

State of Infrastructure Report



August 2022



Acknowledgements

The development of this document involved the collaborative efforts of City staff within multiple departments. We would like to extend a sincere thanks and gratitude to all those individuals that contributed their time and expertise. The State of Infrastructure Report could not have been developed without their contributions.

Project Team and Sponsor

Steering Committee

Project Working Group and Resource Members

Asset Management Governance Committee

Consulting Services:

Associated Engineering (Sask) Ltd.



Land Acknowledgements

The City of Regina acknowledges we are on the traditional lands of the Treaty 4 Territory, a Treaty signed with 35 First Nations across Southern Saskatchewan and parts of Alberta and Manitoba and the original lands of the Cree, Salteaux, Dakota, Nakota, Lakota and the homeland of the Metis.

The City of Regina owes its strength and vibrancy to these lands and the diverse Indigenous Peoples whose ancestors' footsteps have marked this territory, as well as settlers from around the world who continue to be welcomed here and call Regina home.





Executive Summary

The City of Regina (City) provides a wide range of services to residents, businesses and visitors. Many of these services are delivered through the assets owned, operated and maintained by the City. These assets support environmental, social and economic well being of the community and are distributed throughout the various neighbourhoods that make up Regina. For the City to continue providing these services, it is important to know the current state of our assets.

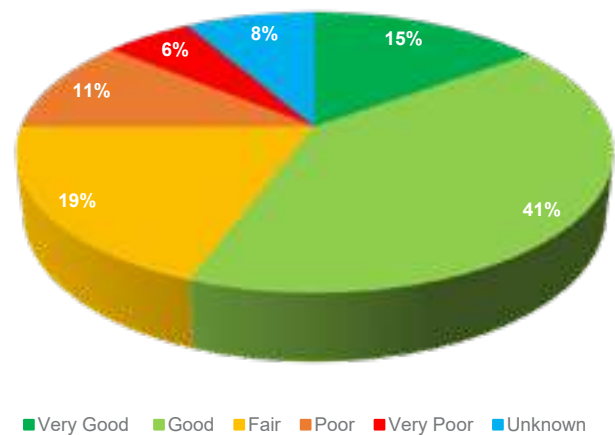
This State of Infrastructure Report (Report) describes the asset inventory, value, life, condition and the investment needed to maintain service levels. This is a snapshot in time representative of City assets as of December 31, 2020. The Report includes a wide variety of assets that are essential to providing services, such as the water to drink, roads to drive on, playgrounds for children, pools to swim in, equipment to save lives in an emergency, buildings and vehicles to support services the City provides.

The number of City assets is large and is worth approximately \$12.9 billion for the total replacement value.

Indicators of a service area's health can be derived from the key asset indicators of remaining service life and condition. These indicators can inform decision making at a high level around potential areas of concern and relative magnitude of investment required.

The overall condition of assets is shown based on a five-point rating scale utilized both nationally and internationally that was developed as a universal platform for comparing assets at a corporate level.

Overall Asset Condition



Inherently tied to these indicators is the projected investment need. The investment need considers the capital required to ensure that the level of service provided to residents, businesses and visitors is maintained or meets expectations. The planned or anticipated funding may not meet this projected need. The difference results in a funding gap, which is projected to be approximately \$655 million in capital funding over the next 20 years.

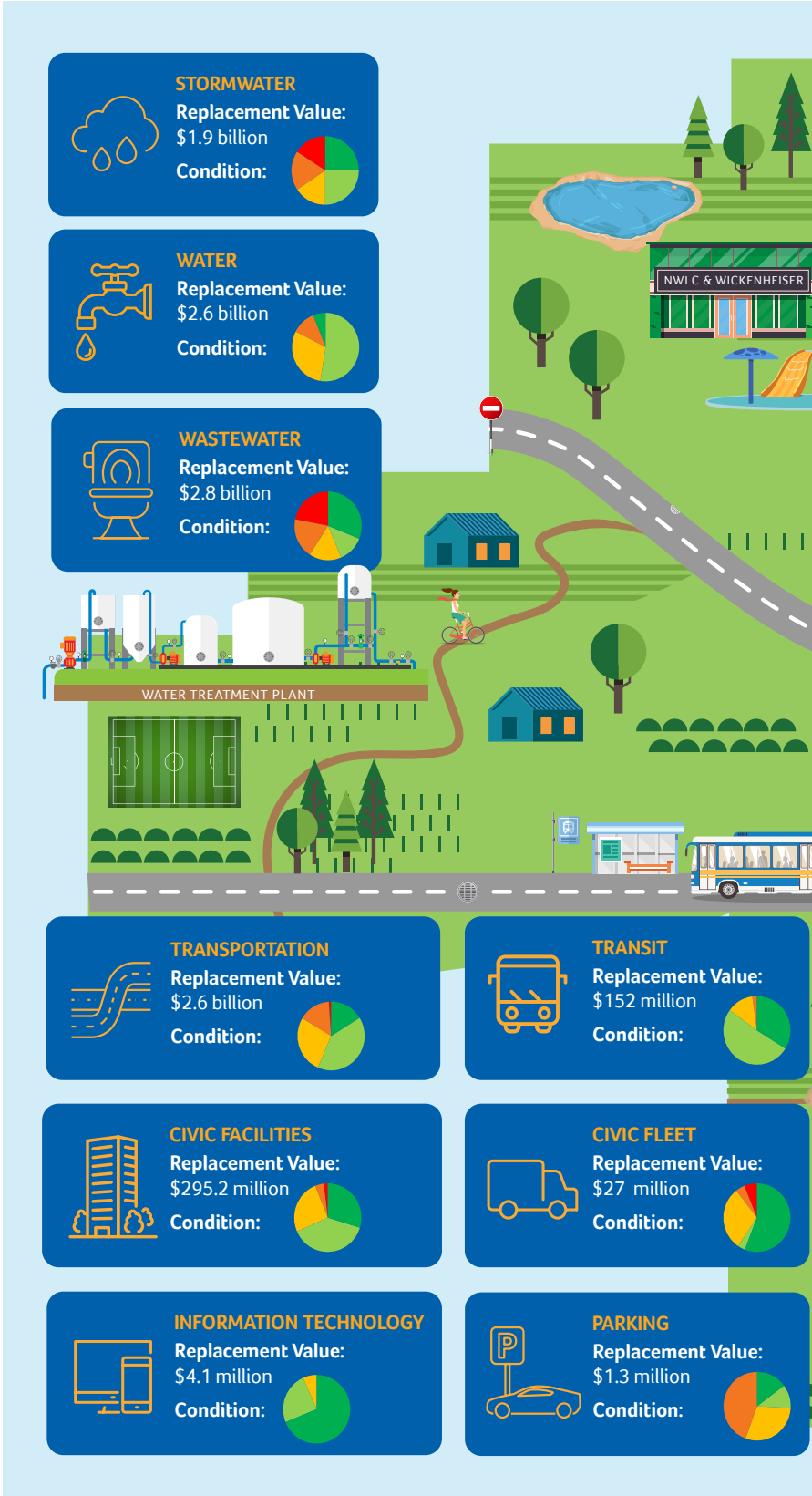


The Report will be used in the preparation of a Corporate Asset Management Plan. The development of a Corporate Asset Management Plan will define the activities, approaches, measures and targets to achieve service levels that are acceptable and affordable.

The infographic summarizes asset replacement value and overall condition of the 14 service areas detailed within this Report.

Condition Reference

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





SOLID WASTE & DIVERSION
 Replacement Value:
 \$100.7 million
 Condition:

FIRE & PROTECTIVE SERVICES
 Replacement Value:
 \$68.8 million
 Condition:

PARKS & OPEN SPACE
 Replacement Value:
 \$2.1 billion
 Condition:

RECREATION
 Replacement Value:
 \$239 million
 Condition:

CEMETERIES
 Replacement Value:
 \$54.7 million
 Condition:





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SECTION 1:

Introduction

Local governments own approximately 60 per cent of the public infrastructure that supports the economy and quality of life in Canada¹. Municipalities are faced with many infrastructure challenges, such as aging assets, public demands and expectations for increased levels of service, population growth/decline, limited financial resources, increased accountability, competition, improved technology and regulations.

Asset management is an integrated business approach within an organization that strives to address these challenges by minimizing the lifecycle costs of owning, operating and maintaining assets at an acceptable level of risk, while continuously delivering established levels of service for present and future residents.

Asset Management facilitates making informed asset-related decisions using a risk-based approach to support sustainable service delivery ensuring organizations can effectively and efficiently achieve their strategic objectives. The need to incorporate asset management practices has been recognized as a priority by both the federal and provincial governments of Canada.

The Report is one aspect of asset management and a first step towards a corporate level asset management plan. It conveys the current state of City assets, which provides transparent reporting at a high level across multiple service areas and informs asset planning and investment decisions. The preparation of this Report aligns with City Council's strategic priorities and *Design Regina: The Official Community Plan Bylaw (OCP)*.

1.1 Purpose

This Report is an overview of all City assets, consolidated and presented at a high level. It provides readers an overarching perspective of the City's owned and operated assets that are essential in the delivery of services to residents, businesses and visitors.

The Report answers the following five key asset management questions for infrastructure owned and maintained by the City with the available data up to December 31, 2020:

- What assets does the City own?
- What is the replacement value of City assets?
- What is the remaining life of the assets?
- What condition are the assets in?
- What amount of investment (\$) is needed?

¹ Federation of Canadian Municipalities website, 2022

This is the first time the City has pulled together a report on assets for the entire organization. Over time, future reporting can be compared with past reports so that the reader can gain insight as to the impact of past investment decisions on the service areas overall. Assets are categorized by service areas in a manner that allows the reader to examine each individually or consider the City assets overall. How the state of a local government's infrastructure is conveyed, a key element of asset management is for both staff and elected officials to be aware of and aligned in

their understanding of the assets, which provides services.

The monitoring and reporting of City asset conditions, costs, risks, age, performance and estimated useful life supports the identification and prioritization of investment needs. This ensures that with limited financial resources, the City can effectively sustain the delivery of services to residents and businesses and plan for change from factors such as growth, technology, climate, funding and others.

1.2 Background

A City's authority as a local government to own and maintain infrastructure is empowered by the Province of Saskatchewan through *The Cities Act (Act)*.

Services and assets are specifically referenced in 4(2) b) and e) of the Act; however, services and assets are inherent to all aspects of a cities' purpose.

In 1903, the Town of Regina changed its name to incorporate the 'City of Regina', in Ordinances of the North-West Territories, Chapter 28, 1903. This change provided the City the ability to undertake local improvements to assets for services to residents, such as roads, bridges, water distribution, garbage collection and sewer. It also provided the financial mechanisms to fund those improvements. Since that time and as the needs of residents grew, the City took on more infrastructure assets and a variety of diversified services.

Today, the City continues to own and maintain infrastructure assets to support services that residents and businesses depend on.

The number and types of assets has grown substantially to address the safety and wellbeing of the community and to foster economic prosperity, social and environmental well-being.

