



TOWN OF NEWMARKET INFRASTRUCTURE REPORT CARD

Reporting on the state of our Infrastructure



Date: December 2021

INFRASTRUCTURE PURPOSE

The Town's local and collector roads transport people and goods quickly and safely to where they need to go. Roads are maintained to ensure safe and smooth transportation.



REPLACEMENT COST:
\$395 Million



AVERAGE NETWORK CONDITION
GOOD



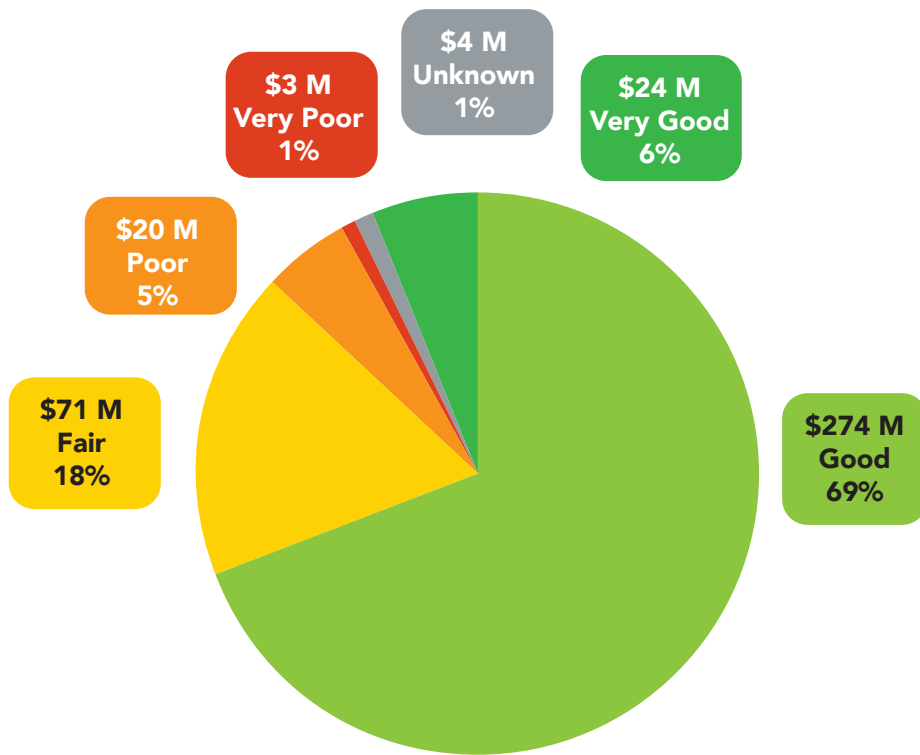
INVENTORY

Local Roads: 185 centerline km
Collector Roads: 66 centerline km
Rural: 1 centreline km

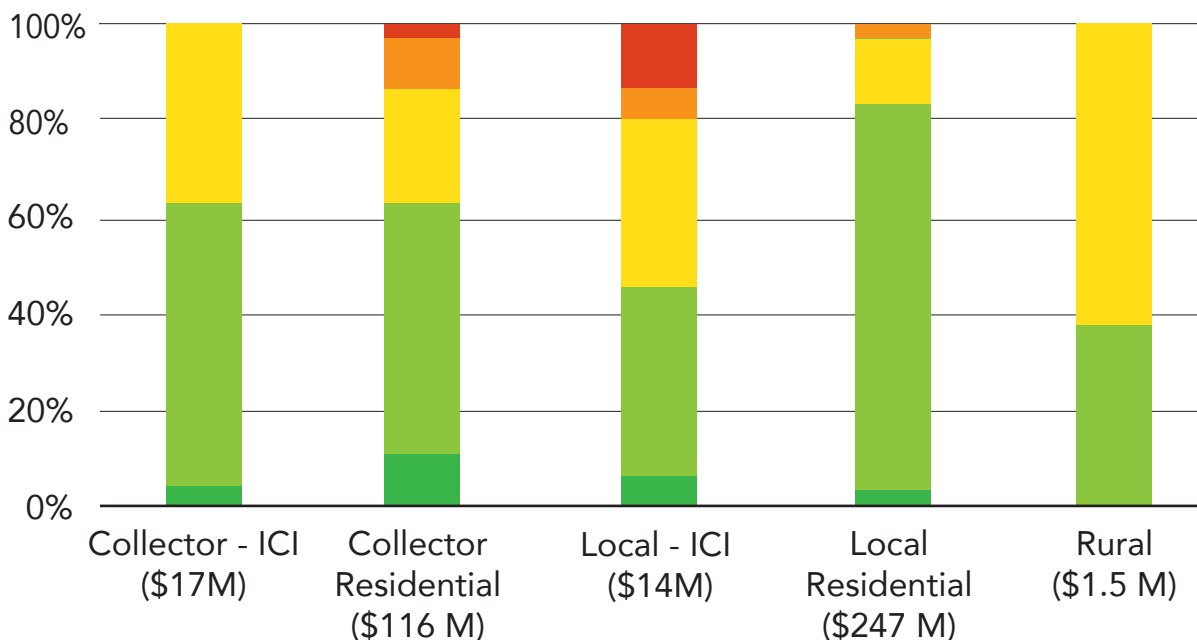
WHAT CONDITION ARE OUR ASSETS IN?

Very Good Good Fair Poor Very Poor Unknown

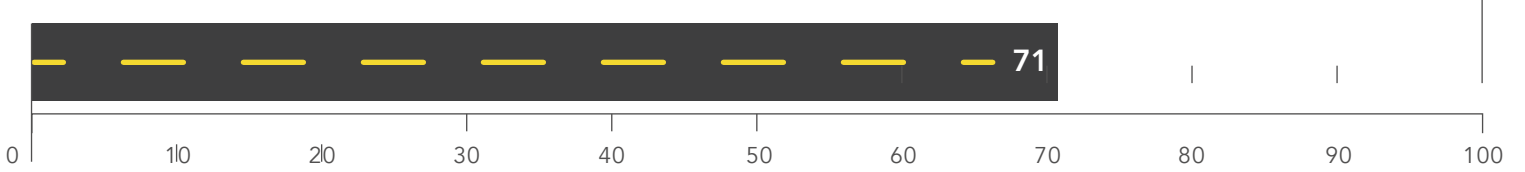
Current Condition & Replacement Cost (\$ Millions)



Road Condition Breakdown by Service Type

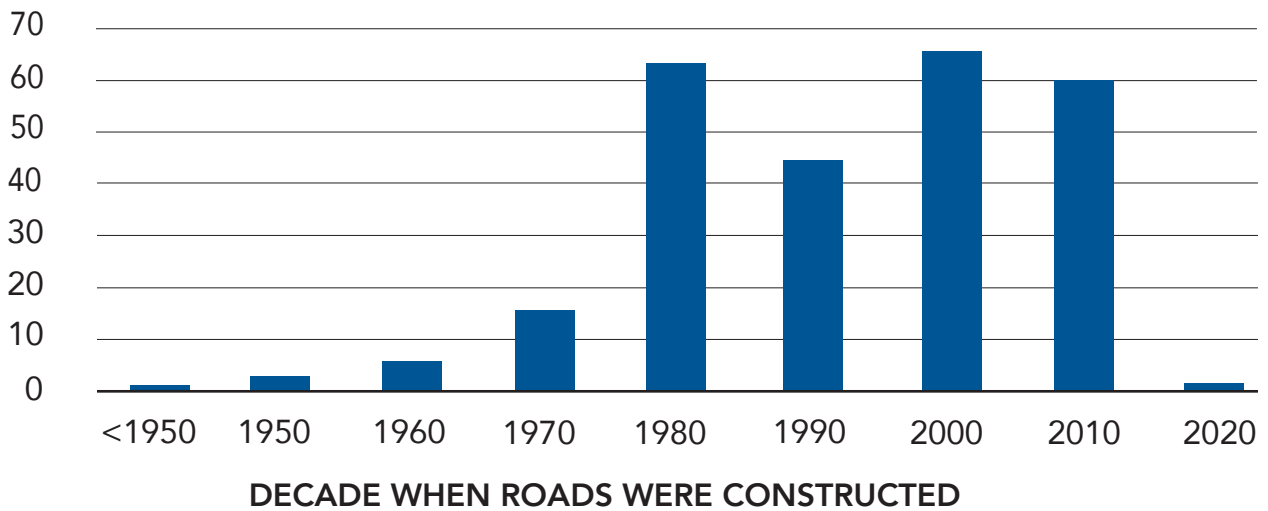


Average Road Pavement Condition (out of 100)

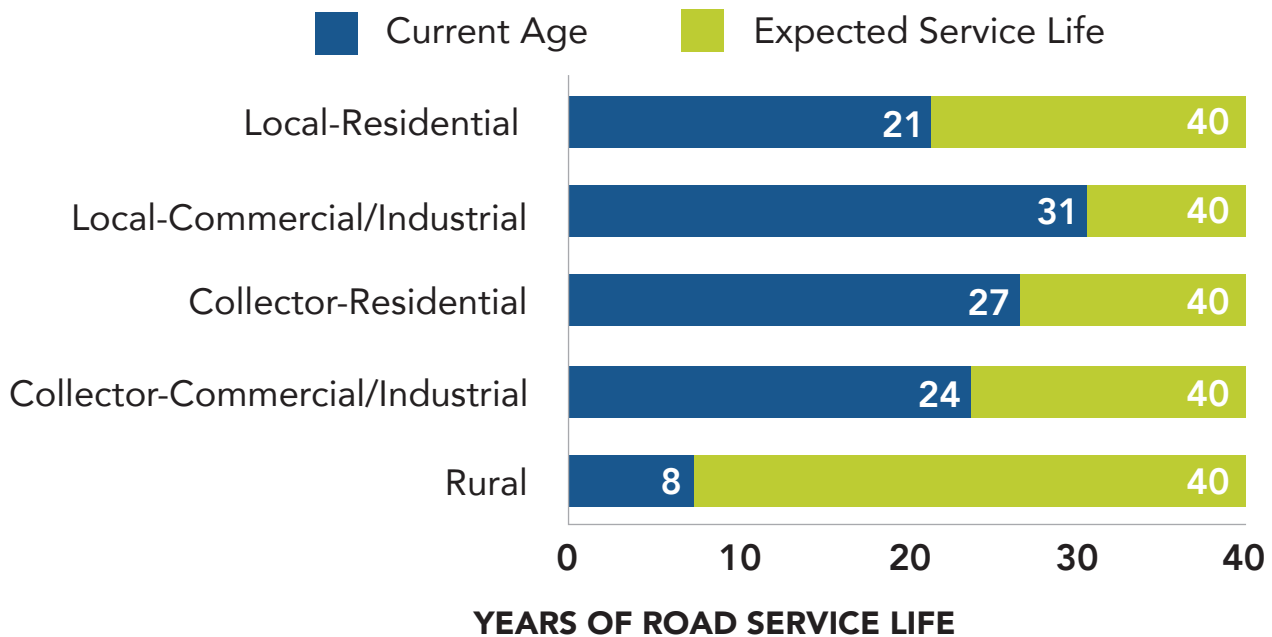


HOW OLD ARE OUR ASSETS?

