Solar Array (0.02%)

9 YRS — Average Age | Average Remaining Life — 31 YRS

40 YRS
Average Expected Life

Condition Grade

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

95%

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 throughput capacity can be accomplished using existing infrastructure with no capital upgrades.

Future Outlook to 2024

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

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

All waste management facilities but one are in good condition. Renewal work for this facility is budgeted within the next three years of the Capital Plan.

Asset Management Grading Strategy

The following table shows and describes the performance grades for the four criteria, for 2019, 2020 and the trend to 2024.

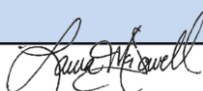| Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	B	A	→
Condition	B	B	→
Financial	A	A	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target	2020 Results	Comments
Number of complaints due to performance/failure of the facility received per year from Local Municipalities/Customers	0/year	1	This metric looks at complaints filled by the Local Municipalities/Customers due to asset-related failures at the Region's waste management facilities. In 2020, there was a single complaint related to a calibration issue at Georgina Transfer Station that was immediately resolved, and the scale recalibrated.
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 monitoring/ maintenance conditions set out in the ECA for each of its waste management facilities.
Per cent of solid waste diverted from landfill	90%	93%	The Region reports annually on its diversion rate in support of the SM4RT Living Plan and in order to satisfy the DYEC Environmental Assessment Notice of Approval
Compliance of buildings and facility equipment with Health, Safety & Environment protection programs and regulations	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 79,000 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 79,000 tonnes of recyclables from Local Municipalities in 2020.

Approval: Director signoff

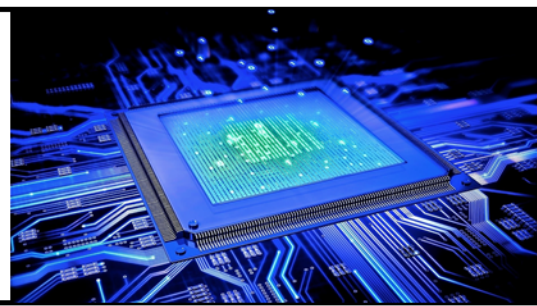**Name:** Laura McDowell   **Signature**   **Date:** June 29, 2021

Ⓑ Information Technology Services $72.2M

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

- 18156 Computers (including Monitors & Docking Stations)
- 924 Printers
- 5978 Cellular (Cell Phones, Pagers & Wireless Modems including Machine to Machine)
- 8009 Network & Data Centre (includes Network Switches, Phones, Firewalls, Routers, Servers & Storage)
- Software (applications, systems etc.)
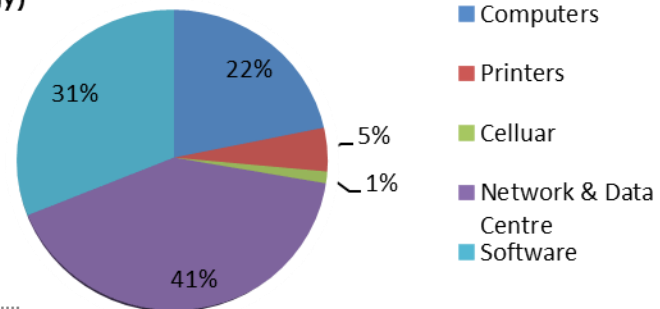
Changes in Asset Portfolio

➢ Retired Assets across all asset classes - $10.6M
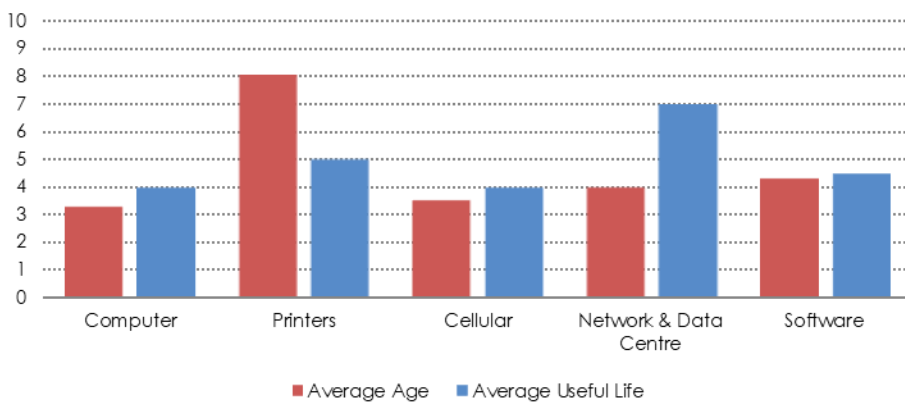➢ 51 Network sites added