As stated in Part II, Section 4(2) of the Act, the purposes of cities are:

- a) to provide good government*
- b) to provide services, facilities and other things that, in the opinion of council, are necessary and desirable for all or a part of the city*
- c) to foster develop and maintain a safe and viable community*
- d) to foster economic, social and environmental well-being*
- e) to provide wise stewardship of public assets*

1.3 Scope

This Report focuses on assets and data associated with 14 service areas; however, these are not inclusive of all the services the City provides. The service areas were defined through consultation with an external consultant, steering committee members, subject matter experts and alignment with a community-first perspective.

The below service areas support both internal customers and the public. The three service areas highlighted in orange provide support to other services delivered by the City.

Not included in this Report are assets operated and maintained by City Service Partners, including City subsidiaries and other non-City owned organizations. A complete list is found in Appendix 2: Out of Scope Assets.

In addition, there are City asset categories not included in the scope of this Report such as, land, software, police fleet and maintenance, furniture and fixtures. The focus of the Report was to collect and analyze data available for assets that provide services directly to the public or assets that support community services.



1.4 Methodology

The methodology used to collect data and analyze findings in this Report are referenced in Appendix 1: Methodology. Any assumptions and gaps identified were captured and listed within Appendix 3: Gaps and Assumptions. Each service areas' data was qualitatively assessed for accuracy and completeness, which is summarized in Appendix 4: Data Accuracy and Completeness.





SECTION 2:

City Services & Assets

2.1 Delivering City Services

The City owns and maintains infrastructure and assets to deliver programs and services to residents. For example, pools and major facilities provide recreational services, water pump stations and pipes, ensures the public has access to potable drinking water.

Assets captured in this Report are defined as: an item of value that derives its worth from its ability to be used to deliver a service or a product to meet the needs of the community. When these assets deteriorate or fail, there are consequences to the services provided.

2.2 Service Areas and Asset Inventory

An introduction and brief summary of the assets included in each of the 14 service areas are listed below.

Service Area	Introduction & Assets
Water	<p>Water service provides clean and safe drinking water. The Water service encompasses water treatment, transmission to the city, storage, and distribution to users.</p> <ul style="list-style-type: none"> Assets include wells, water reservoirs, service connections, pumping stations, pipes, hydrants, water meters, chlorine booster stations, control system, fleet vehicles and equipment.
Wastewater	<p>Wastewater service collects and treats wastewater from customers before safely releasing it into the environment.</p> <ul style="list-style-type: none"> Assets include wastewater pump stations, pipes, lift station, manholes, manhole chambers, control system, fleet vehicles and equipment.
Stormwater	<p>Stormwater service collects and manages runoff from storms and snow melt, then releases it to receiving water bodies. Both built and natural assets play an important role in stormwater service delivery.</p> <ul style="list-style-type: none"> Assets include culverts, catch basins, sewer manholes, lift stations, pipes, retention and detention ponds, berms and waterways, fleet vehicles and equipment.

Service Area	Introduction & Assets
Solid Waste & Diversion	<p>Solid Waste and Diversion service provides reliable and efficient municipal waste and recycling collection, public education and landfill disposal services to ensure a healthy, clean and environmentally responsible community.</p> <ul style="list-style-type: none"> • Assets include carts for garbage & recycling collection, food and yard waste collection, landfill, gas collection system, fleet vehicles and equipment.
Fire & Protective Services	<p>Regina Fire and Protective Services is an all-hazards 24/7 response agency, delivering emergency services critical to community safety and wellness. The mandate of the service is to protect lives, property and the environment.</p> <ul style="list-style-type: none"> • Assets include fire facilities, apparatus, personal protective equipment (PPE), equipment (i.e., radio, hoses, ladders etc.), fleet vehicles and equipment.
Transportation	<p>Transportation provides the infrastructure that allows for movement of goods, services and people throughout the city while being accessible, safe, and efficient. The network supports regional economic growth through the transport of goods to and from the community.</p> <ul style="list-style-type: none"> • Assets include road network, sidewalks, bridges, pedestrian signals, traffic signals, expressway lighting, signage, asphalt plant, pathways, fleet vehicles and equipment.
Transit	<p>Transit provides safe, reliable, affordable, and accessible transportation for residents and visitors through a regularly scheduled, fixed-route transit system.</p> <ul style="list-style-type: none"> • Assets include buses, paratransit, transit support, bus shelters, maintenance equipment, fleet vehicles and equipment.
Parking	<p>Parking Services and Bylaw Enforcement are essential for public safety. This service promotes, facilitates and enforces on-street parking and community bylaws.</p> <ul style="list-style-type: none"> • Assets include parking meters, enforcement handhelds, printers and fleet vehicles.

Service Area	Introduction & Assets
Parks & Open Space	<p>Parks & Open Space supports access to outdoor spaces and recreational opportunities for residents by managing programs and assets to provide a beautiful and safe environment.</p> <ul style="list-style-type: none"> • Assets include parks, athletic fields, ball diamonds, cricket pitches, skateboard parks, playground sites, park amenities, urban forest, irrigation systems, municipal golf courses, fleet vehicles and equipment.
Recreation	<p>Recreation provides City operated facilities with opportunities, programs and services throughout the city. City staff deliver programs directly and partners with other organizations to support the delivery of programs, opportunities and services.</p> <ul style="list-style-type: none"> • Assets include major recreational facilities, community centres, arenas, outdoor pools, spray pads, outdoor rinks, fleet vehicles and equipment.
Cemeteries	<p>The City Cemeteries provide two locations where families can honour and remember their loved ones. Each of the cemeteries has its own unique experience and history where all cultures, religions and traditions are respected.</p> <ul style="list-style-type: none"> • Assets include parkland, interment structures (i.e., columbarium, scattering gardens), roads, benches, irrigation systems, facilities, fleet vehicles and equipment.
Information Technology	<p>Information Technology (IT) provides internal support to the delivery of City services.</p> <ul style="list-style-type: none"> • Assets include computers, laptops, tablets, monitors, mobile, telephones and network infrastructure.
Civic Facilities	<p>The Civic Facilities is a diverse portfolio of buildings and facilities common to multiple service areas supporting delivery of public programs and services. The assets cover a wide range of facility types including police facilities.</p> <ul style="list-style-type: none"> • Assets include office space, maintenance and storage facilities, equipment, operational areas, parking lots, pedways, pumphouses and fleet vehicles.
Civic Fleet	<p>Civic Fleet provides motor vehicles, heavy equipment and maintenance equipment to service areas to enable the delivery of City services.</p> <ul style="list-style-type: none"> • Assets include vehicles of various classifications (i.e., light trucks, trailers to heavy equipment), small tools, motor pool, maintenance equipment and fueling stations.








2.3 Internal Services

IT, Facilities and Fleet assets play an integral role for the City to deliver many services. The approximate 5,300 assets plus network fibre optic cable captured in IT (Section 4.13) supports all the service areas included within this Report, as well as other services provided by the City, both internally and customer-facing.

Civic Facilities and Civic Fleet assets are allocated throughout the Report within multiple service areas. The assets that can be attributed to supporting a specific service are included in each service area. Civic Facilities and Civic Fleet assets that can not be attributed to one service alone are addressed in the Civic Fleet (Section 4.8) and Civic Facilities (Section 4.14) respectively.

Overall, there are a total of 787 Civic Facilities assets, including but not limited to recreation facilities, emergency service facilities, office spaces, maintenance facilities, storage facilities, parking lots and transit shelters. The percentages in the chart, are based on the total number of Facilities assets. Of the 787 assets, 279 or 35 per cent are reported in the Transit (Section 4.7), including all related data for these facilities. Civic Facilities assets shared by multiple services, such as administrative buildings and parking lots are included in Facilities and make up 11 per cent of the total Facilities assets owned by the City. The chart below shows a percentage breakdown of the Civic Facilities assets by service.¹

Facilities Asset Allocation by Service Area















	Service Area	% of Facilities Assets	# of Facilities Assets
	Transit	35%	279
	Recreation	31%	243
	Parks & Open Space	18%	138
	Civic Facilities	11%	88
	Fire & Protective Service	3%	26
	Cemeteries	1%	10
	Civic Fleet	>1%	3

¹ Chart excludes service areas with no facilities assets; Water, Wastewater, Stormwater, IT, Parking, Transportation, Solid Waste & Diversion.

Civic Fleet assets are essential in the delivery of many services. There are 1,449 unique vehicles and equipment captured throughout the Report. The percentages are based on the total number of Civic Fleet assets. Of the 1,449 assets, 383 or 26 per cent are in Transportation (Section 4.6).

Fleet assets shared by multiple services, such as rental motor pool and training equipment are reported in Civic Fleet (Section 4.8). See the chart for a percentage breakdown of the Civic Fleet assets by service.

Fleet Asset Allocations by Service Area

Service Area	% of Fleet Assets	# of Fleet Assets
 Transportation	26%	383
 Parks and Open Space	24%	353
 Transit	12%	168
 Civic Fleet	9%	134
 Water	8%	119
 Solid Waste & Diversion	5%	69
 Wastewater	4%	52
 Fire and Protective Services	3%	46
 Civic Facilities	3%	39
 Recreation	2%	28
 Cemeteries	2%	26
 Stormwater	2%	24
 Parking	1%	8
 IT	0%	0



SECTION 3:

State of the City's Infrastructure

3.1 Current State

The City manages an extensive inventory of assets which support the delivery of public services. A highlight of City assets are listed below.

All assets are not equal.
Some assets need more attention than others due to frequent use or consequences of failure.

4,452 lane km roads	84 bridges
1,534 km sidewalks and pathways	218 traffic signals
1,209 km water pipes	4,974 hydrants
3 water pumping stations	19 wastewater lift stations
318 parks (750 hectares)	4 golf courses (295 hectares)
153 ball diamonds	55 athletic fields
55 multipurpose sports fields	178,651 trees
8 arenas (219,000 sq ft)	15 spray pads
13 community centers (228,000 sq ft)	4 skateboard parks/pod
4 outdoor pools	2 cemeteries (85 hectares)
34 paratransit buses	124 transit buses
20 office spaces (529,000 sq ft)	4 police facilities (260,000 sq ft)
1,263 parking meters	7 fire stations (65,000 sq ft)
68,508 brown garbage carts	1 landfill (97 hectares)

* This list is not inclusive of all the City's assets; a detailed list is provided in each service area section of this report.

Replacement Value

As of December 31, 2020, the City’s known asset inventory has a total replacement value of \$12.9 billion.

Replacement value is defined as an assessment of the asset’s worth, based on replacing an asset with a new asset of similar standard and function in present day value. The replacement asset may be a modern equivalent due to new regulations, changes in materials or use of modern technologies. This amount includes the capital costs, such as construction, materials, labour, engineering, permits and approvals. The value does not include the cost of day-to-day operations, staffing, design and overhead costs.