DECADE OF ROAD CONSTRUCTION (TOTAL KILOMETERS)



AVERAGE AGE AND EXPECTED SERVICE LIFE OF ROADS



WHAT WOULD OUR ASSETS COST TO RECONSTRUCT IN 2021?

Local Roads
\$262,054,000

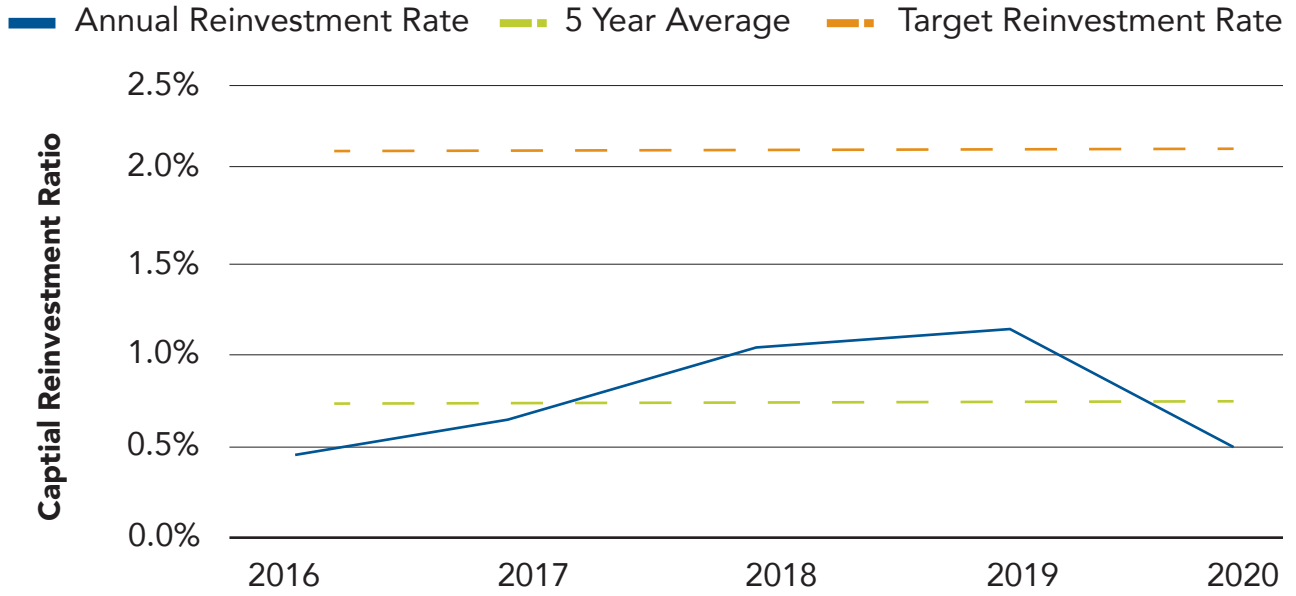
\$395 MILLION

Collector Roads
\$133,568,000

CURRENT CAPITAL SPENDING

CAPITAL REINVESTMENT (5 YEAR AVERAGE)	\$3.28M
REINVESTMENT RATIO * (5 YEAR AVERAGE)	0.84%

HISTORICAL ACTUAL REINVESTMENT RATIO IN ROADS Percentage of Total Replacement Cost (%)



* **Reinvestment Ratio:** A financial measure indicating the Towns reinvestment into existing assets via the capital program. The Canada Infrastructure Report Card recommends a minimum annual reinvestment ratio of 1%

INFRASTRUCTURE PURPOSE

The Town's bridges provide a safe passage to vehicles, cyclists, and pedestrians. Some also serve as local landmarks in Town. Each structure is inspected every two years as mandated by the Province of Ontario.



REPLACEMENT COST:
\$46 Million



AVERAGE NETWORK CONDITION
FAIR



INVENTORY
Vehicle Bridges: 13
Foot Bridges: 36
Structural Culvert: 18

DETAILS:

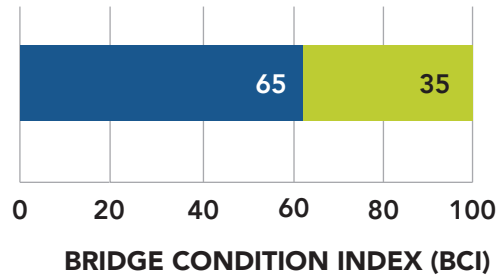
Life Expectancy

To date, our bridges have consumed on average 63% of its expected lifespan, based on age. In spite of this, our bridges received an overall Fair rating based on biannual contracted engineering inspections that assess bridge's condition (BCI).

Average Rating: Fair.

AVERAGE BRIDGE CONDITION INDEX OF TOWN BRIDGES & CULVERTS

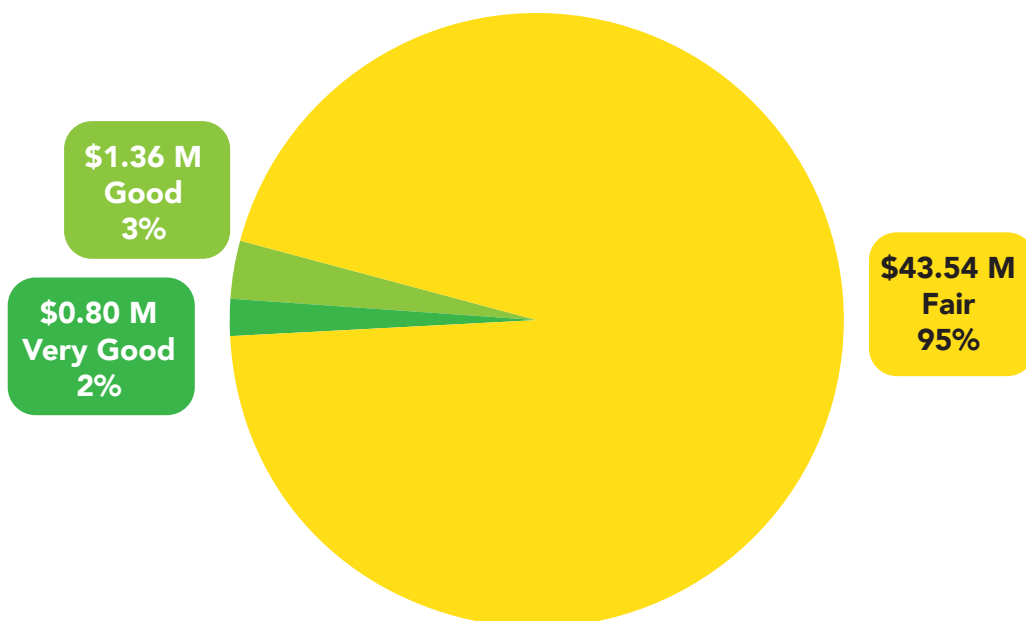
■ Average BCI (2019 Inspection) ■ BCI Consumed to Date (2019 Inspection)



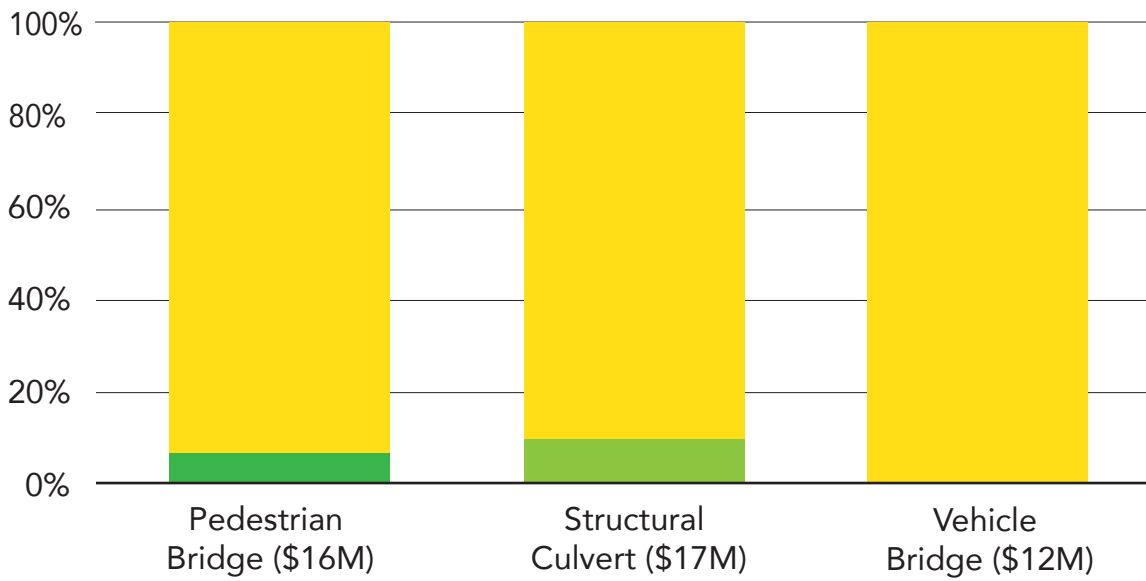
WHAT CONDITION ARE OUR ASSETS IN?

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

Current Condition & Replacement Cost (\$ Millions)