2020 Summaries

Portfolio Replacement Value Update (ITS owned and managed technology)

2019 Infrastructure Replacement Value	$73.8
Changes since 2019	($1.7)
New, replaced & rehabilitation assets	$8.9
Decommissioned Assets	($10.6)
2020 Infrastructure Replacement Value	$72.2

Replacement Value (% of Portfolio)

- Computers 22%
- Printers 5%
- Celluar 1%
- Network & Data Centre 41%
- Software 31%

Average Age & Useful Life Expectancy

Average Age / Average Useful Life

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

4.9 YRS Average Expected Life

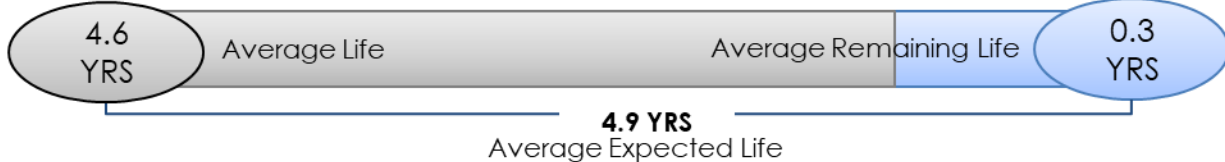Overall average of assets in the portfolio have reached **94%** of its useful life

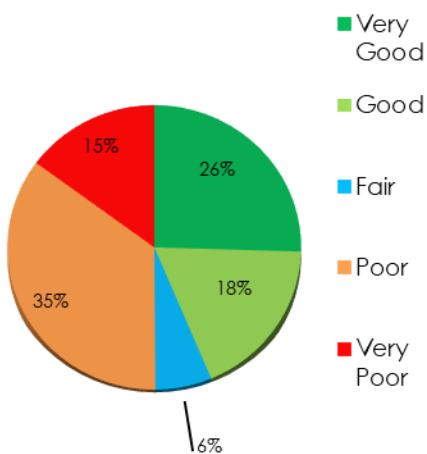2993 Tracked assets across all classes decommissioned

12 Locations where technology infrastructure decommissioned

Condition Grade

- Very Good 26%
- Good 18%
- Fair 6%
- Poor 35%
- Very Poor 15%

50% of assets are in fair or better condition

Several planned refreshes to take place across all asset classes in 2020 were impacted due to COVID-19. Branch efforts were focused on meeting the increased demands of the ITS infrastructure, critical support services and providing support to the organization in mobilizing staff and solutions.

Refresh projects planned for 2022-2023 will look to address those assets that have extended into poor and very poor conditions.

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, printer & monitor assets as they exhibit different useful lifespans than other assets within the same class.

Asset Management Grading Strategy

The following table shows and describes the performance grades for the three criteria, for 2019, 2020 and the trend to 2023.

Criteria	Grade		Trend to 2023
	2019	2020	
Reliability	A	B	➡
Capacity	A	A	➡
Condition	B	C	↗
Financial	B	A	➡

Level of Service Performance Card

The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target	2020 Results	Comments
Replace aged PC assets that have reached beyond useful life	80%	77.1%	The scheduled PC Refresh plans were impacted due to COVID-19. Refresh processes had to be redesigned to accommodate the change in health & safety requirements.
Resolve incidents reported to the Service Desk in a timely manner	60% resolved < 1 day	• <1 day 67% • <1 week 14% • <2 weeks 6% • <1 month 6% • >= 1 month 7%	Service provided meets the requirements of the organization. A total volume of 26,169 technology incidents were reported in 2020, an increase of approximately 20% compared to that of 2019. Increase in volume can be attributed to the shift of approximately 2900+ staff being enabled to work remotely due to COVID-19.
Out-of-warranty repairs to Computers are done in a timely and fiscally responsible manner	Less than 5%	1%	Service provided exceed 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. IT Services responded with several strategies to support the increased demand on the technology infrastructure in order to mobilize staff due to COVID-19.

Approval: Director signoff

Name: _RICHARD LEEST_   Signature: _[signature]_   Date: _28- Jun- 2021_

(A) YORKNET

$37.3M

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 2020 the network consisted of more than 400 kilometres of fibre along Regional roads.