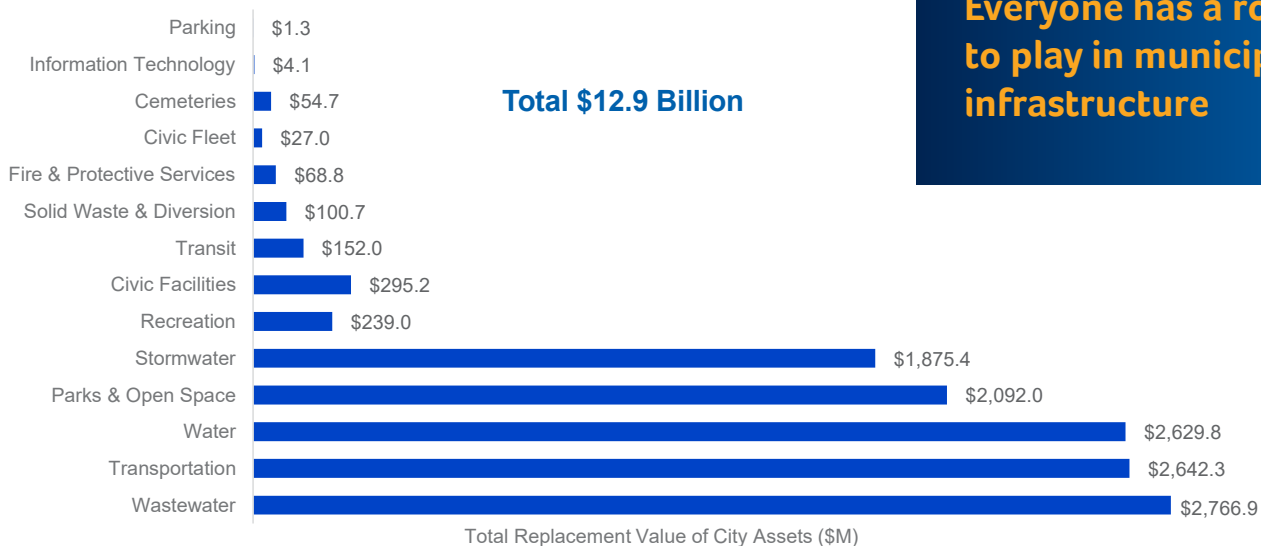
The replacement value also does not include impacts to other assets in close proximity that may be disrupted. For example, when considering replacement of a water pipe under a roadway, the cost does not include the resulting repair of

the road above the pipe. The replacement value calculated is a benchmark utilized to understand the scale and magnitude of the assets worth.

The total replacement value does not include assets operated and maintained by City Service Partners as identified in Appendix 2. Asset replacement values were determined through a variety of data sources, including historical records, professional assessments and industry costs seen in acquisitions and contracts. Most values were typically based on unit costing for a specific asset category or individual costs for unique assets.

A breakdown of replacement value by service area is summarized in the chart below. Within the \$12.9 billion City total, the wastewater service area has the highest replacement value of \$2.8 billion. The transportation and water service areas are second and third highest replacement value respectively of approximately \$2.6 billion each.

Total Replacement Value of City Assets



Everyone has a role to play in municipal infrastructure

Remaining Useful Life

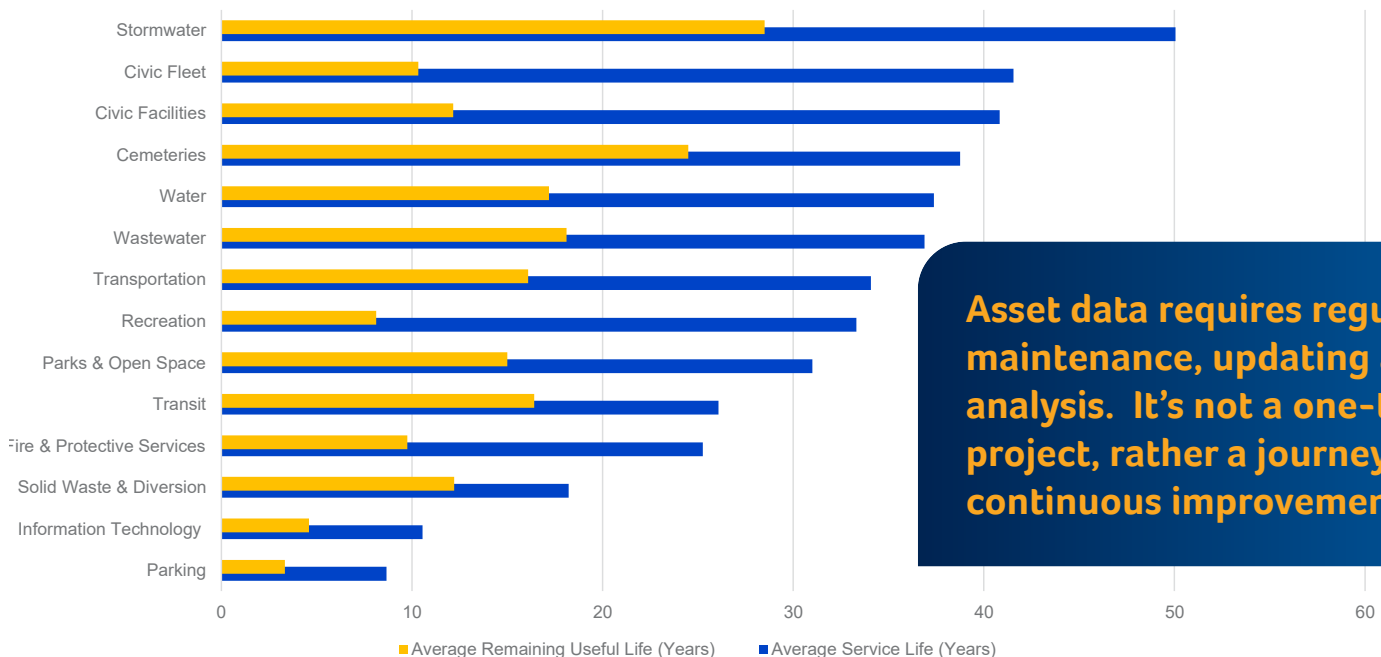
Remaining useful life can be helpful to illustrate when upgrades and replacements may be required for an asset. Remaining useful life can also be an indicator of the general health and status of a Service Area. This indicator can inform decision making at a high level regarding addressing areas of concern and the magnitude of investment required when combined with additional data. Remaining useful life is typically not the sole determining factor in decision making but it may drive in-depth data collection and analysis examined on a discretized basis combined with levels of risk. Outcomes may be maintenance or intervention strategies, which would generally be incorporated at a more operational level, rather than outright replacement.

The service life is how long an asset can be expected to support its intended function. The remaining useful life was calculated by taking the average of each asset category's service life, less its current age.

A service areas health can be derived from the key asset indicators of remaining service life and condition together. It is important to also understand that a long remaining useful life doesn't necessarily mean that the asset is in good condition. On the other hand, a lower remaining useful life doesn't always mean the asset requires replacement. The asset still may be meeting its required level of service or can continue as is with maintenance.

The average remaining life by each service area is illustrated in the following chart.

Service Life of City Assets



Asset data requires regular maintenance, updating and analysis. It's not a one-time project, rather a journey of continuous improvement.

Asset Condition

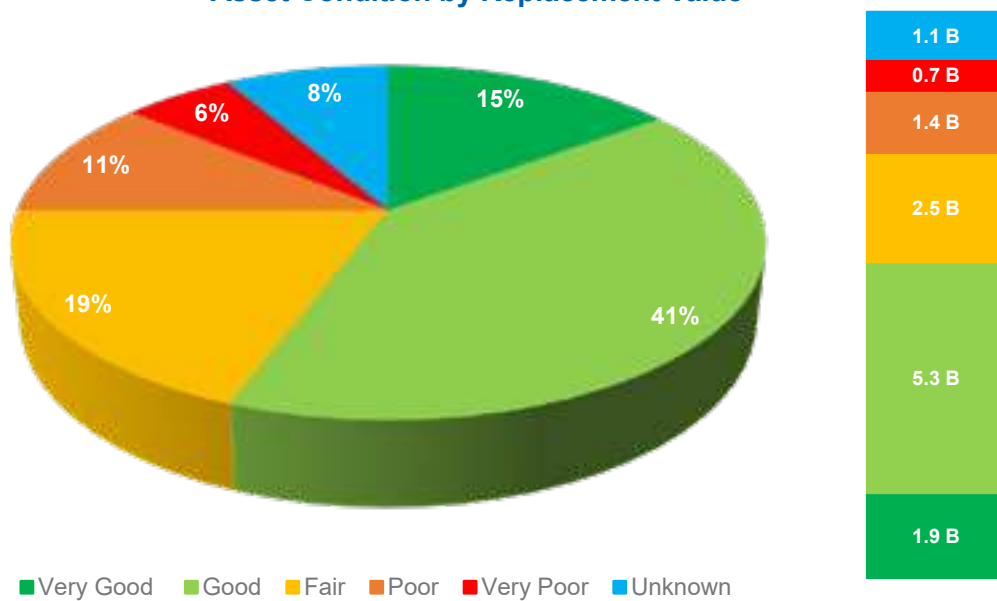
Overall, 75 per cent or \$9.7 billion of City assets are in very good to fair physical condition. This indicates that the majority of City infrastructure is meeting service needs for now with some elements showing deterioration that requires attention, whereas 17 per cent of assets are in poor to very poor condition. Poor and very poor assets reflect an area in need of action in the form of investment, divestment, re-purpose, or an operational area may choose to continue to utilize a low-risk asset but must be prepared to proactively address the condition before or replace upon failure.

Asset condition information will help inform our understanding of the potential risks to service delivery and future investment needs. The condition of an asset or network of assets in most cases can be considered across three areas: physical, function and capacity.

This Report focuses on physical integrity as an indicator of the condition, which provides consistent methodology and comparison across the service area assets.

Assets within each service area were evaluated and assigned a physical condition score. A five-point rating scale utilized both nationally and internationally that was developed as a universal platform for comparing assets at a corporate level. This rating scale is used by most municipalities compiling a SOIR report and is utilized in the Canadian Core Public Infrastructure Survey (CCPIS) by Statistics Canada, which benchmarks municipalities assets across the country. The condition scores were rolled up and weighted by replacement value to determine the overall physical condition of City assets.

Asset Condition by Replacement Value



Investment Needs

Investment need is the level at which the City should be investing in its assets. Investment needs are projected using capital costs considering four investment drivers: maintaining service, enhancing service, growth and regulatory requirements. From the drivers, a total of the financial investment was calculated and presented in the 20 Year Investment Gap Summary by Service Area chart.

Investment needs to maintain current levels of service were based on renewals or replacement costs to support continued service delivery, by taking forward-looking planning information and determining the funds required to meet those plans.

Investment Drivers

- Maintaining Service
- Enhancing Service
- Growth
- Regulatory Requirements

Investment needs for enhancing services included implementation of new strategies identified in masterplans and asset management plans.

Investment needs for growth projections considered either information in higher level strategies including the OCP, master plans, development plans and studies.

Investment needs regarding regulatory requirements typically targets a specific service area and prescribes a specific service level, outcome or associated operation and maintenance aspect of a service.