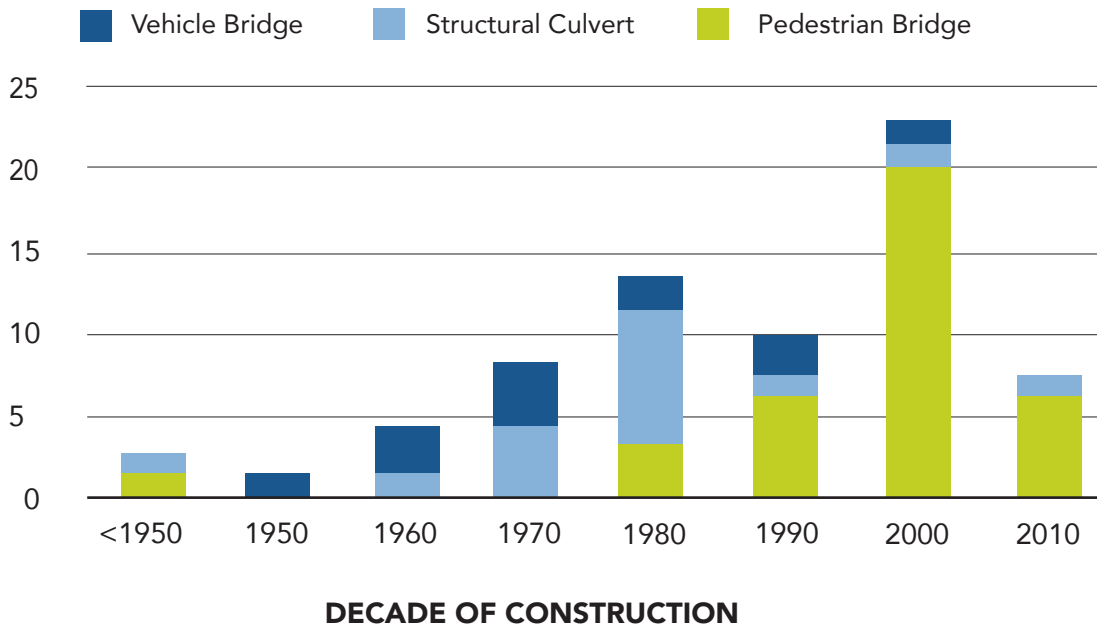


Bridge Condition Breakdown by Service Type

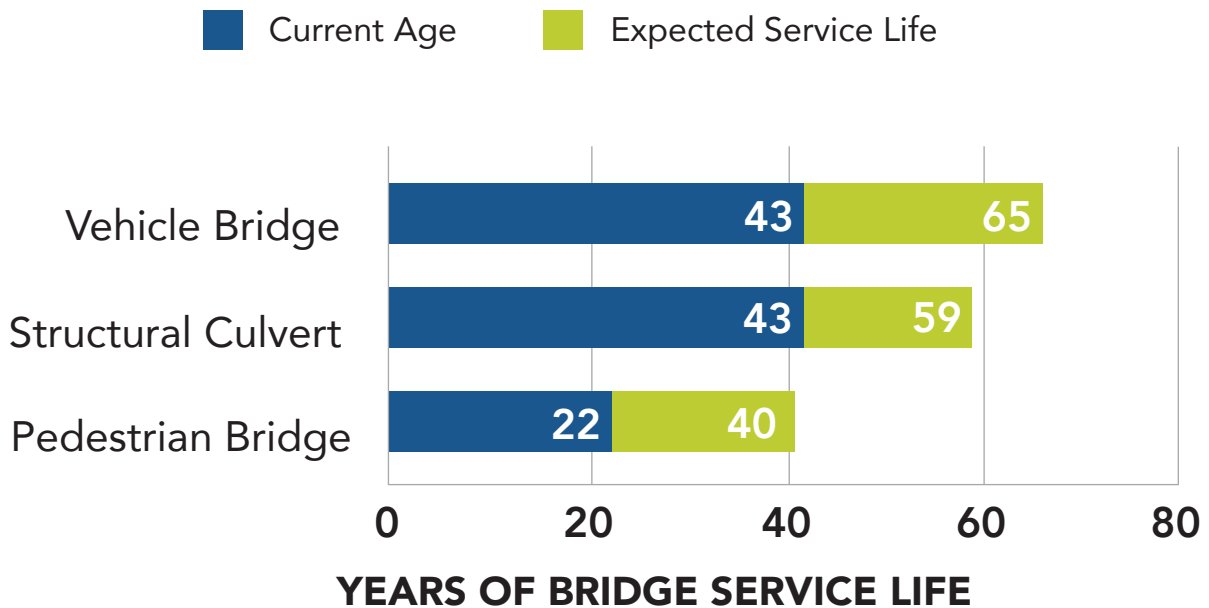


HOW OLD ARE OUR ASSETS?

BRIDGE INVENTORY BY DECADE CONSTRUCTED

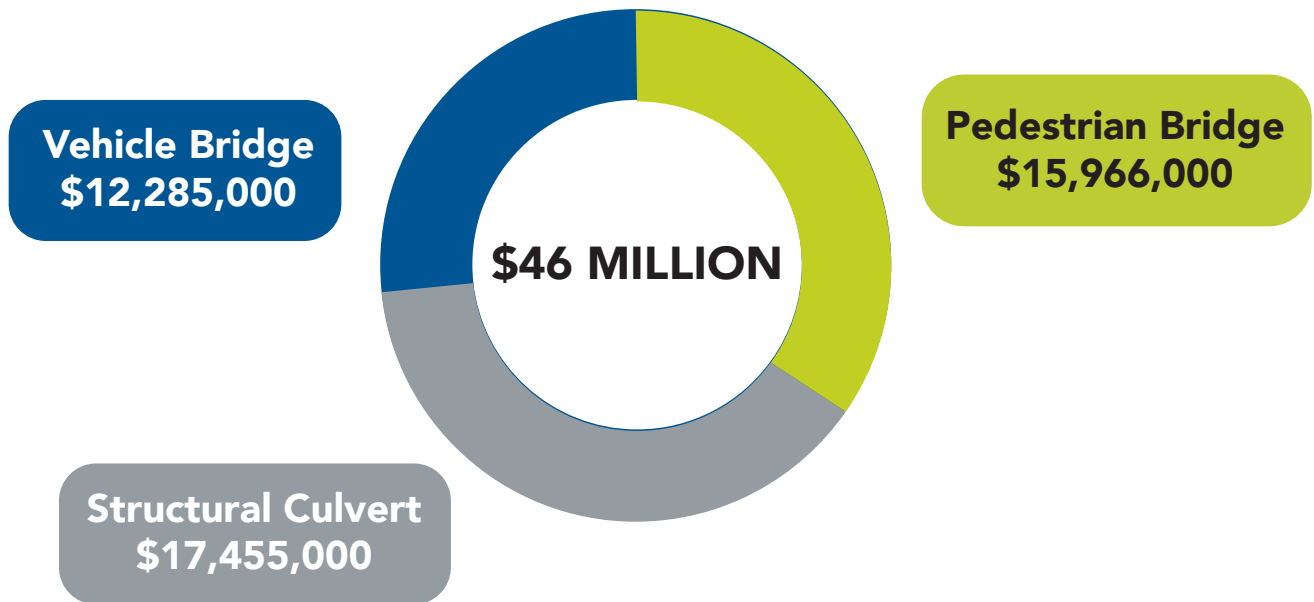


AVERAGE AGE AND EXPECTED SERVICE LIFE OF BRIDGES



WHAT WOULD OUR ASSETS COST TO RECONSTRUCT IN 2021?

TOTAL ASSET REPLACEMENT COST OF BRIDGES

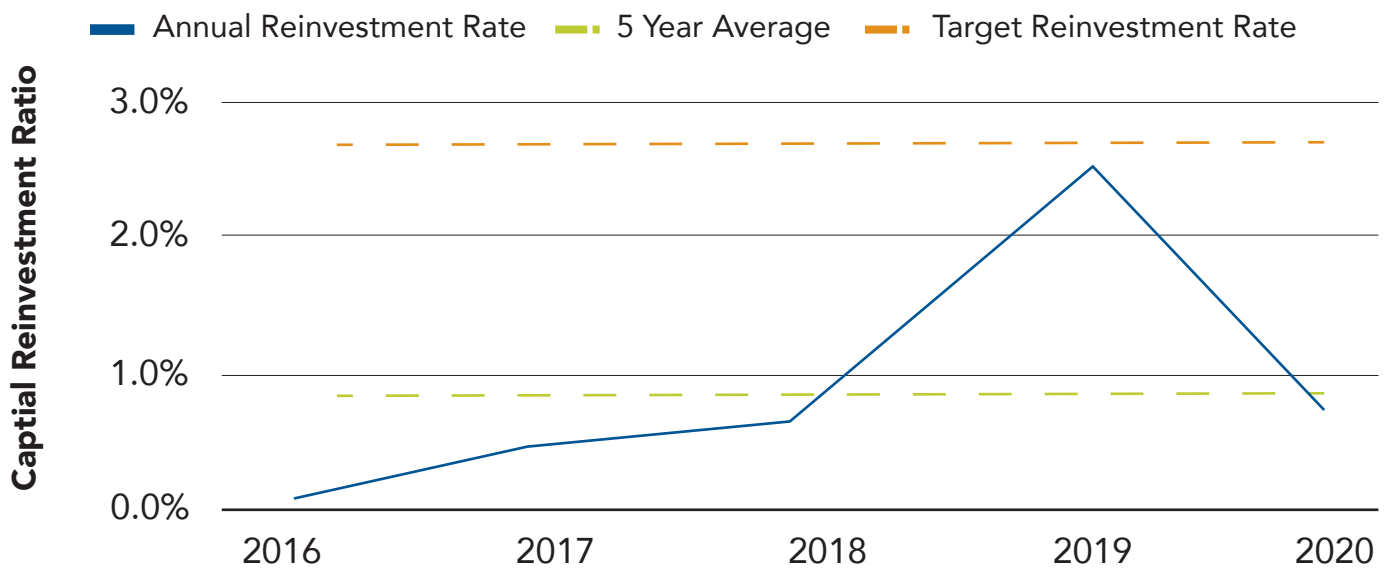


CURRENT CAPITAL SPENDING

CAPITAL REINVESTMENT (5 YEAR AVERAGE)	\$0.57M
REINVESTMENT RATIO * (5 YEAR AVERAGE)	0.12%

HISTORICAL ACTUAL REINVESTMENT RATIO IN BRIDGES

Percentage of Total Replacement Cost (%)



* **Reinvestment Ratio:** A financial measure indicating the Towns reinvestment into existing assets via the capital program. The Canada Infrastructure Report Card recommends a minimum annual reinvestment ratio of 1%

Water Distribution Infrastructure Report Card

INFRASTRUCTURE PURPOSE

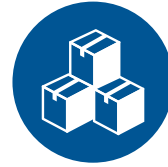
The Town provides drinking water distribution to service residents, business and customers with water purchased from York Region. The distribution system is maintained by the Town for high water quality and reliable supply.



REPLACEMENT COST:
\$487 Million



AVERAGE NETWORK CONDITION
FAIR



INVENTORY
See breakdown below

DETAILS:

Life Expectancy

To date, our water distribution system has used on average, 39% of its intended life span with 61% of its life span remaining.

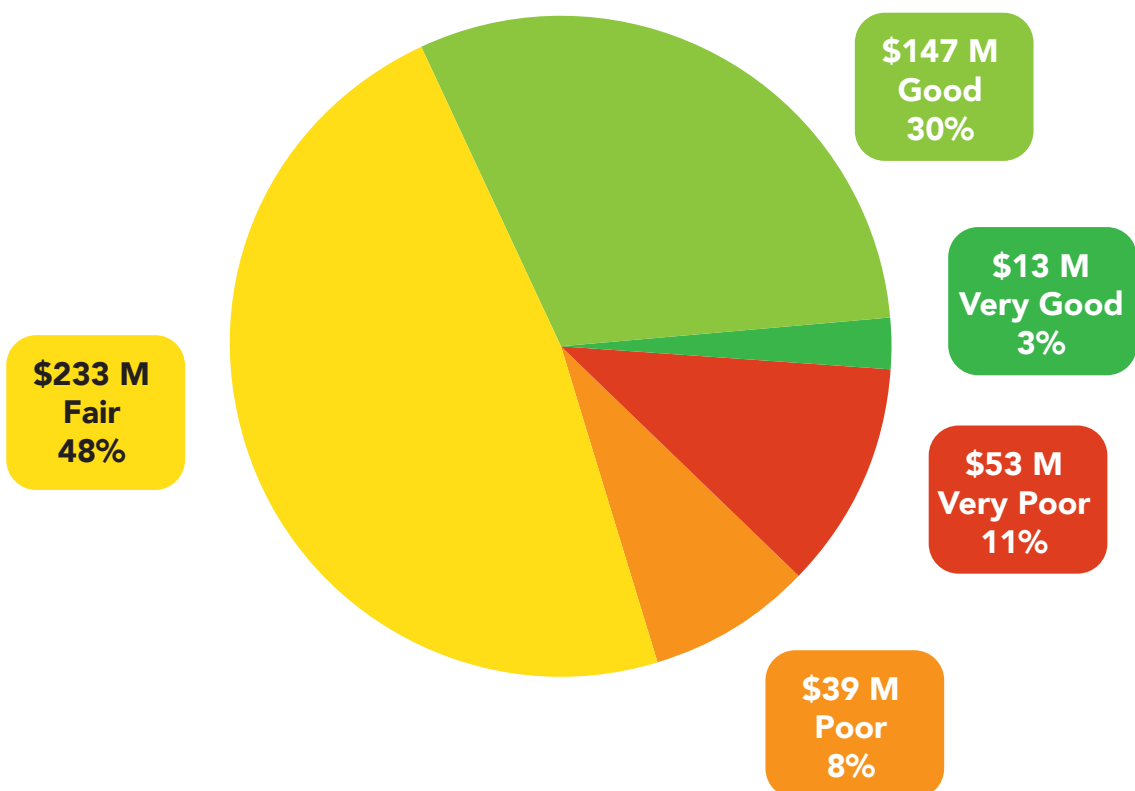
Average Rating: Fair.