Asset Portfolio

403.5 kms of network infrastructure made up of:

- Aerial/buried fibre
- Conduit
- Fibre Optic Splice Enclosures
- Gators/Traffic Controllers
- Patch Panels (connection points)
- Manholes
- Hand-wells

Current asset inventory and past replacements have been estimated using the Region's and YorkNet's accounting records, as well as YorkNet's work order records and GIS mapping data. Internal YorkNet records provide an approximate value of the inventory of fibre.
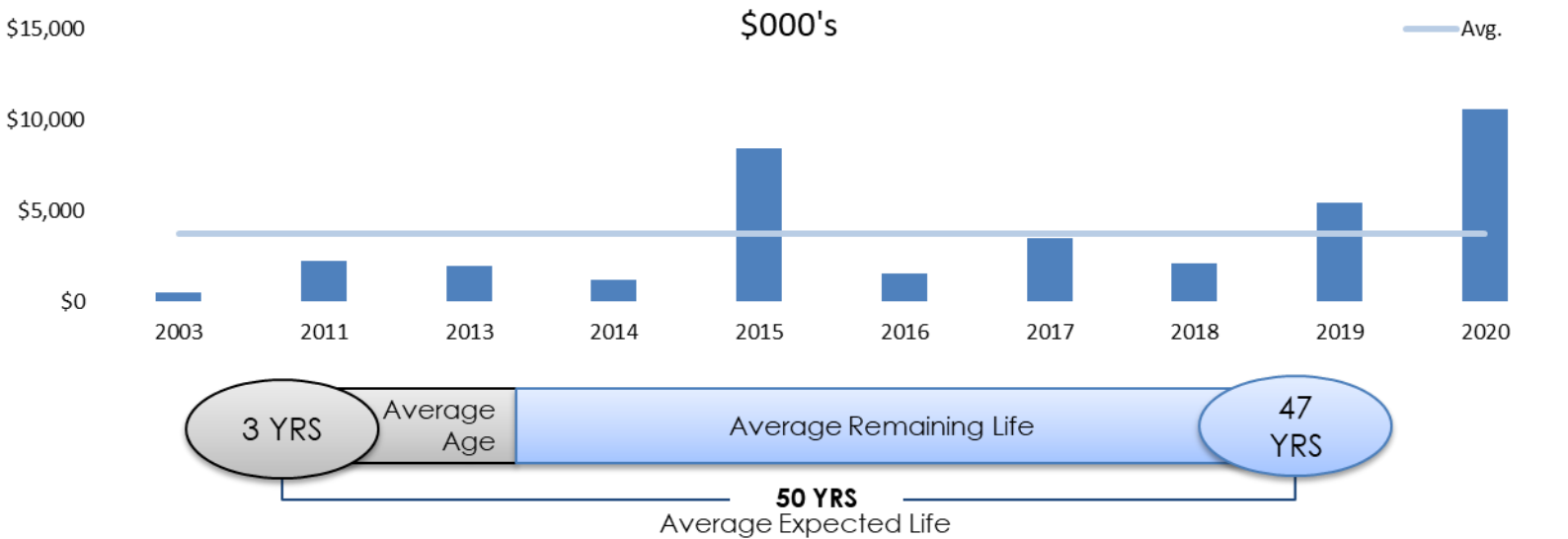
Portfolio Replacement Value Update

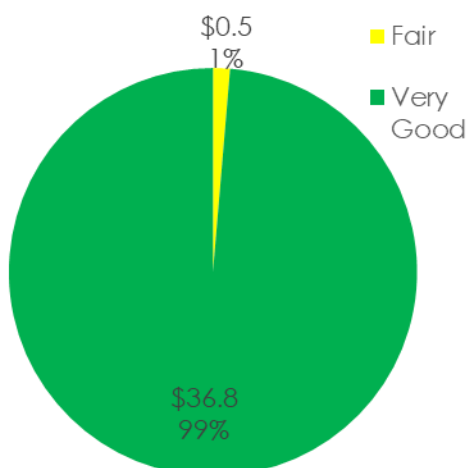|	
2019 Infrastructure Replacement Value	$25.3
Changes since 2019:	
New, replaced & rehabilitation assets	$10.6
Updated replacement value	$1.4
Decommissioned Assets	$0.0
2020 Infrastructure Replacement Value	$37.3

The average asset has reached

6%

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.

2020 Summaries

Replacement Cost by Year of Construction $000's

Rep. Cost / Avg.