20 Year Investment Gap Summary by Service Area (\$M)

Service Area	Investment Need	Capital Funding	Investment Gap
Transit	302.3	84.8	217.5
Civic Facilities	373.2	227.7	145.5
Transportation	1,414.8	1,277.9	136.9
Parks & Open Space	163.8	101.4	62.4
Recreation	326.7	280.7	46.0
Fire & Protective Services	74.2	50.1	24.1
Civic Fleet	28.7	18.5	10.2
Parking	6.1	1.0	5.2
Cemeteries	14.1	10.5	3.7
Information Technology	18.8	15.3	3.5
Solid Waste & Diversion	131.3	131.3	0.0
Stormwater	276.6	276.6	0.0
Wastewater	559.6	559.6	0.0
Water	851.9	851.9	0.0
Grand Total	4,542.0	3,887.1	654.9

3.2 Projected Funding Gap

The City's 20-year projected infrastructure funding gap is \$655 million. The funding gap is the difference between anticipated future funding and projected investment needs in each of the 14 service areas to maintain the current levels of service. Section 4: State of Infrastructure by Service Area, provides the information in greater detail, with a breakdown of the short (2021-2025), medium (2026-2030) and long term (2031-2040) investments needs, forecasted funding and the projected gaps.

The City invests in the renewal of its infrastructure primarily through capital projects and programs. The City budget establishes the funding provided for these projects and programs. The anticipated or forecasted funding provided is based on either historical trends or established commitments.

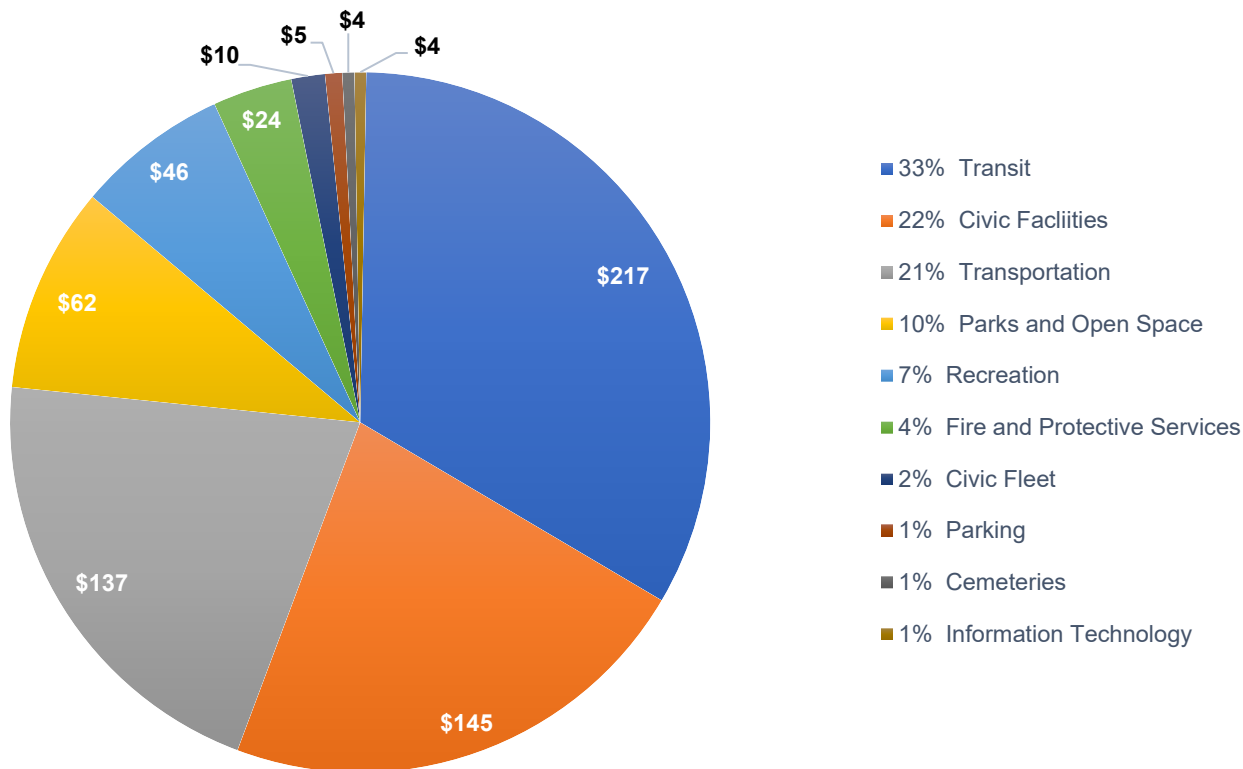
Forecasts of future funding are based on a number of sources including:

- Capital funding for water, sewer and stormwater from user rates projected by the utility financial model;
- Servicing Agreement Fee (SAF) funding charged on new development projected by the SAF model;
- Funding from other City fees and charges;
- Continued funding from the Canada Community Building Fund;
- An average amount for other grants; and
- A forecast of general capital funding, based on a five-year average, extrapolated to 2040 with a three per cent per annum inflationary index.

Currently, the overall capital budget does not meet the anticipated financial investment needed to sustain service delivery in the 14 service areas included in this Report.

The largest capital infrastructure gap amount is associated with the transit service at \$217 million or 33 per cent of the total investment gap. The primary driver of the gap in this service area is due to the anticipated transition to electric buses within the next 20 years. More details can be found in Transit (Section 4.7).

20 Year Investment Gap by Service Area (\$M)



Actions to manage the gap include increasing ongoing investment, prioritization of available funds based on risk and community desired service delivery outcomes or in limited cases, divestment of portions of the asset portfolio to reduce ongoing costs and costs of eventual renewal. In addition, the investment needs may be refined through ongoing planning processes, efficiency improvements and other initiatives.

Financial data for this project was captured at a high level and focused on capital requirements.

3.3 Risks to Service Delivery

Communities build and maintain infrastructure to provide services to the public. Failure to care for infrastructure and/or having a lack of strategy to renew, retire or replace assets can result in deterioration, temporary or even permanent loss of services that residents come to expect and rely on. Depending upon the service and assets used to deliver the service, such failures may also result in a public safety risk.

Municipal governments make decisions and take actions that influence the levels of service provided. With decisions made and actions taken, there is a balance of costs and risks to service delivery. Thus, it is important to understand the risks and costs so that informed decisions can be made when considering the trade-off and balance between delivering service, managing risk and reducing cost throughout the lifecycle of the asset.

3.4 Future Improvements

Although best efforts have been put into creating this Report, it is recognized that improvements in both data accuracy and completeness would enhance future reports. The following is a summary of the future improvements identified specific to this Report:

- Address asset inventory and data gaps prioritized by criticality.
- Consider expanding the inventory and data to include other assets (e.g., software, pathway lighting, furniture & fixtures, etc.)
- Identify and implement improvements to access and report on data more efficiently.
- Develop service level measures and targets where absent to meet community needs in service and affordability to improve understanding of investment needs.
- Incorporating functionality and capacity into an asset or service condition, where appropriate.
- Compare the baseline measurements in this Report with future iterations to analyze and understand trends in asset data.
- Consider expanding the asset inventory and associated information to include physical assets that were excluded within this Report that were either managed through contractual agreements or wholly owned City subsidiaries.
- Consider the inclusion of operating funds within the financial need and funding to provide a fulsome perspective of the assets in the service areas identified.
- Consider what is a natural asset and how reporting should address those assets' role in service delivery.



SECTION 4:
**State of Infrastructure
by Service Area**





4.1 **Water**

OVERVIEW

This service provides clean, safe water that is ready to use as a part of the City's utility services. The City is committed to providing potable water to customers, as well as fire protection and green space management. There are many factors that influence water service delivery. These include changing trends in water consumption, impacts of climate change, regulatory requirements, asset condition and growth of the city.

The water service includes water treatment, transmission to the city, storage and distribution. Facilities and office space supporting water distribution are included within Civic Facilities (Section 4.14). Managed by an external organization Buffalo Pound Water Treatment Plant (BPWTP) is not included in this report.

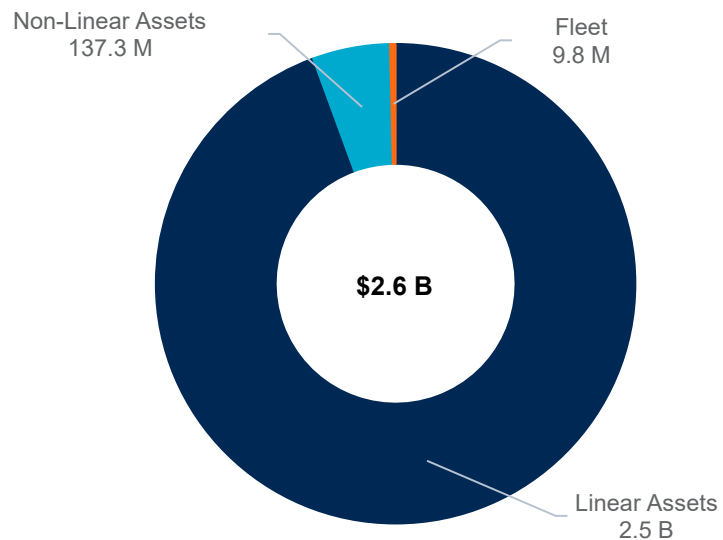
The water service performance is relatively stable with minimal water advisories and only localized disruptions occurring. The replacement value of water service area assets is \$2.6 billion. Linear water infrastructure makes up 95 per cent of the total replacement value.

REPLACEMENT VALUE
\$2.6 BILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Linear	Water Distribution (Pipes <400 mm)	957	kilometers	\$957.0
	Water Supply (Pipes >= 400 mm)	252	kilometers	\$532.0
	Water Meters	75,555	each	\$42.0
	Service Connections	74,020	each	\$746.6
	Hydrants	4,974	each	\$79.6
	Valves	12,547	each	\$125.5
Non-Linear	Wells	8	each	4.0
	Water Reservoirs	5	each	\$95.0
	Pumping Stations	3	each	\$27.6
	Bulk Water Stations	1	each	\$0.5
	Pumps at BPWTP	6	each	\$9.3
	Chlorine Booster Stations	3	each	\$0.7
	Control System ¹	2	each	\$0.3
Fleet	Water Operations	119	each	\$9.8
Water Total				\$2,629.8

INVENTORY

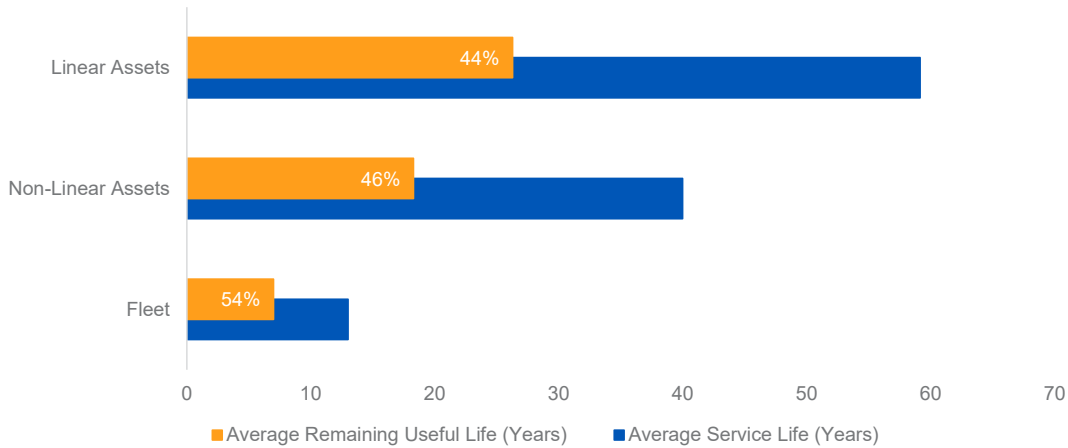
The water service has a total asset portfolio of over 167,000 assets and 1,200 kilometers of supply and distribution pipes. A fleet of 119 assets consisting of equipment and vehicles support service delivery.