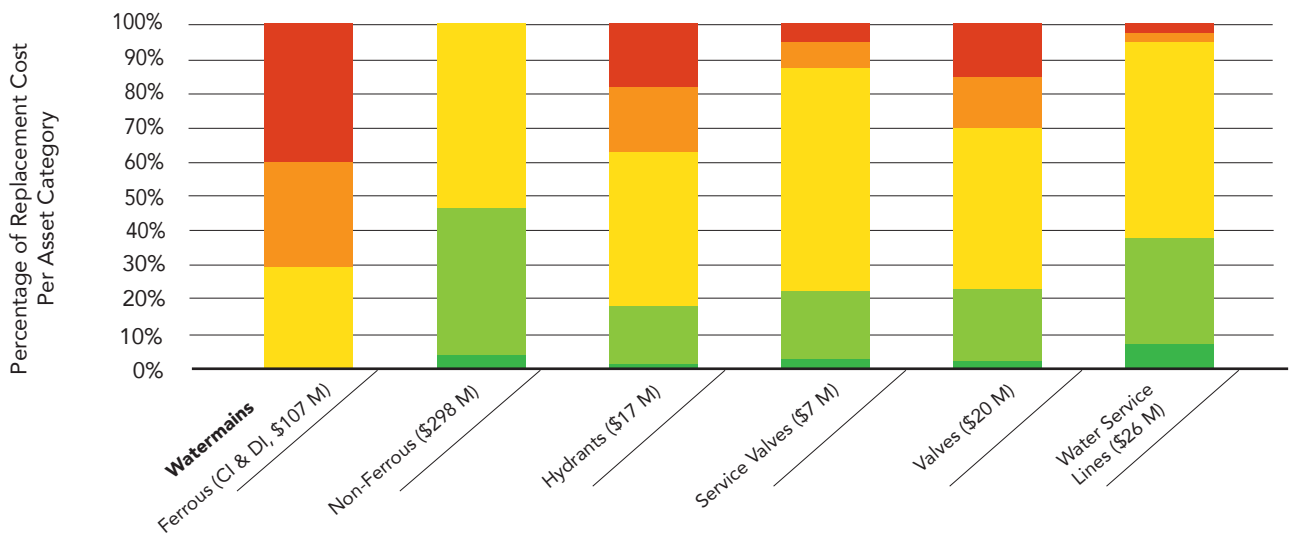
WHAT CONDITION ARE OUR ASSETS IN?

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

Current Condition & Replacement Cost (\$ Millions)



Water Condition Breakdown by Asset Class (Normalized 100%)



Poor condition assets are mostly attributed to iron watermains, which are older and known to break easily. New PVC pipes do not have this vulnerability.

WHAT ASSETS DO WE OWN?

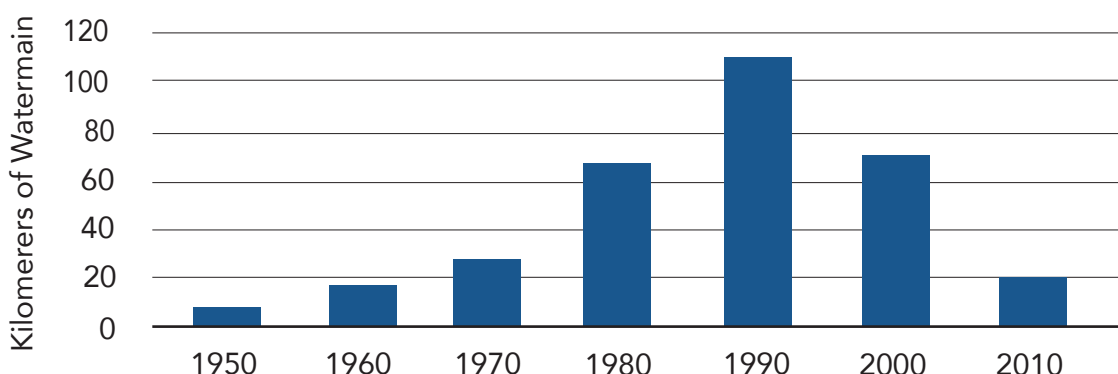
Asset Class	Quantity
Water Mains	308 kilometers
Fire Hydrants	2287 assets
Main Valves	4547 assets
Service Connections (Town-owned)	148 kilometers*
Service Valves	14,824*
Meters	26,172
Bulk Water Stations	1**
Auto-Flushers	10**

*As shown in data assumptions, the provided asset inventories for services are only partially complete and will increase as data improves. These values are extrapolated as required for financial planning.

**Inventory is approximate and assets will be fully incorporated in future AMP updates.

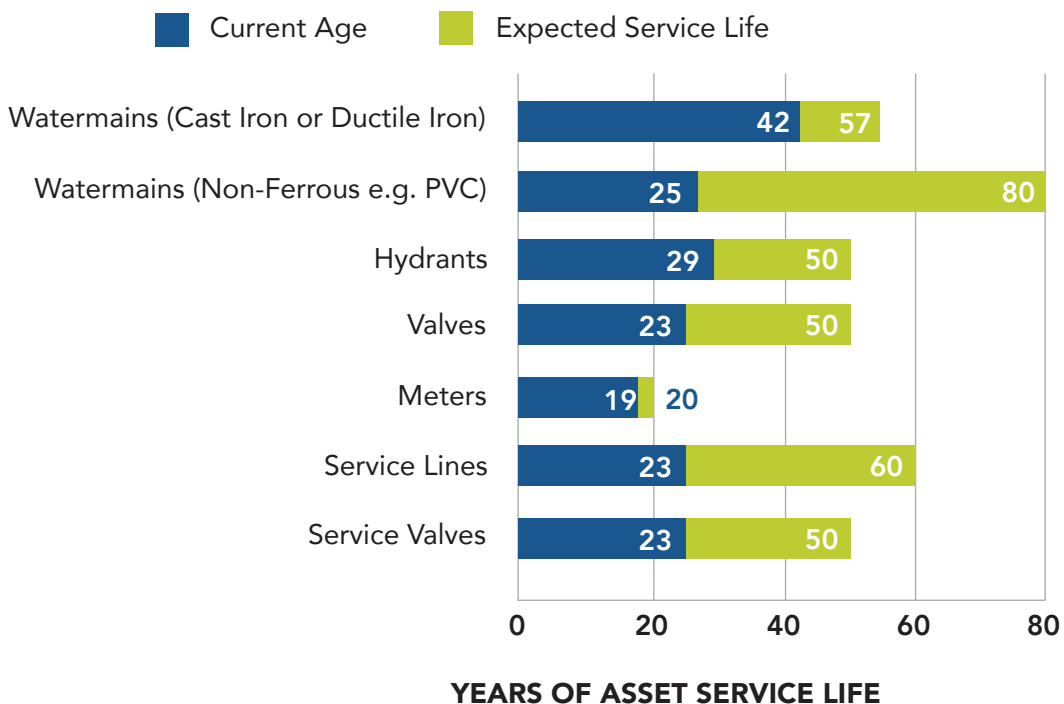
HOW OLD ARE OUR ASSETS?

DECADE OF WATERMAIN CONSTRUCTION (Total Kilometers)



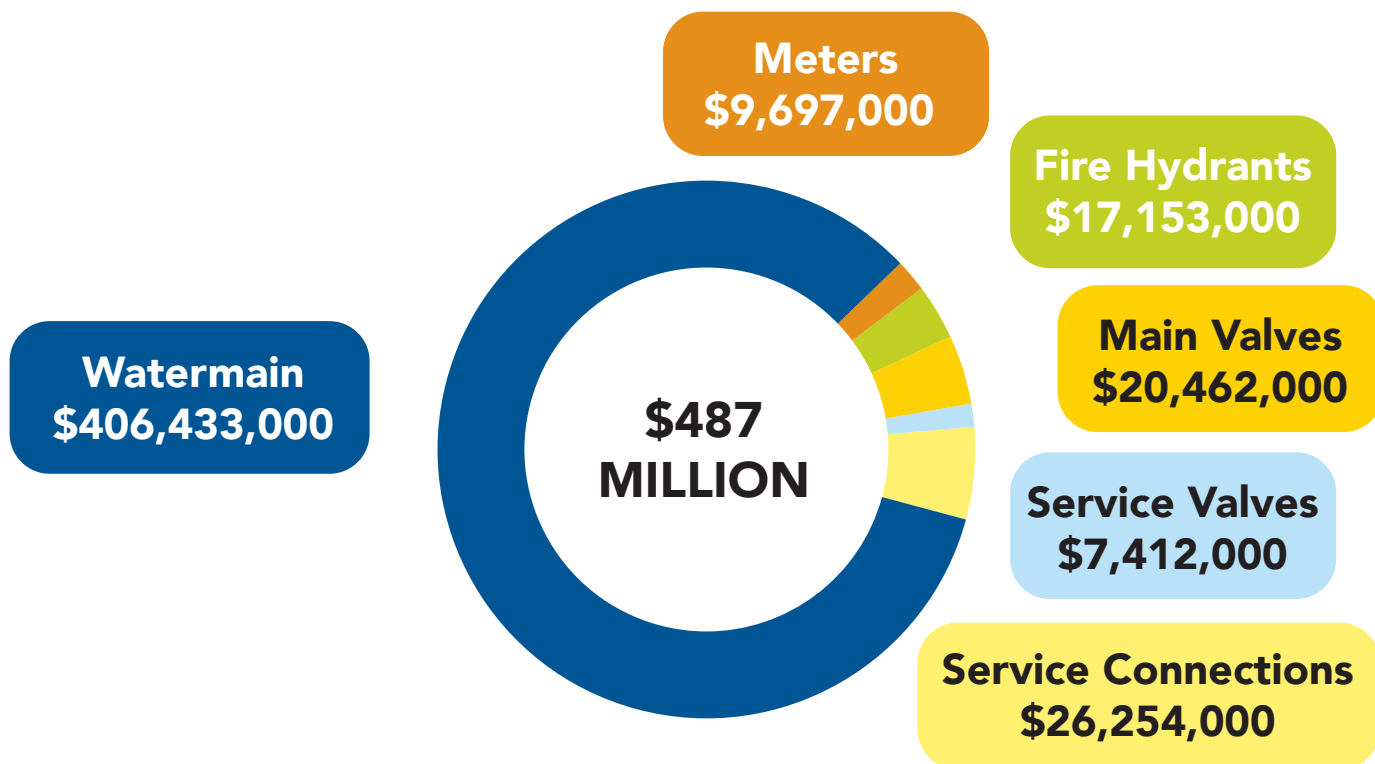
DECADE WATERMAINS WERE CONSTRUCTED

AVERAGE AGE AND EXPECTED SERVICE LIFE OF WATER INFRASTRUCTURE



WHAT WOULD OUR ASSETS COST TO RECONSTRUCT IN 2021?