$15,000 / $10,000 / $5,000 / $0

2003, 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020

3 YRS — Average Age | Average Remaining Life | 47 YRS

50 YRS Average Expected Life

Condition Grade

- $0.5 / 1% — Fair
- $36.8 / 99% — 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 2024

Future asset requirements are primarily focused on continuing to build the network as quickly as possible. By 2024, the network will have more than doubled in size going from 400 kms to more than 1,000 kms through the following initiatives:

- Rural Expansion
- Fibre construction in Vaughan, Richmond Hill, Stouffville and Markham
- Fibre Swaps and Co-Builds

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 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	B	A	→
Condition	A	A	→
Financial	A	A	→

Level of Service Performance Card

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 but 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. As the corporation evolves and matures its asset management strategy and systems, regular inspections and preventative maintenance work will be developed and made more robust. These activities are expected to increase as the system expands.

Approval: Director signoff

Name: David Di Giovanni   **Signature:**   **Date: June 30, 2021**

(A) Paramedic Services
$28.6M

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.
- Community Paramedicine

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)
- 87 Ambulances
- 21 Rapid Response Units
- 311 Equipment (Defibrillators, Stretchers, Stair Chairs)
- 2 Trailers
- 1 Emergency Support Units
- 5 Special Response Units
- 1 Multi Patient Ambulance
- 2 Logistics Vehicles

Changes in Asset Portfolio

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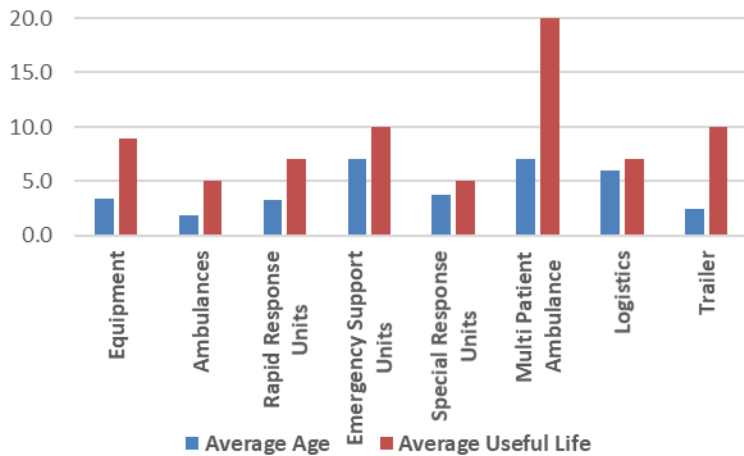
Portfolio Replacement Value Update

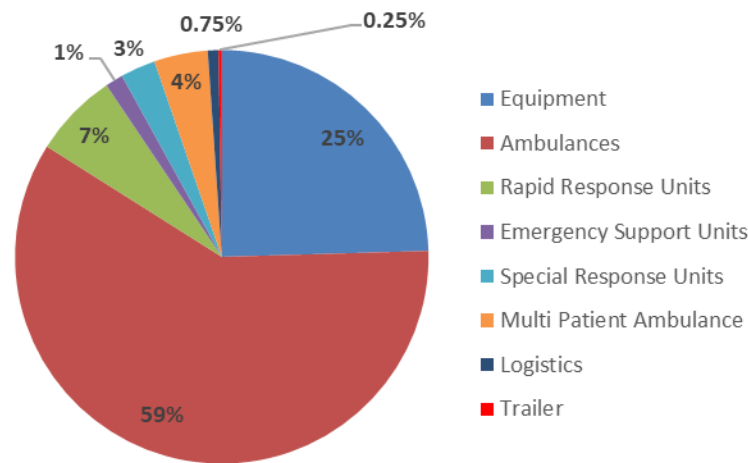|	
2019 Infrastructure Replacement Value	$26.9M
Changes since 2019	$1.7M
New, replaced & rehabilitation assets	$3.5M
Updated replacement value	1.2M
Decommissioned Assets	($3.0M)
2020 Infrastructure Replacement Value	$28.6M

Assets have reached **48%** of useful life

13% of total replacement value was spent on rehabilitation and replacement
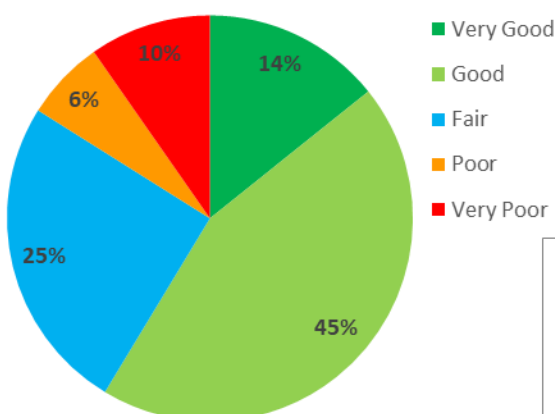
2020 Summaries