¹ Includes SCADA Monitoring, Communications Network

ASSET HEALTH INDICATORS

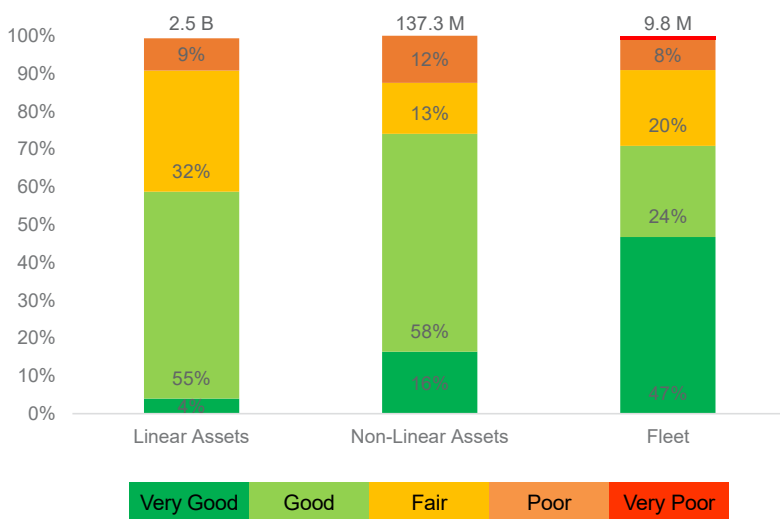
Percentage of Remaining Useful Life



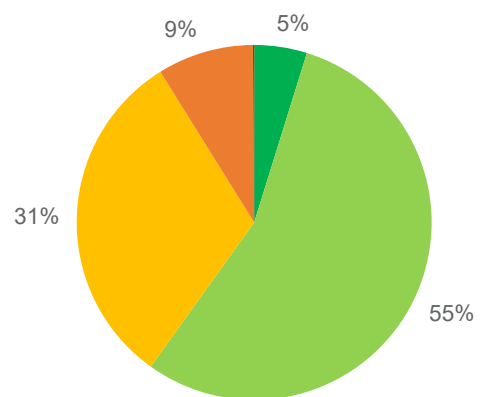
Overall, the water assets have an average of 46 per cent remaining service life. It's important to note, asset subcategories service life varies, the overall average is not reflective of one asset type. As an example, water meters have approximately a 20-year service life but fall within water linear assets.

In total, 60 per cent of the assets are in good to very good condition and 40 per cent are in fair to poor condition. The linear water assets physical condition is typically determined with inspection data on a portion which is extrapolated to the complete system. These are managed through risk-based approach which indicates large diameter water pipes are prioritized over small pipes and service connections.

Physical Condition by Asset Category



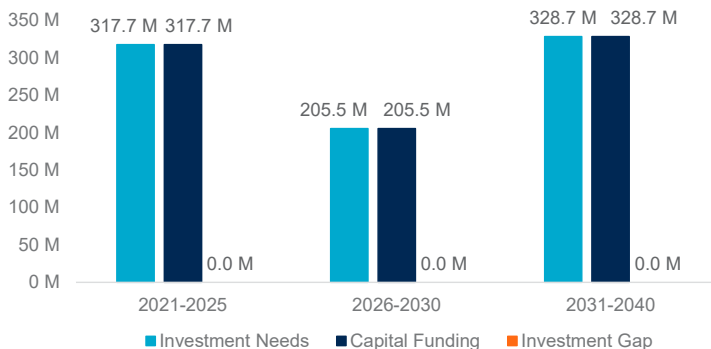
Overall Physical Condition



INVESTMENT NEEDS & GAPS

The water service is managed on a full-cost recovery, user pay basis in combination with other City utility services. The primary driver of the investment need is maintaining the current levels of service by continuing to invest in water infrastructure.

City integrated capital projects and programs are balanced with user rates within the utility financial model to ensure a significant financial gap does not occur and service delivery remains stable. Higher investment needs in 2021-2025 reflects commitments in the water service to address growth-driven demands.





4.2

Wastewater

OVERVIEW

This service collects and conveys wastewater within the collection system where it is treated at the Wastewater Treatment Plant (WWTP) prior to being safely released to the environment. The wastewater service also supports events requiring portable washrooms and rural customers using septic tanks through access to the hauled wastewater station.

There are many factors that influence wastewater service delivery, including water consumption, wastewater quality, inflow and infiltration, impacts of climate change, population growth, regulatory requirements, asset condition and capacity. Facilities and office space supporting the wastewater service area are included within Civic Facilities (Section 4.14). Managed by an external organization WWTP is not included in this report.

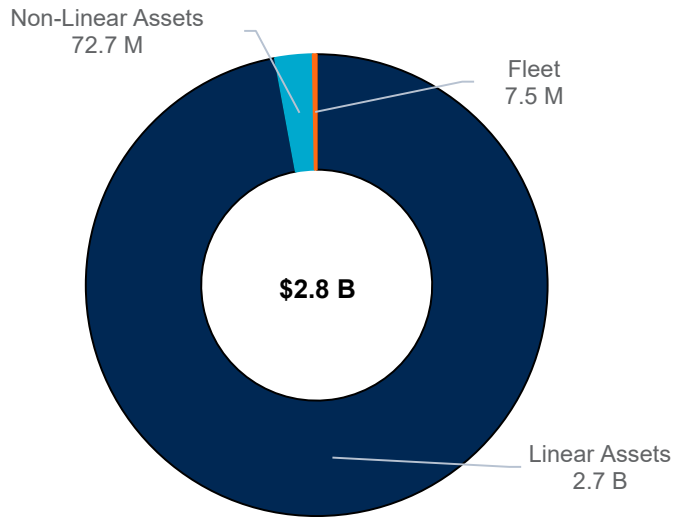
The wastewater service experiences limited disruption to customers. Wastewater service assets hold the largest replacement value of all the service areas included within this Report at \$2.8 billion. Linear wastewater assets make up 97 per cent of the total replacement value of the service area.

REPLACEMENT VALUE
\$2.8 BILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)	
Linear	Force Mains	31	kilometers	\$57.8	
	Gravity Sewers	929	kilometers	\$1,731.7	
	Appurtenances	Service Connections	704	kilometers	\$711.4
		Manholes	10,580	each	\$184.1
		Manhole Chambers	33	each	\$1.8
Non-Linear	Lift Stations	19	each	\$45.6	
	Wastewater Pump Stations	2	each	\$26.8	
	Control Systems ¹	2	each	\$0.3	
Fleet	Wastewater Collection	52	each	\$7.5	
Wastewater Total				\$2,766.9	

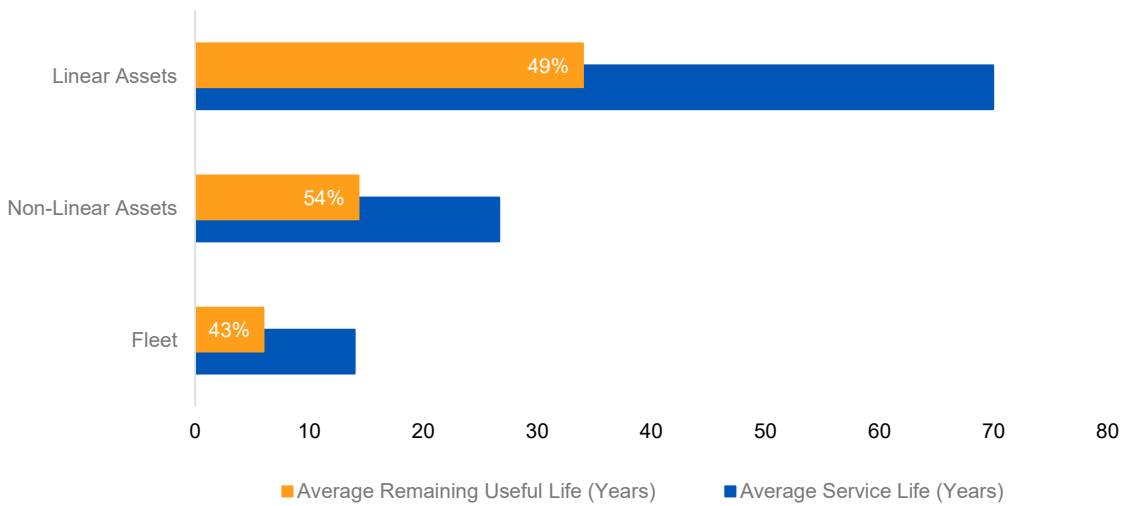
INVENTORY

The wastewater asset portfolio is approximately 10,600 assets and 1,600 kilometers of collection piping. A fleet of 52 assets consisting of vehicles and equipment supports service delivery.



¹ Includes SCADA Monitoring, Communications Network

ASSET HEALTH INDICATORS



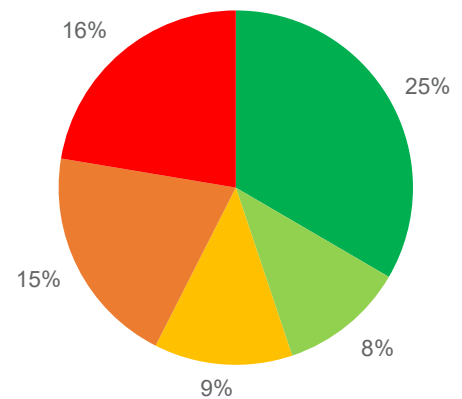
Overall, wastewater assets have an average of 49 per cent remaining service life. In total, 33 per cent of the assets are in good to very good condition and 40 per cent are in fair to very poor condition. Approximately 27 per cent of the wastewater assets condition is unknown.

The wastewater linear assets physical condition are typically determined through pipe inspections. Pipe diameter, material, and depth are utilized to prioritize which linear assets require physical condition data to make informed decisions.

Physical Condition by Asset Category



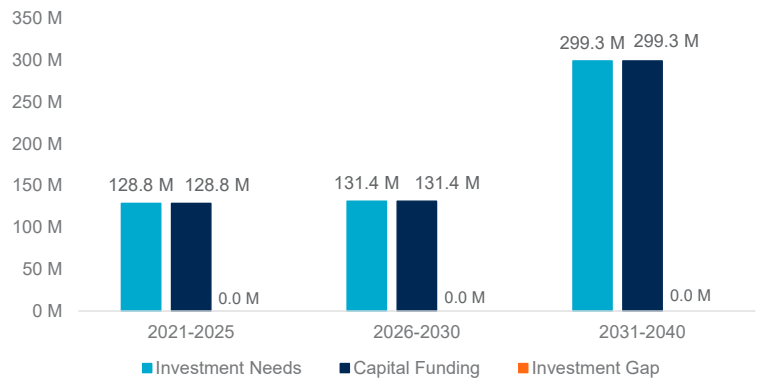
Overall Physical Condition



INVESTMENT NEEDS & GAPS

The wastewater service is managed on a full-cost recovery, user pay basis in combination with other City utility services. The primary drivers of the investment needs are maintaining current levels of service by continuing to invest in wastewater infrastructure, regulatory compliance, reducing the risk of overflows to the environment and sewer backups.