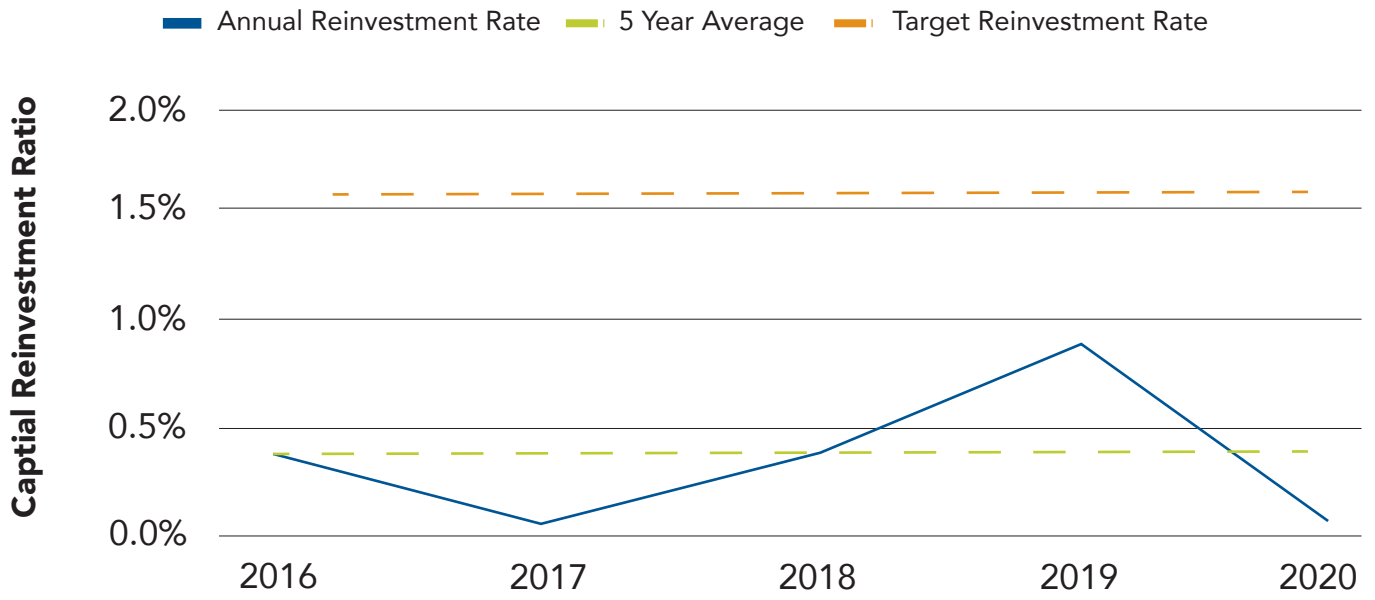
TOTAL ASSET REPLACEMENT COST OF DRINKING WATER



CURRENT CAPITAL SPENDING

CAPITAL REINVESTMENT (5 YEAR AVERAGE)	\$1.53M
REINVESTMENT RATIO * (5 YEAR AVERAGE)	0.32%

HISTORICAL ACTUAL REINVESTMENT RATIO IN WATER Percentage of Total Replacement Cost (%)



* **Reinvestment Ratio:** A financial measure indicating the Towns reinvestment into existing assets via the capital program. The Canada Infrastructure Report Card recommends a minimum annual reinvestment ratio of 1%

INFRASTRUCTURE PURPOSE

The Town collects wastewater from residents, sending it to York Region trunk sewers and facilities. The Town maintains the wastewater system to ensure it has the capacity to support the community's wastewater needs.



REPLACEMENT COST:
\$475 Million



AVERAGE NETWORK CONDITION
FAIR



INVENTORY
See table below

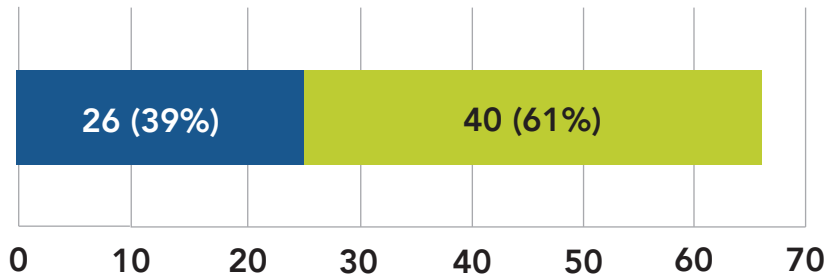
DETAILS:

Life Expectancy

To date, our wastewater collection system has consumed on average, 39% of its intended life span with 61% of its life span remaining.

Average Rating: Fair.

■ Current Average Age
■ Average Remaining Life

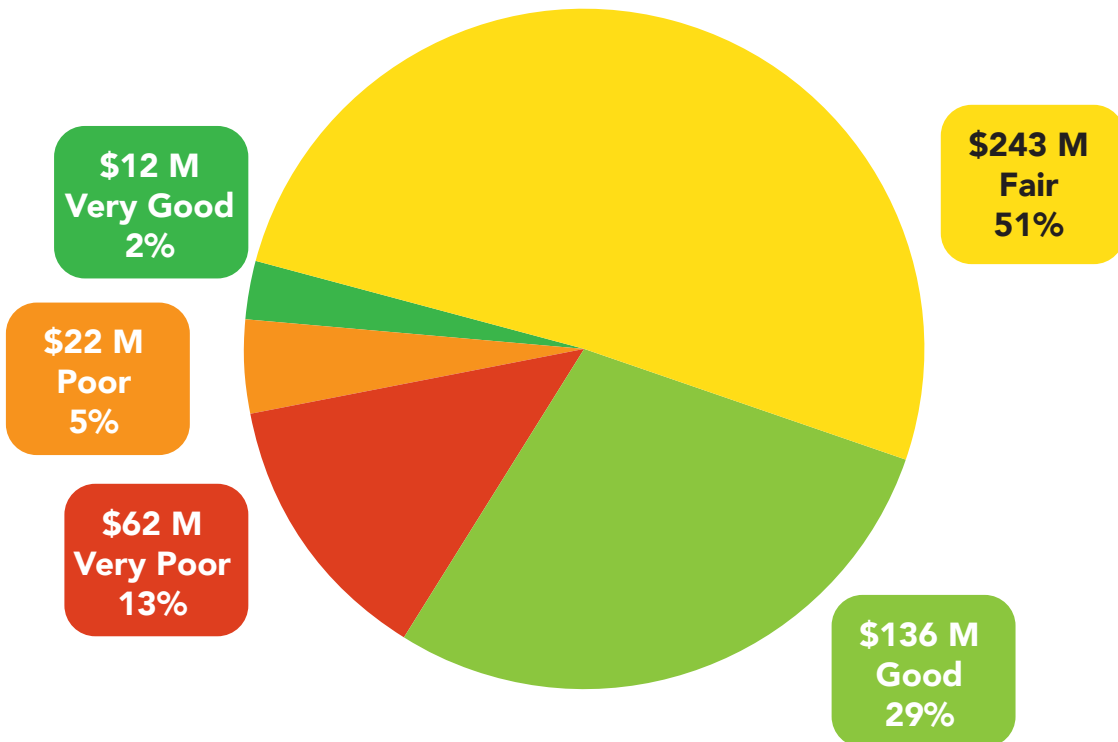


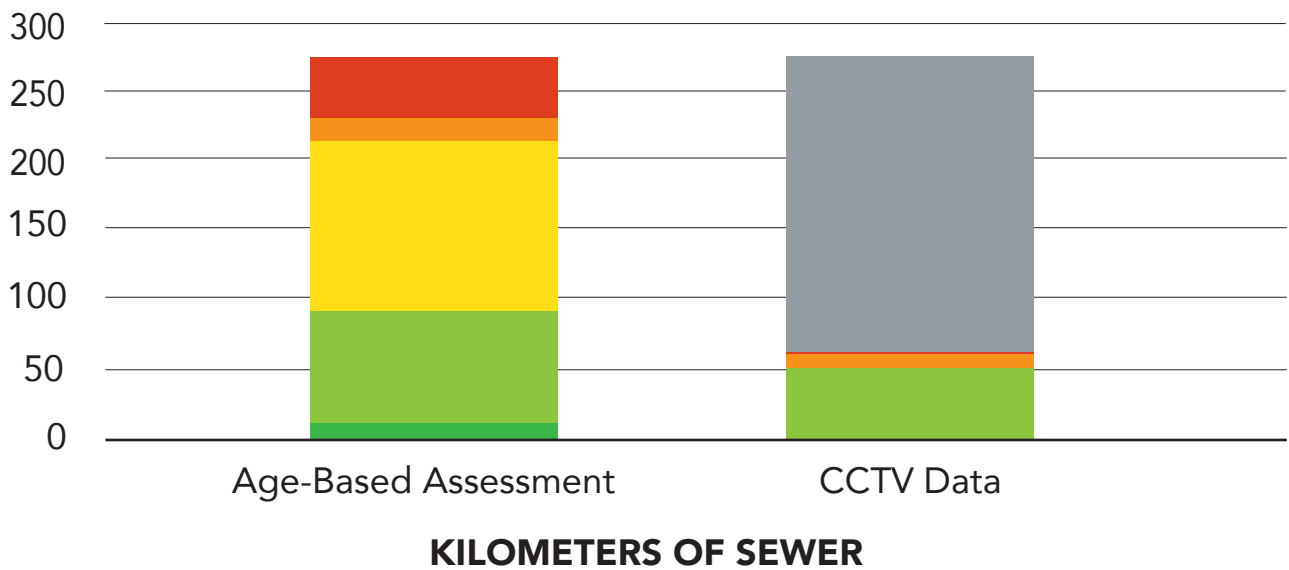
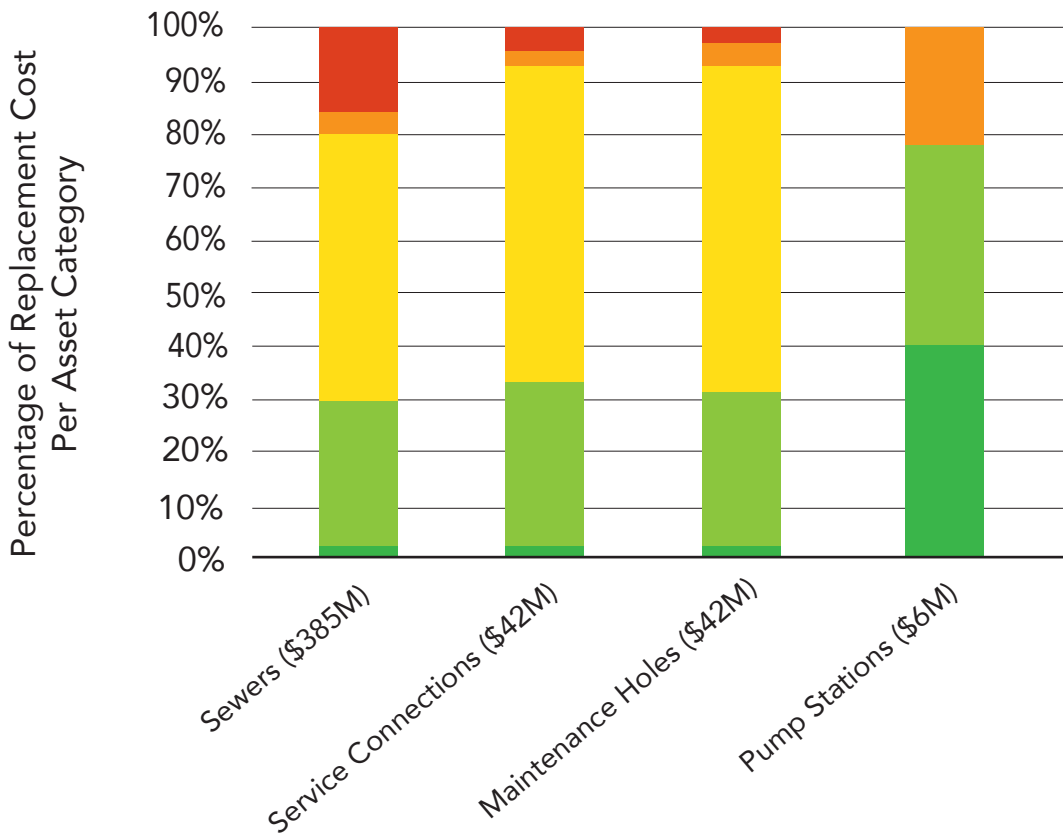
Average Expected Service Life = 66 Years

WHAT CONDITION ARE OUR ASSETS IN?