Average Age & Useful Life Expectancy

- Average Age
- Average Useful Life

Replacement Value (% of Portfolio)

- Equipment 25%
- Ambulances 59%
- Rapid Response Units 7%
- Emergency Support Units 1%
- Special Response Units 3%
- Multi Patient Ambulance 4%
- Logistics 0.75%
- Trailer 0.25%

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

9 YRS Average Expected Life

Condition Grade

- Very Good 14%
- Good 45%
- Fair 25%
- Poor 6%
- Very Poor 10%

83% of assets are in fair or better condition

Of the 17% of assets in poor or very poor condition, all have been identified for rehabilitation or replacement projects. These assets include ambulances, multiple rapid response vehicles, and medical equipment. The medical equipment has been identified as poor based on the manufacturer's recommended useful life.

Future Outlook to 2024

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 2019, 2020 and the trend to 2024.

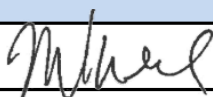| Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	A	A	→
Condition	B	B	→
Financial	-	-	→

Level of Service Performance Card

The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target	2020 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	82%	
Emergency Response Time – CTAS 3: 15 minutes	>90%	90%	
Emergency Response Time – CTAS 4: 20 minutes	>90%	94%	
Emergency Response Time – CTAS 5: 25 minutes	>90%	96%	
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%	12.8%	For some assets such as stretchers PSS extends useful 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

Approval: Director signoff

Name: Mark Rovere
Director, Operational Planning

Signature: *[signature]*

Date: June 10, 2021

B

Senior Services
(Long-Term Care)
$7.5M

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 (110 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.

The Region develops an annual asset replacement program based on asset lifecycle. Most assets were not replaced as scheduled in 2020 due to the COVID-19 pandemic.

Asset Portfolio

- 2 Long Term-Care Homes (Reported under Property Services)
- 196 Resident Unit Interiors - Flooring
- 196 Resident Unit Interiors – Doors, Walls, Ceilings
- 200 Services – Plumbing, Fire Protection
- 150 Equipment – Communications*
- 32 Equipment – Environmental*
- 110 Equipment – Kitchen
- 271 Equipment – Lifts, Scales
- 1166 Equipment – Other*

* Count of inventory may be understated as some assets are pooled and not separately itemized

Changes in Asset Portfolio

➢ No major changes to portfolio in 2020
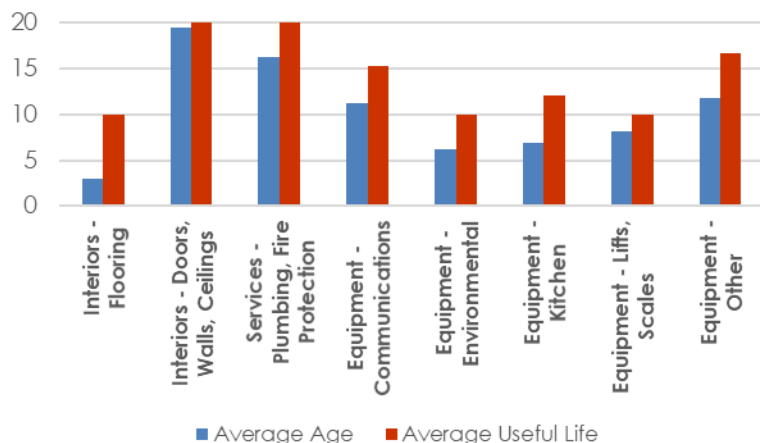

Portfolio Replacement Value Update

2019 Infrastructure Replacement Value	$7.3M
Changes since 2019	$160,676
New, replaced & rehabilitation assets	$15,000
Updated replacement value	$145,676
Decommissioned Assets	0
2020 Infrastructure Replacement Value	$7.5M