City-integrated capital projects and programs are balanced with user rates within the utility financial model to ensure a significant financial gap does not occur and service delivery remains stable. The higher level of investment needs in 2031 to 2040 reflects the funding necessary to meet regulatory requirements.





4.3

Stormwater

OVERVIEW

This service collects and conveys rainwater and snowmelt to protect properties and other infrastructure from flood damage. Stormwater service area includes linear assets, which primarily collect and convey water and non-linear assets to store excess water to pump or release in a controlled manner to the linear assets, ultimately discharging into Wascana Creek.

Factors that influence the stormwater service delivery include system capacity, condition of assets, stormwater quality, rainfall intensity and duration and the impacts of climate change. Facilities and office space supporting the stormwater service are included within Civic Facilities (Section 4.14).

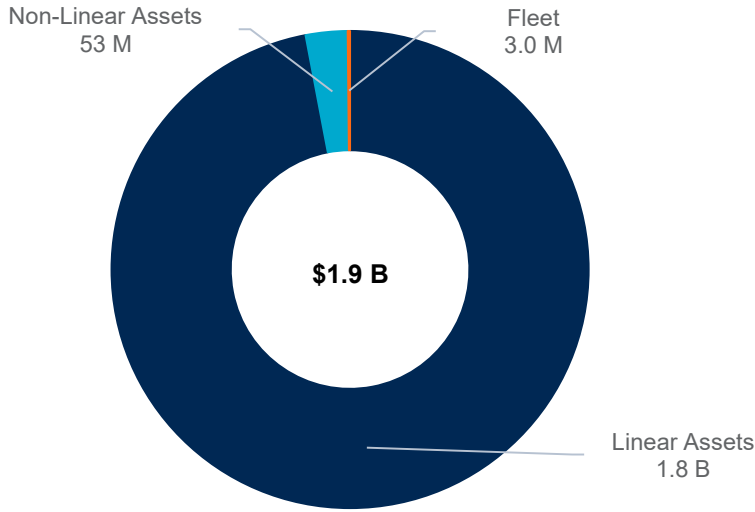
The stormwater service provides flood protection throughout the city; however, areas may receive different levels of service as a result of system capacity. The replacement value of stormwater assets is valued at \$1.9 billion.

REPLACEMENT VALUE
\$1.9 BILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Linear	Culverts	21	kilometers	\$17.9
	Catch Basins	20,770	each	\$110.1
	Manholes	10,321	each	\$179.6
	Isolation Valves	50	each	\$1.0
	Linear Piping	1,132	kilometers	\$1,458.3
	Berms & Waterways ¹	50	kilometers	\$50.8
	Service Connections	167	kilometers	\$1.7
Non-Linear	Control Systems ²	2	each	\$0.3
	Lift Stations	20	each	\$12.0
	Outfalls & Structures	1,104	each	\$8.2
	Retention & Detention Ponds ¹	46	each	\$32.7
Fleet	Stormwater Management	26	each	\$3.0
Stormwater Total				\$1,875.4

INVENTORY

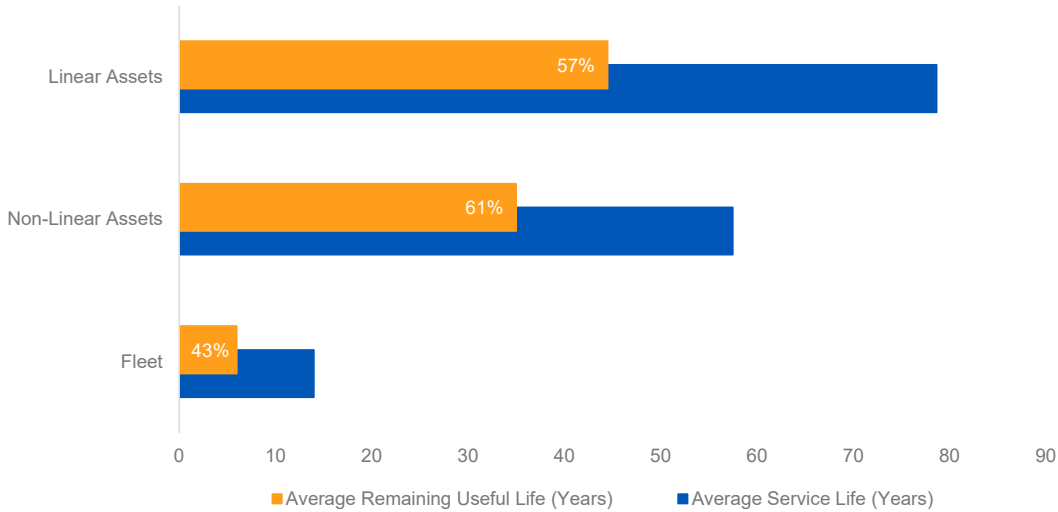
The stormwater linear assets include approximately 1,400 kilometers of pipes, culverts, channels, service connections and berms. Non-linear assets include pumping stations, outfalls and structures and storage ponds. Supporting the service delivery is a fleet of 26 assets consisting of vehicles and equipment.



¹ Responsibility for some natural assets may be shared with others and/or uncertain.
² Control system includes communications network & SCADA monitoring.

ASSET HEALTH INDICATORS

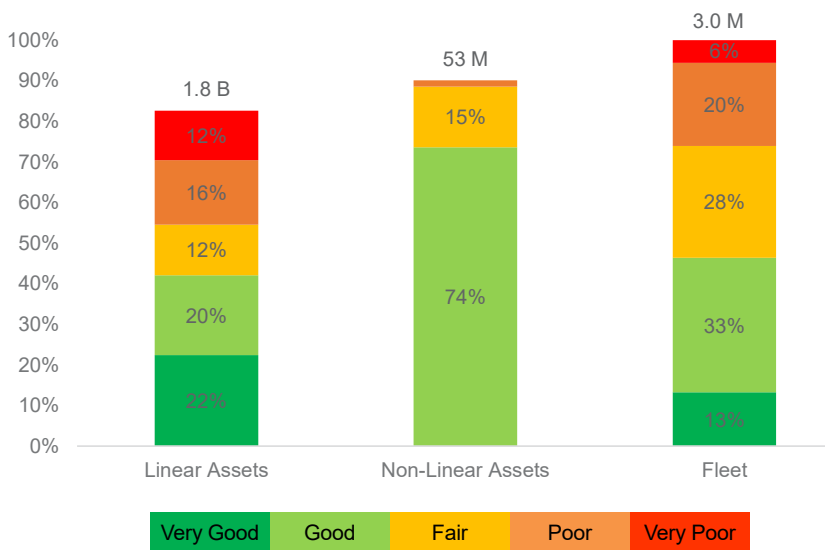
Percentage of Remaining Useful Life



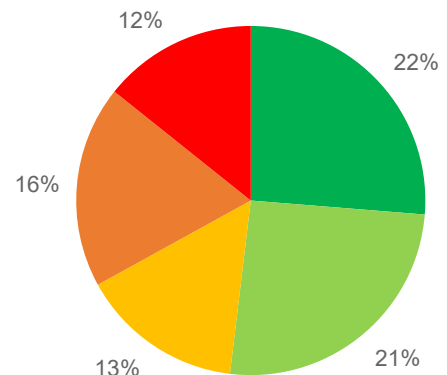
Overall, stormwater management assets have an average of 58 per cent remaining service life. In total, 43 per cent of the stormwater assets are in good to very good condition and 41 per cent are in fair to very poor condition. The physical condition of 16 per cent of the assets is unknown.

The stormwater linear assets physical condition are typically determined through pipe inspections. Pipe diameter, material, and depth are utilized to prioritize which linear assets require physical condition data to make informed decisions.

Physical Condition by Asset Category



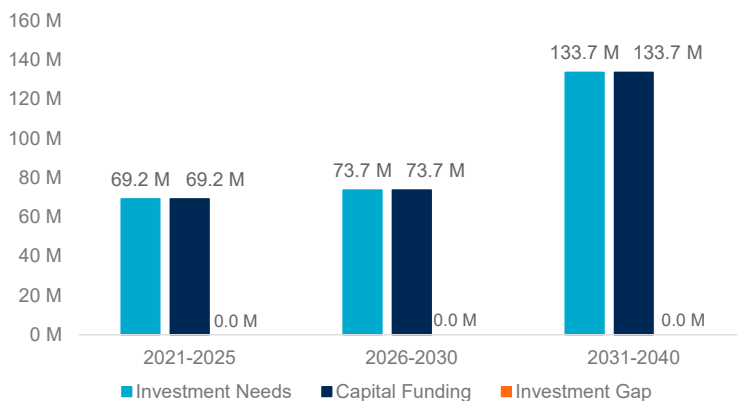
Overall Physical Condition



INVESTMENT NEEDS & GAPS

The stormwater service is managed on a full-cost recovery, user pay basis in combination with other City utility services. The primary drivers of the investment need are to enhance the level of service to better manage stormwater and snow melt run off flows to reduce surface flooding and damage to properties.

City integrated capital projects and programs are balanced with user rates within the utility financial model to ensure a significant financial gap does not occur and service delivery remains stable.





4.4

Solid Waste & Diversion

OVERVIEW

This service provides diversion programs, garbage collection and disposal, including a residential recycling program. Curbside garbage and recycling collection services over 67,000 properties.

The landfill is City-owned and operated. The landfill accepts residential and commercial solid waste, which also includes the management of a gas collection system that reduces greenhouse gas emissions from the landfill, which generates revenue.

Assets are grouped as solid waste collection and solid waste processing. The collection assets gather waste materials before they are delivered to the processing sites. Collection assets include carts (brown and green), City facility bins, bottle baskets and yard waste depots. The processing assets are where waste materials are processed, including waste receiving areas, landfill infrastructure, equipment, north stockpiles, landfill gas system and a pilot food and yard waste processing site. Many waste diversion and recycling services are provided under contract and are not included in the data.