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

Current Condition & Replacement Cost (\$ Millions)



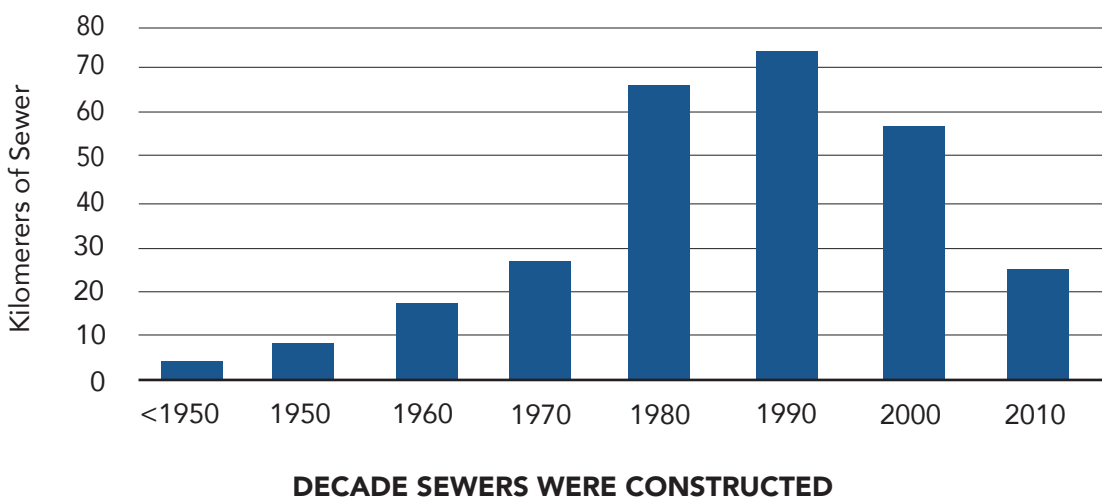


WHAT ASSETS DO WE OWN?

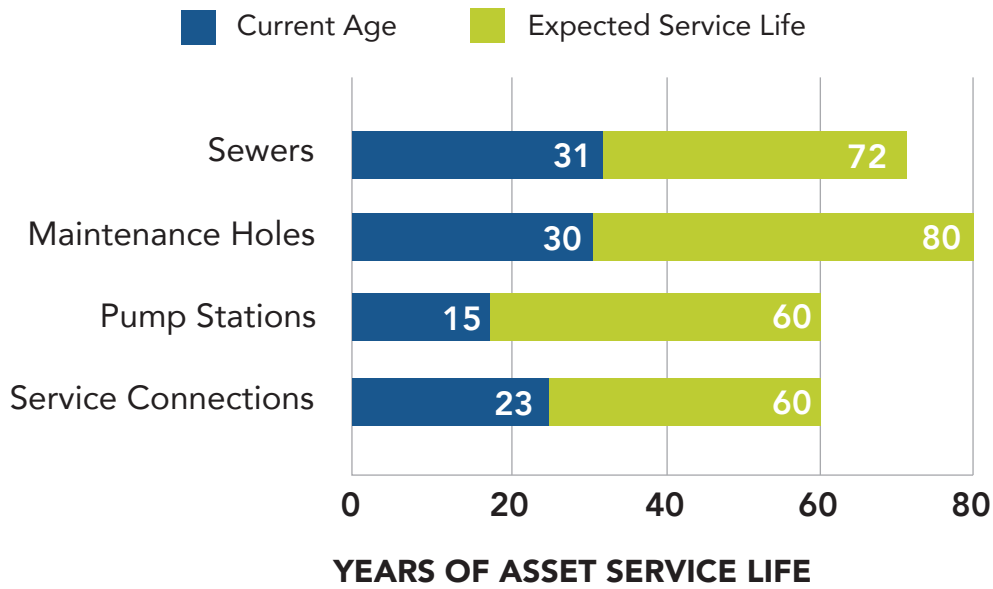
Asset Class	Quantity
Sewer	273 kilometers
Maintenance Holes	4,302 assets
Pump Stations	6 pump stations
Service Connections (Town-owned)	168 kilometers*

*As shown in data assumptions, the provided asset inventories for services are only partially complete and will increase as data improves. These values are extrapolated as required for financial planning.

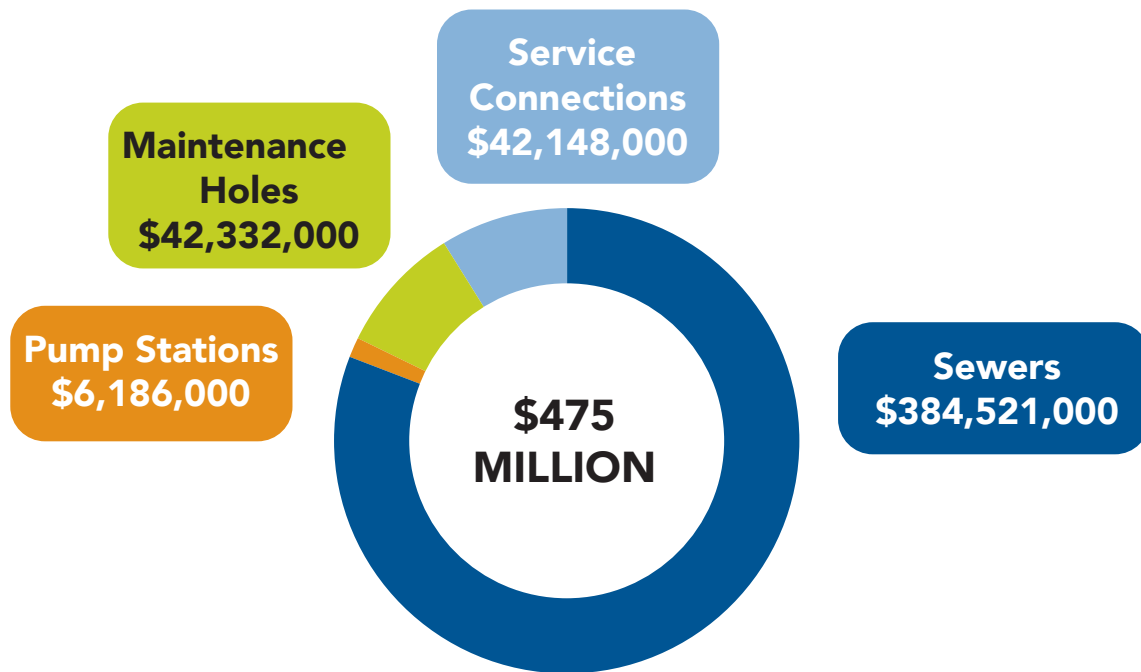
HOW OLD ARE OUR ASSETS?



AVERAGE AGE AND EXPECTED SERVICE LIFE OF WASTEWATER



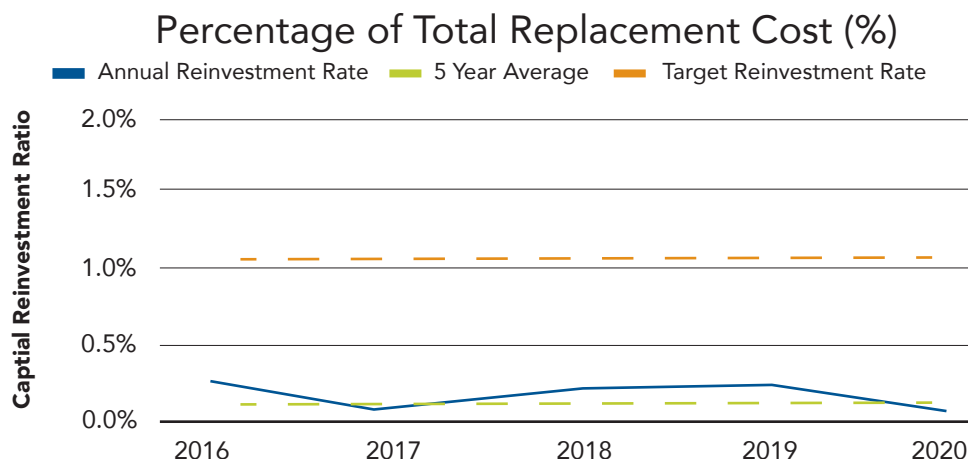
WHAT WOULD OUR ASSETS COST TO RECONSTRUCT IN 2021?



CURRENT CAPITAL SPENDING

CAPITAL REINVESTMENT (5 YEAR AVERAGE)	\$0.57M
REINVESTMENT RATIO * (5 YEAR AVERAGE)	0.12%

HISTORICAL ACTUAL REINVESTMENT RATIO IN WASTEWATER



* **Reinvestment Ratio:** A financial measure indicating the Towns reinvestment into existing assets via the capital program. The Canada Infrastructure Report Card recommends a minimum annual reinvestment ratio of 1%

INFRASTRUCTURE PURPOSE

The Town provides stormwater collection, treatment, and infiltration using a combination of sewer, drainage features, and facilities. Stormwater is treated for both quality and quantity to ensure adequate drainage, safe passage, and environmental stewardship.