The average asset has reached
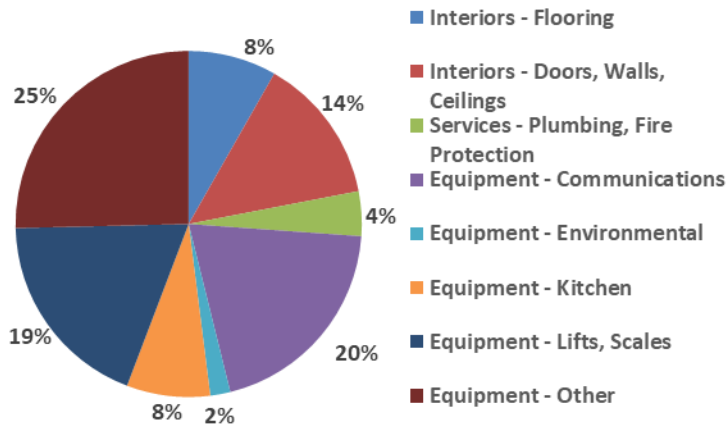
70%

of its useful life

0.20%

of replacement value was spent in 2020 on rehabilitation and replacement. Low due to COVID-19.
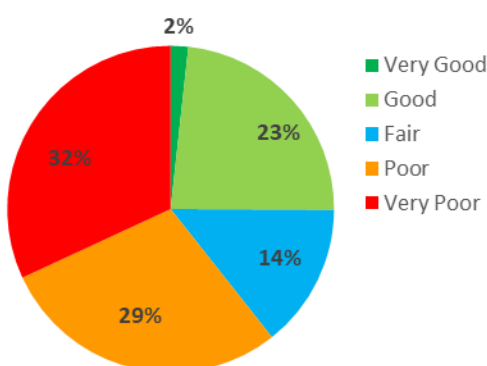
2020 Summaries

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

| 9 YRS | Average Age | Average Remaining Life | 4 YRS |

13 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. These assets were scheduled to be replaced in 2020 and 2021 but projects were delayed due to Covid-19. These projects are scheduled for 2022.

Future Outlook to 2024

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 2019, 2020 and the trend to 2024.

Criteria	Grade		Trend to 2024
	2019	2020	
Reliability	A	A	→
Capacity	A	A	→
Condition	B	C	↗
Financial	-	-	→

Level of Service Performance Card

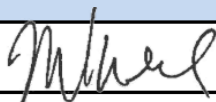The following table shows and describes the level of services results for 2020.

Technical Level of Service	Target	2020 Results	Comments
Asset Renewal Rate – Wandering Alert, Nursing Call systems, beds	0%	20%	This metric is defined as the percentage of assets beyond replacement year. The 2020 results exceed the target as the Nursing Call systems are scheduled to be replaced at both LTC homes. Some assets were not replaced as scheduled in 2020 due to the COVID-19 pandemic.
Asset Renewal Rate – Mattresses, tubs, kitchen, cleaning, laundry equipment, wireless phone	15%	13%	This metric is defined as percentage of assets beyond replacement year. Some assets were not replaced as scheduled in 2020 due to the COVID-19 pandemic.
Service Interruptions – Wandering Alert System	100%	99%	This metric is defined as % uptime of systems.
Service Interruptions – Nurse Call System	100%	99%	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

Approval: Director signoff

Name: Mark Rovere
Director, Operational Planning

Signature: *[signature]*

Date: June 10, 2021

Conclusion

As of Dec 2020, the Region of York owned and managed a portfolio of infrastructure assets with a replacement cost of over $16.9 billion. 88%* of these assets are in fair to very good condition, receiving an overall average grade of A-.

Assets are vital to support the range of services delivered to the community. York Region is required to plan for Provincial Growth Plan forecasts for a population of 2.02 million and 990,000 jobs to 2051. This represents growth of approximately 800,000 people and 345,000 jobs between 2021 and 2051. Infrastructure systems will continue to expand and become more complex to support growth of this magnitude.

To improve on future state of infrastructure reporting focus should be on:
- Defining community and technical levels of service and connecting them with enabling assets;
- Creating quantifiable measures to determine grades;
- Improvement on asset condition evaluation methods; and
- Continuing to commit resources towards asset management.

Playing a critical role in asset management decision making, service areas are further developing their current and targeted levels in 2021/2022. To gauge where they are in the process and help focus efforts, service areas will also be undergoing a maturity assessment in Q4 of 2021.

Each asset group has its own data methodology for generating, assessing, and evaluating the state of inventory and performance data. To ensure accuracy and consistency of the state of infrastructure reporting, continual effort and improvements are made toward data quality by way of data standards, sources, and quality assurance programs.

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 will be released in 2022.

*Excluding data from YRP, which was unavailable

4. Ratings and Grading Methodology

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.