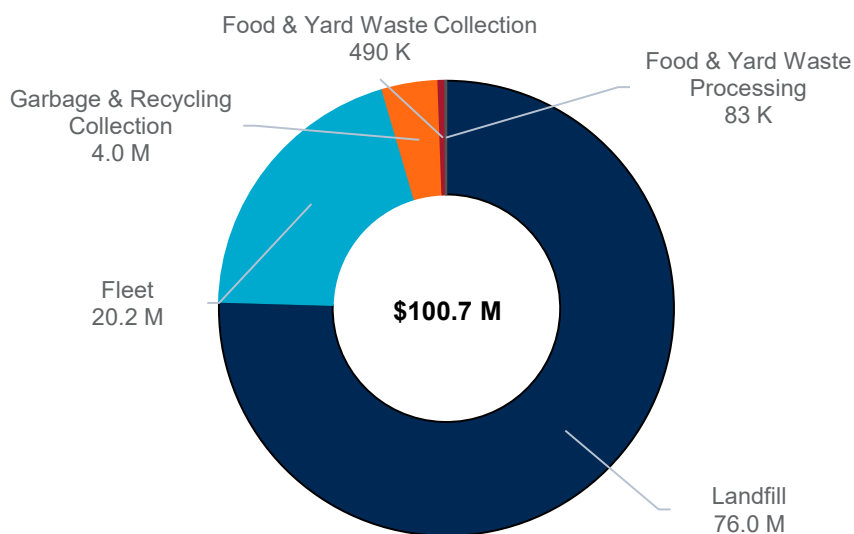
Processing assets account for 76 per cent of the total replacement valued at \$100.7 million.

REPLACEMENT VALUE
\$100.7 MILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Garbage & Recycling Collection	Brown Carts	68,508	each	\$3.6
	City Facility Bins	6,000	each	\$0.3
	Bottle Baskets	120	each	\$0.04
Food & Yard Waste Collection	Green Carts	3,020	each	\$0.1
	Yard Waste Depots	7,000	square meters	\$0.4
Landfill	Informal Roads	10	kilometers	\$4.1
	North Stockpiles	182,055	square meters	\$11.5
	Waste Receiving Areas	115,909	square meters	\$49.7
	Small Tools	110	each	\$1.2
	Water & Ground Water Management	58	each	\$0.8
	Gas Collection System ¹	45	each	\$0.9
	Leachate System	29	each	\$1.0
	Landfill to Gas Facility ²	5	each	\$2.9
	Flare	1	each	\$3.2
	Weigh Scale	1	each	\$0.8
Food & Yard Waste Processing	Food & Yard Processing Site	2,500	square meters	\$0.1
Fleet	Garbage Trucks	27	each	\$7.7
	Support Vehicles	42	each	\$12.4
Solid Waste & Diversion Total				\$100.7

INVENTORY

The solid waste and diversion service has a total asset portfolio of 74,240 units and the landfill occupies approximately 97 hectares. Within the landfill there are many assets and sub-areas, including 115,000 square meters of waste receiving areas, 182,000 square meters for the north stockpiles, 2,500 square meters of processing sites and 10 kilometers of informal roads. A fleet of 27 garbage trucks support collection and disposal and a fleet of 42 vehicles and heavy equipment support the landfill.

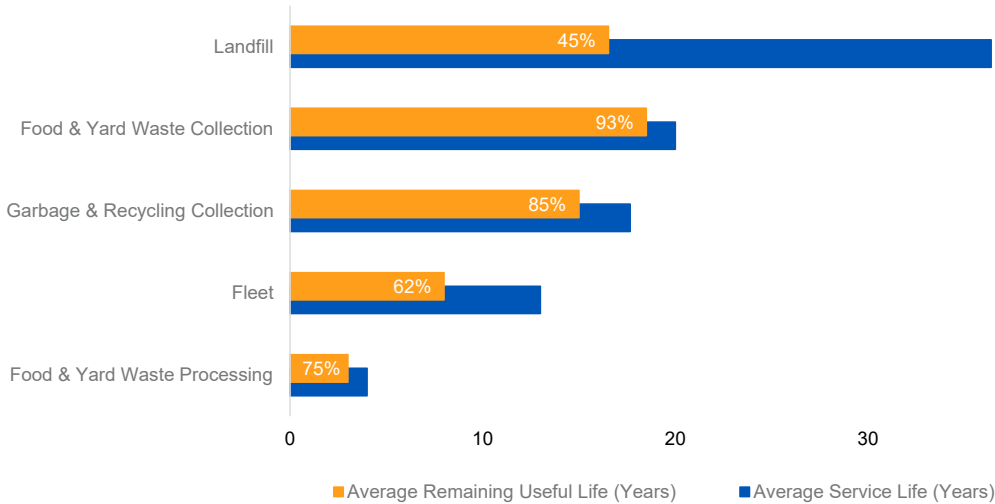


¹ This includes 35 extraction wells, 7 control valves, 2 collection pipes and 1 equipment (portable Envision gas analyzer).

² This includes 1 gas conditioning unit (the entire container enclosure), 1 engine, 1 siloxane pre-treatment facility and 2 electricity conversion assets (transformer and switchgear).

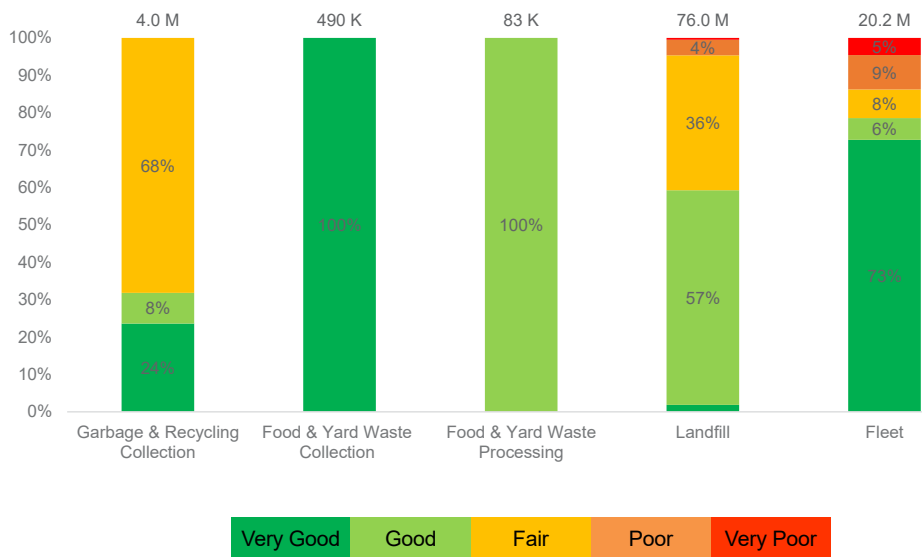
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

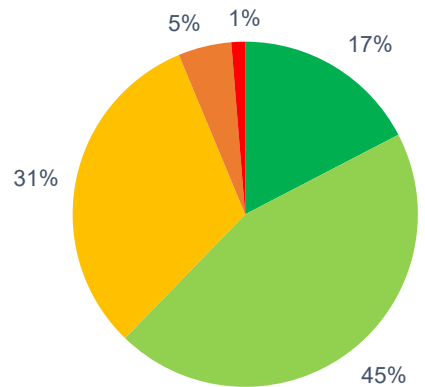


Overall, solid waste and diversion assets have an average of 67 per cent remaining service life and most of the collection assets are newer. In total, 62 per cent of the assets are in good to very good condition and 37 per cent are in fair to very poor condition.

Physical Condition by Asset Category



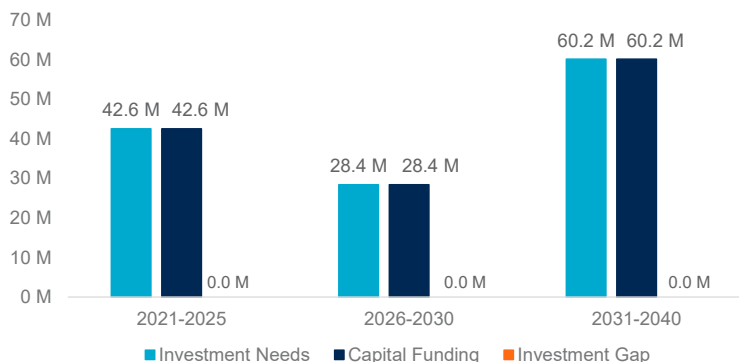
Overall Physical Condition



INVESTMENT NEEDS & GAPS

Solid waste and diversion services are managed on a full cost recovery basis with revenues generated through landfill charges, user fees for recycling collection, disposal and taxes for garbage collection and disposal. Other revenues are provided through government grants, sales of energy generated from the landfill gas collection system and recycling revenue. The Solid Waste Reserve provides funding for capital projections and operational costs, excluding garbage collection and disposal services, which is funded by general taxes. The food and yard waste program will launch city-wide in 2023; therefore, capital investment is required in 2022-23 for the purchase of green carts.

The lifespan and operation of the landfill is impacted by waste generating actions of residents, changes in environmental regulations, population growth, policies and effectiveness of waste diversion initiatives. Current projections forecast the landfill's current disposal cells service life will be full by 2048. In 2031 to 2040, the projected increase in investment and funding required is due to a capital spend of about \$8 million for the landfill cap and closure. An additional \$6 million is required for scale upgrades for a new site. The flare and associated infrastructure and some of the landfill gas collection wells are also due for renewal as they are nearing the end of their useful life.





4.5

Fire & Protective Services

OVERVIEW

This service provides Regina and the surrounding communities an all-hazards emergency response agency since its inception in 1882. In addition to fighting fires, the Regina Fire and Protective Services (RFPS) highly trained and skilled workforce responds to hazardous materials, water/ice rescue, rope or confined space rescue, jaws of life calls and emergency medical response, including needle pick-ups. This all-hazards 24-hour response provides an integrated approach to handling dynamic and unpredictable events.

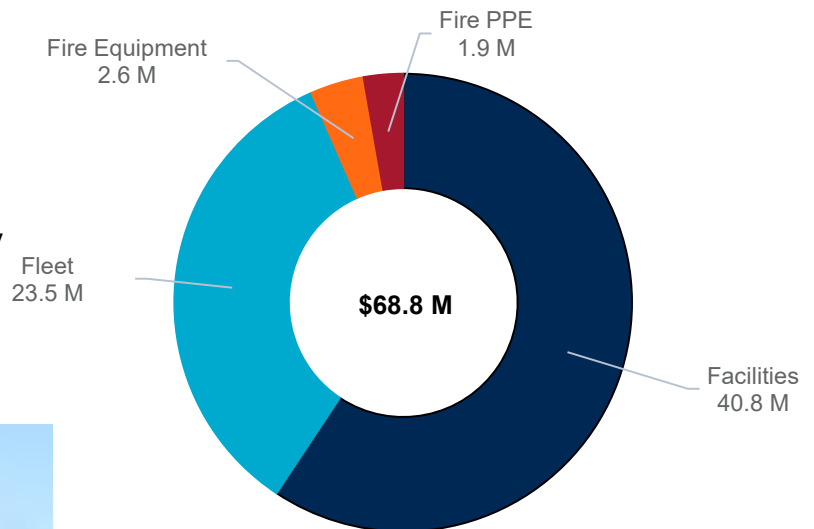
Factors that impact this service are growth, regulatory and climate change mitigation. Regulatory requirements provide guidance for replacement timeframes of specific assets. For example, personal protective equipment (PPE) service life is dictated by The National Fire Protection Association, Occupational Health and Safety and other regulatory bodies. The actual service life may be impacted by severity of conditions that the asset has been exposed to, damage or more frequent use. A replacement strategy for firefighter turnout gear is used for its cancer prevention efforts. Environmental sustainability will be a priority for equipment and facility replacement when required.