REPLACEMENT COST:
\$628 Million



AVERAGE NETWORK CONDITION
FAIR



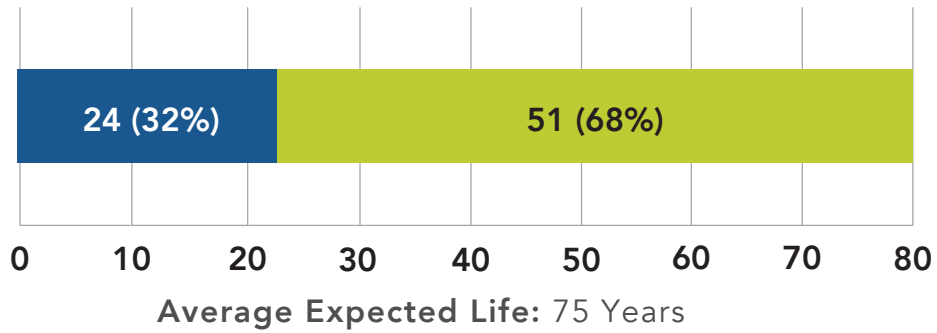
INVENTORY
See table below

DETAILS:

Life Expectancy

To date, our stormwater system has used on average, 32% of its intended life span with 68% of its life span remaining.
Average Rating: Fair.

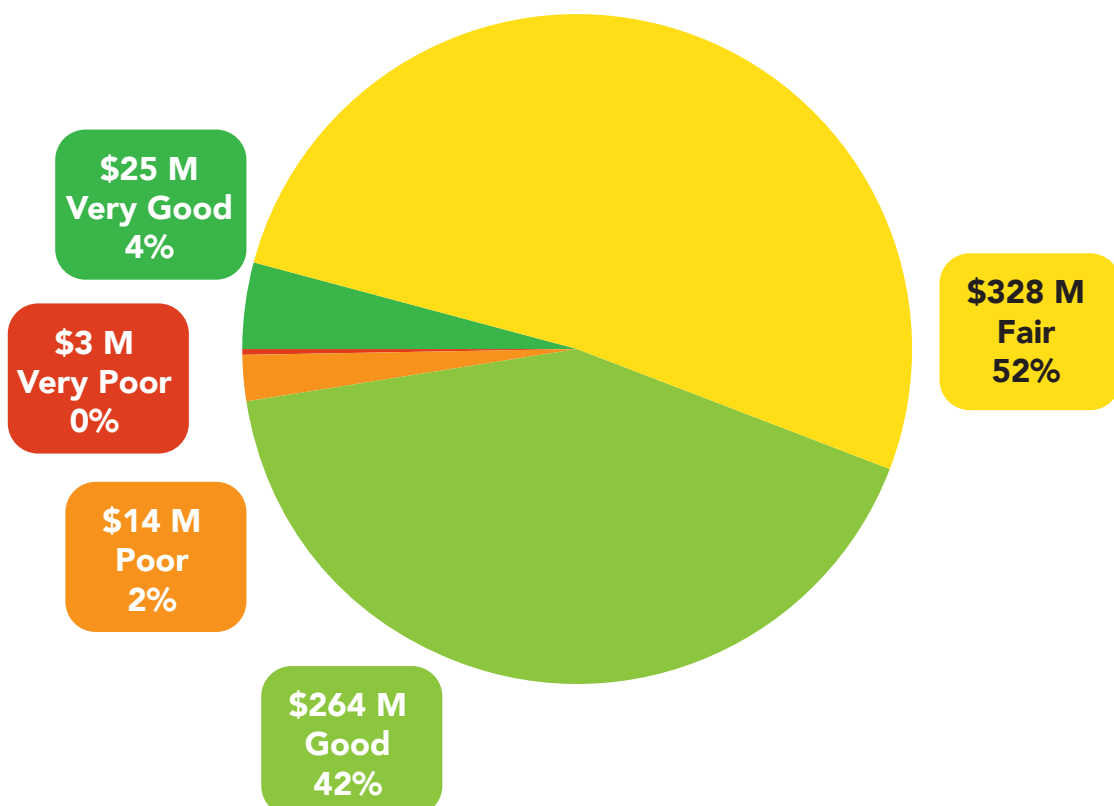
■ Current Average Age
■ Average Remaining Life



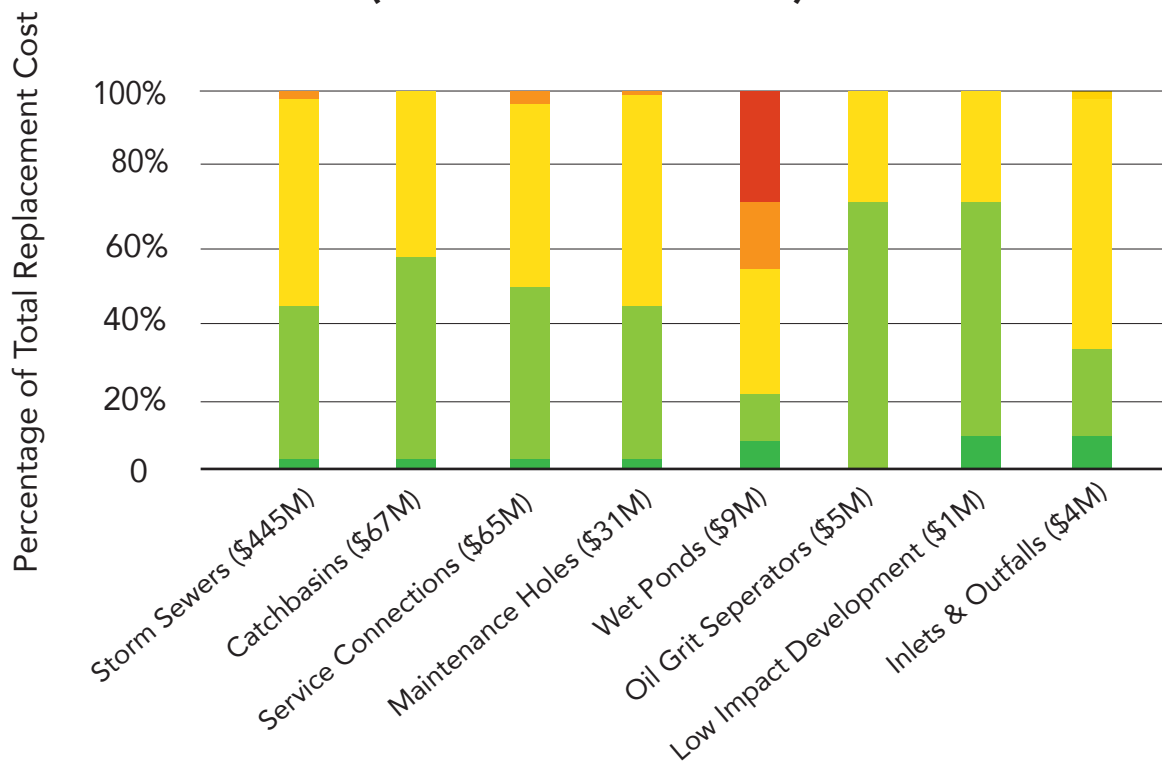
WHAT CONDITION ARE OUR ASSETS IN?

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

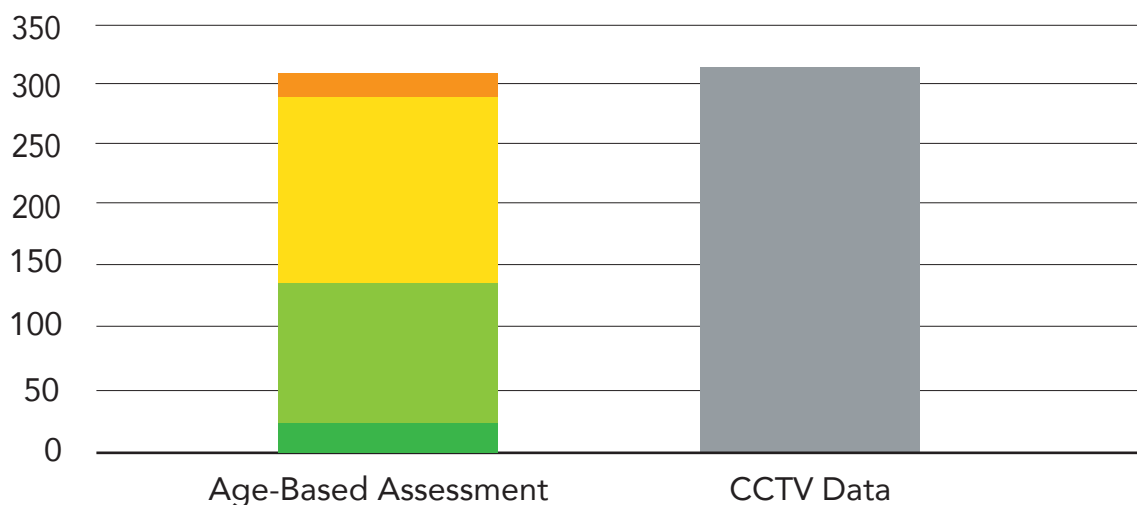
Current Condition & Replacement Cost (\$ Millions)



Stormwater Condition Breakdown by Asset Class (Normalized / 100%)



Sewer Condition: Comparison of Age-Based Analysis with Available CCTV Inspection Data



WHAT ASSETS DO WE OWN?

Asset Class	Quantity
Sewers	297 kilometers
Maintenance Holes	3,467 assets
Catchbasins	7,608 catchbasins
Wet Ponds*	42 ponds
Dry Ponds*, **	18 ponds
Inlets & Outfalls at Ponds	371 assets
Oil Grit Separators	36 assets
Low Impact Drainage	21 locations
Service Connections (Town-owned)***	71 kilometers

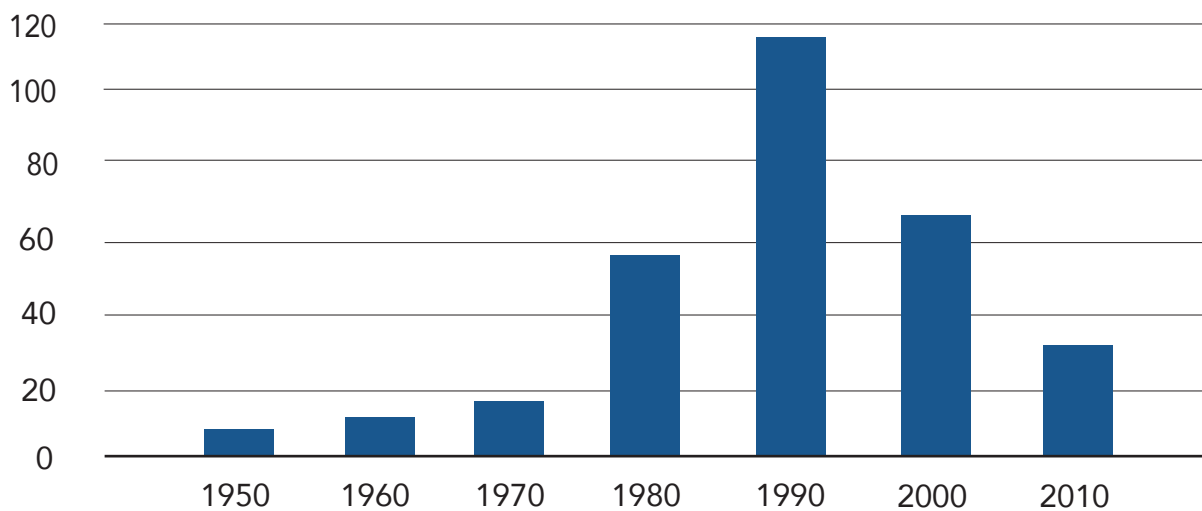
*The Town is undergoing a significant GIS update for ponds, and the current database contains some assets that are being redefined as other facility types, natural water bodies, etc. The Town owns and maintains 34 wet ponds and 21 dry ponds – GIS data will soon reflect this. Subsequent sections of the AMP are based on this understanding.

**Dry ponds are included in the asset management plan but were not assessed for their condition because at current practice they are naturalized and only require vegetation maintenance. As the Town's understanding of dry ponds changes the AMP will be updated reflect this – some dry pond costs may currently be unaccounted for such as measures to adhere to the Lake Simcoe Protection Plan.

***The service connection asset inventory is only partially complete and will increase in quantity as data improves. These values are extrapolated as required for financial planning.

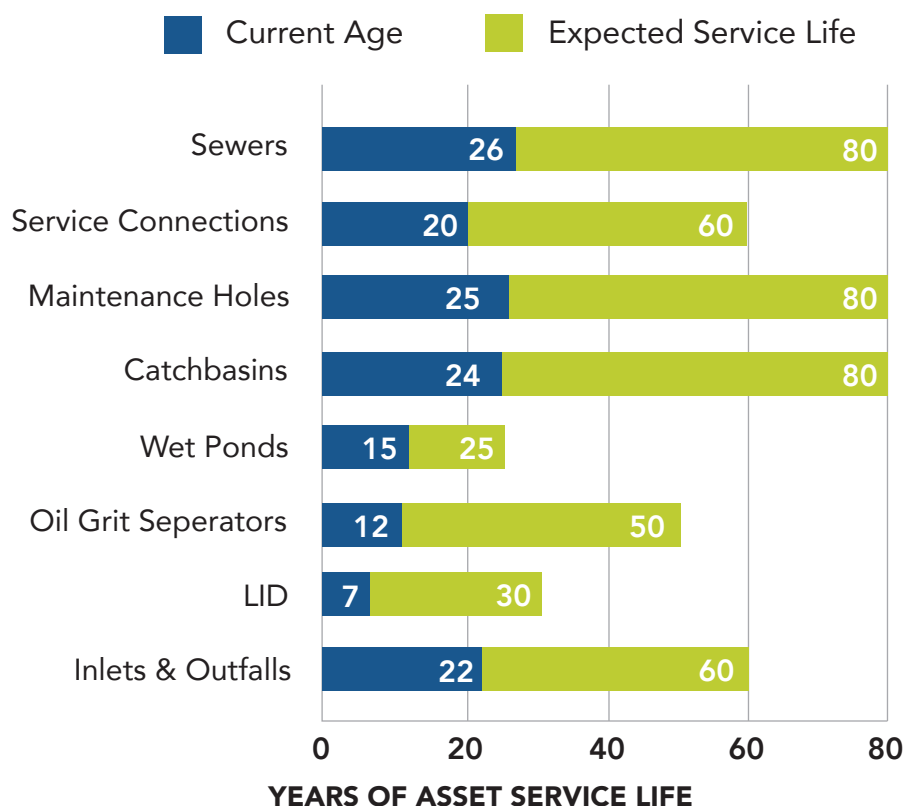
HOW OLD ARE OUR ASSETS?

DECADE OF STORMWATER SEWER CONSTRUCTION



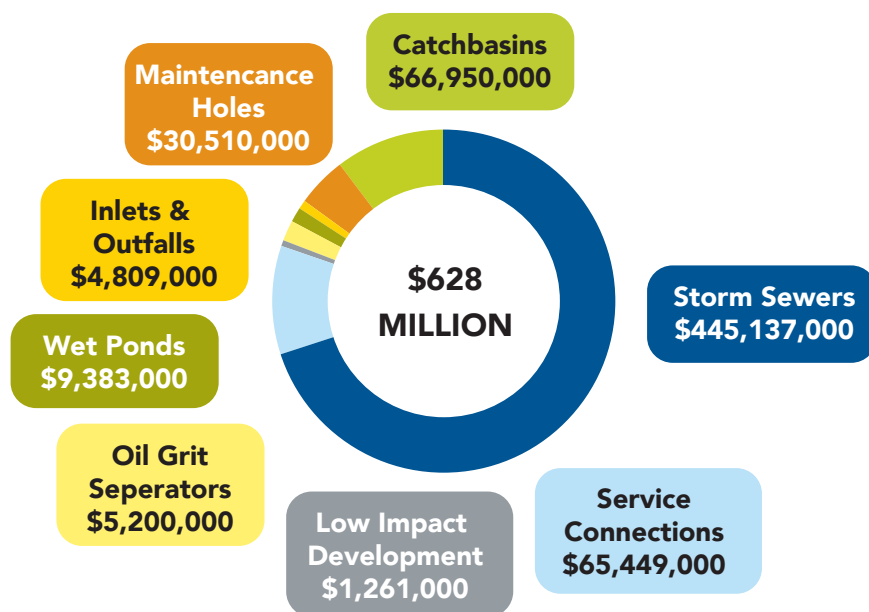
DECADE SEWERS WERE CONSTRUCTED

AVERAGE AGE AND EXPECTED SERVICE LIFE OF STORMWATER INFRASTRUCTURE



WHAT WOULD OUR ASSETS COST TO RECONSTRUCT IN 2021?

TOTAL ASSET REPLACEMENT COST OF STORMWATER



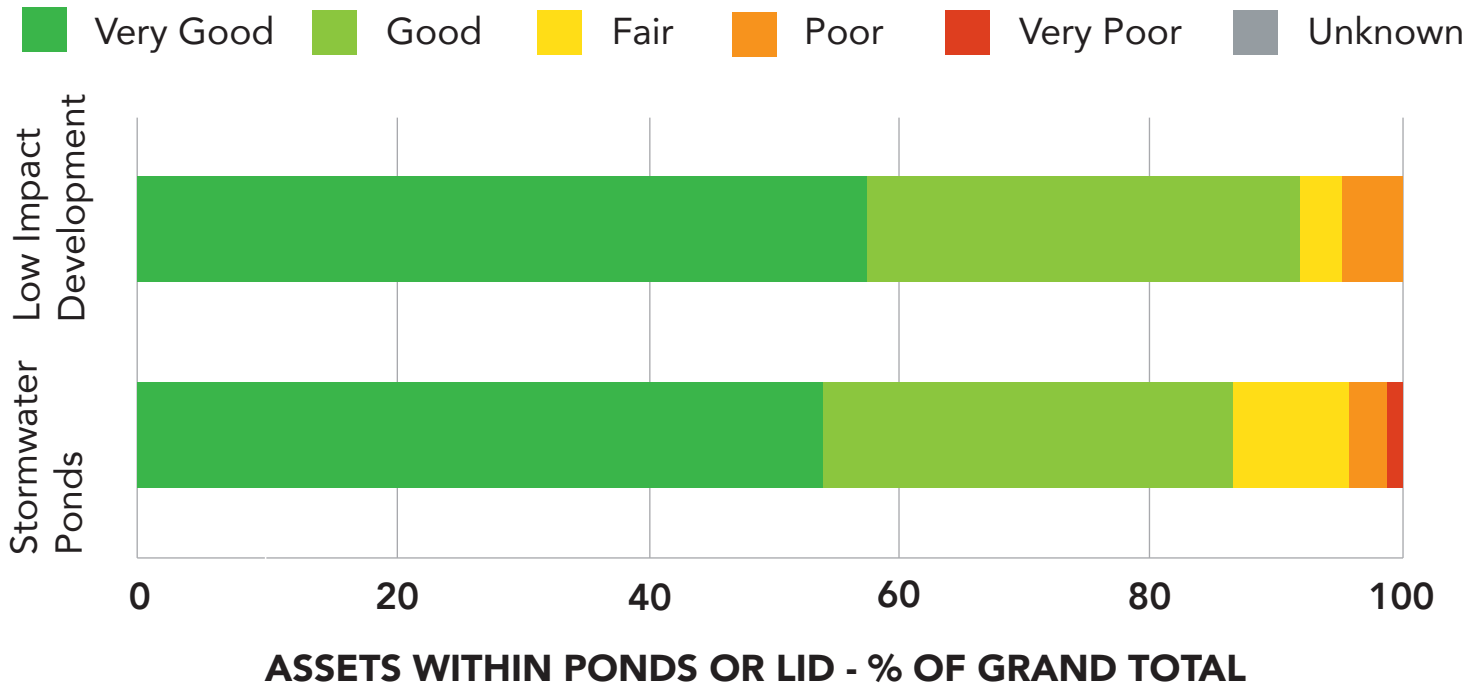
POND INSPECTION PROGRAM

In 2021, inspections of pond assets yielded the following results:

- 19 out of the 55 ponds inspected had one or more assets with a value of 4 or 5.
- 2 of 15 LIDs inspected had one or more assets with a value of 4 or 5.

Results of storm pond and LID inspections break down as follows. After inspections are complete, the Town begins planning maintenance projects for corrective action.

2021 POND INSPECTION PROGRAM CONDITION OF ASSETS WITHIN PONDS

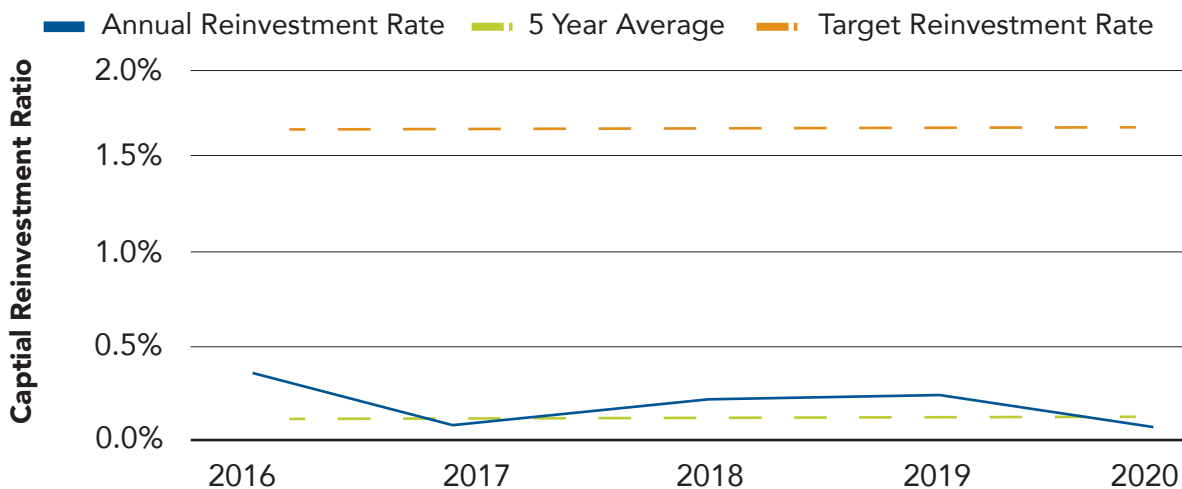


CURRENT CAPITAL SPENDING

CAPITAL REINVESTMENT (5 YEAR AVERAGE)	\$0.44M
REINVESTMENT RATIO * (5 YEAR AVERAGE)	0.07%

HISTORICAL ACTUAL REINVESTMENT RATIO IN STORMWATER

Percentage of Total Replacement Cost (%)



* **Reinvestment Ratio:** A financial measure indicating the Town's reinvestment into existing assets via the capital program. The Canada Infrastructure Report Card recommends a minimum annual reinvestment ratio of 1%