REPLACEMENT VALUE
\$68.8 MILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Personal Protective Equipment (PPE)	Bunker Gear	426	each	\$1.2
	Boots, Helmets, SCBA ¹ , Compressors	643	each	\$0.8
Fire Equipment	Fire Hoses	33,000	feet	\$0.3
	Nozzles, Monitors, PPV Fan	158	each	\$0.3
	Saws, Jaws of Life	41	each	\$0.8
	Radios	70	each	\$0.8
	Ladders	85	each	\$0.4
	Monitoring Equipment ²	28	each	\$0.2
	Fleet	Fire Apparatus	18	each
	Fire Support vehicles	28	each	\$4.3
Facilities	Fire Stations (7)	65,197	square feet	\$30.2
	Fire Support Facilities (10)	38,841	square feet	\$10.1
	Parking Lots (9)	330,525	square feet	\$0.5
Fire & Protective Services Total				\$68.8

INVENTORY

The RFPS asset portfolio consists of seven fire stations and 10 support facilities, including a training centre and headquarters building, which houses the Emergency Communications Centre. A comprehensive fleet of 46 emergency vehicles, 1069 pieces of PPE and other fire equipment assets help staff to safely perform their responsibilities and save lives.

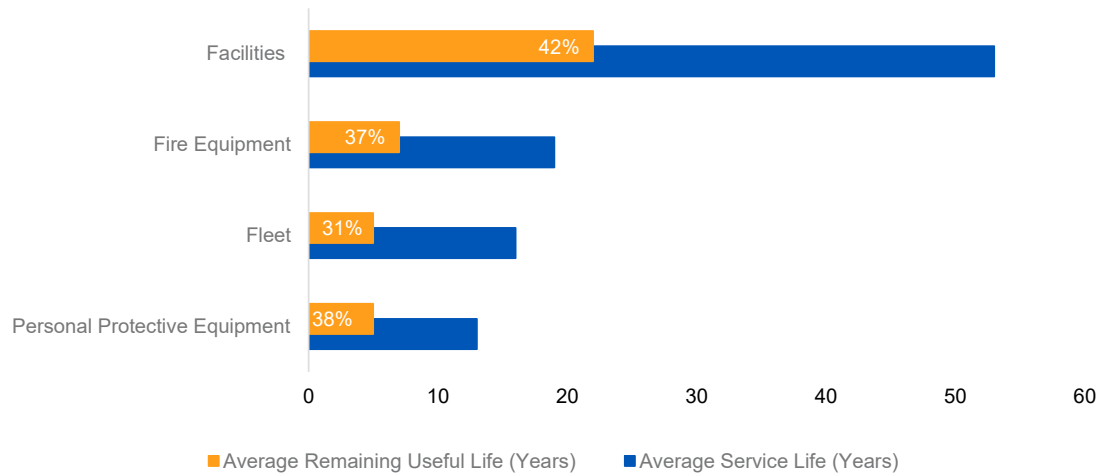


¹ Self-contained Breathing Apparatus (SCBA)

² Includes monitoring equipment: AEDs and thermal imaging

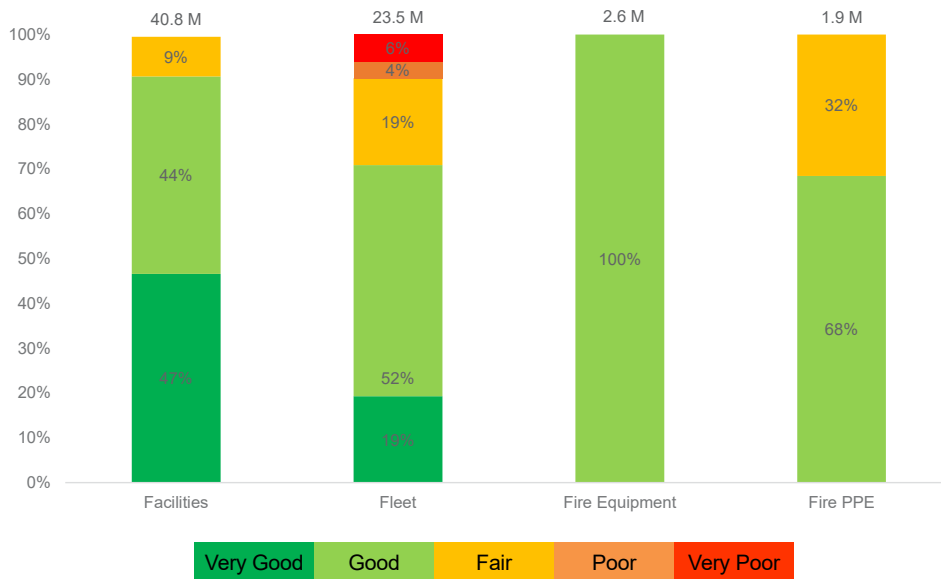
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

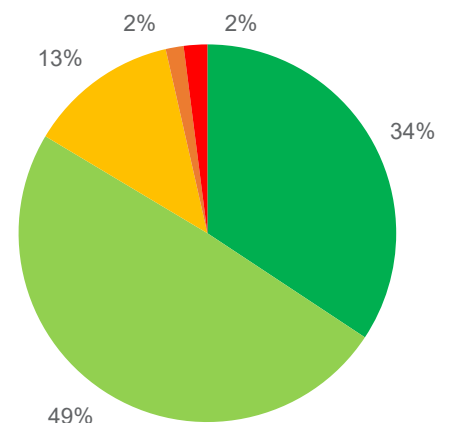


Overall RFPS assets have a replacement value of \$68.8 million with an average of 40 per cent remaining service life. In total, 83 per cent of the assets are in very good to good condition and 17 per cent are in fair to very poor due condition due to aging infrastructure of buildings.

Physical Condition by Asset Category



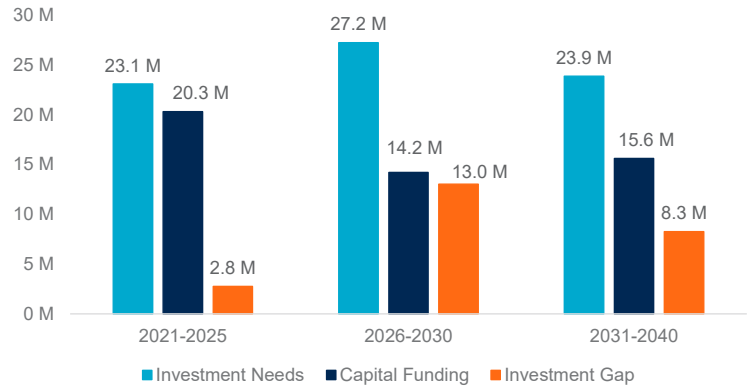
Overall Physical Condition

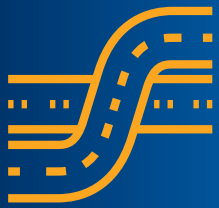


INVESTMENT NEEDS & GAPS

A funding gap currently exists due to growth and renewal of fire facilities. The identification of future capital investment is driven by additional fire stations, equipment, and fleet to maintain future growth.

As the city continues to expand, funding will be required to ensure current levels of service are not impacted. The Fire Master Plan drives planning and capital replacements, which have been forecasted for the next 20 years and responds to the growth and expansion in the city.





4.6

Transportation

OVERVIEW

Transportation is defined by the way citizens and visitors travel throughout the city. This includes different modes of transportation such as driving, public transit, walking and cycling.

The guiding principals outlined in the Transportation Master Plan includes accessibility, environmental protection, social equity, technology, fit for four seasons (i.e., climate) and safety. Seasonal factors cause service life to vary, such as the freeze and thaw conditions in clay soils and water line breaks during drought conditions. The strategy for the roadway renewal programs assist in extending the useful life through a combination of reconstruction, rehabilitation and preventative maintenance to improve the users' experience. Increasing population and economic activity are factors that need to be addressed to maintain a safe, reliable and efficient system. Facilities, office space and overhead pedways supporting transportation services are included within Civic Facilities (Section 4.14).

Over 72 per cent of the total \$2.6 billion for transportation assets replacement value is from roadway assets which primarily support motor vehicles and public transit. Gravel roads are included but are a small segment of the roadway asset category.

REPLACEMENT VALUE
\$2.6 BILLION

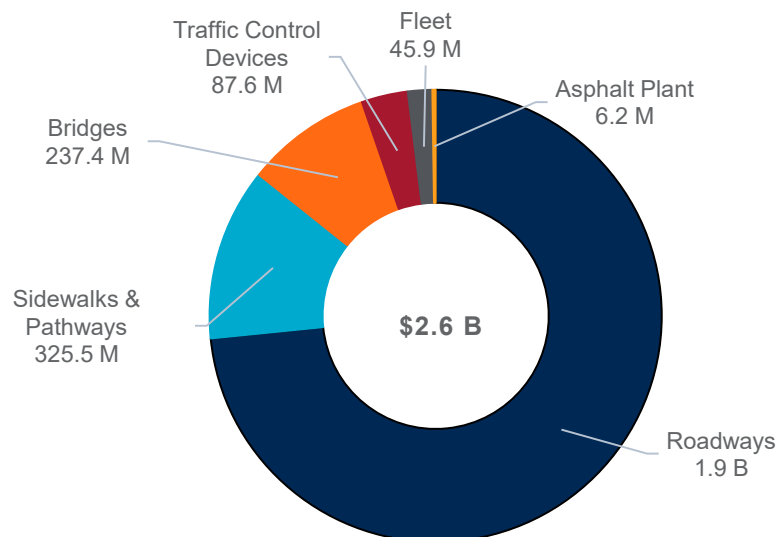
Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Roadways	Expressways, Arterials	1,089	lane kilometers	\$541.2
	Collector	652	lane kilometers	\$373.5
	Local	2,311	lane kilometers	\$961.7
	Gravel Roads, Alleys	400	lane kilometers	\$63.2
Sidewalks & Pathways	Sidewalks	1,403	kilometers	\$290.4
	Multi-use Pathway	43	kilometers	\$17.2
	Neighborhood and Informal Pathways	120	kilometers	\$17.9
Asphalt Plant	Asphalt Plant	9.7	hectares	\$6.2
Bridges	Traffic Bridges/Overpasses	39	each	\$199.4
	Pedestrian Bridges & Tunnel	37	each	\$11.0
	Rail Underpasses	8	each	\$27.1
Traffic Control Devices	Signalized Intersections	218	each	\$49.1
	Traffic Control & Street Signs	35,698	each	\$10.7
	Pedestrian Signals	98	each	\$5.9
	Bridges & Overhead signs	25	each	\$5.0
	Expressway Lighting	1,000	each	\$17.0
Fleet	Equipment & Vehicles	383	each	\$45.9
Transportation Total				\$2,642.3

INVENTORY

Transportation is a diverse portfolio with 37,500 unique assets and approximately 4,400 lane kilometers of roadways. Within roadways, there are 23 kilometers of on-street bike lanes, 71 kilometers of permanent pavement markings and 1,400 kilometers of sidewalks. Transportation structures include 36 pedestrian bridges and 39 traffic bridges.

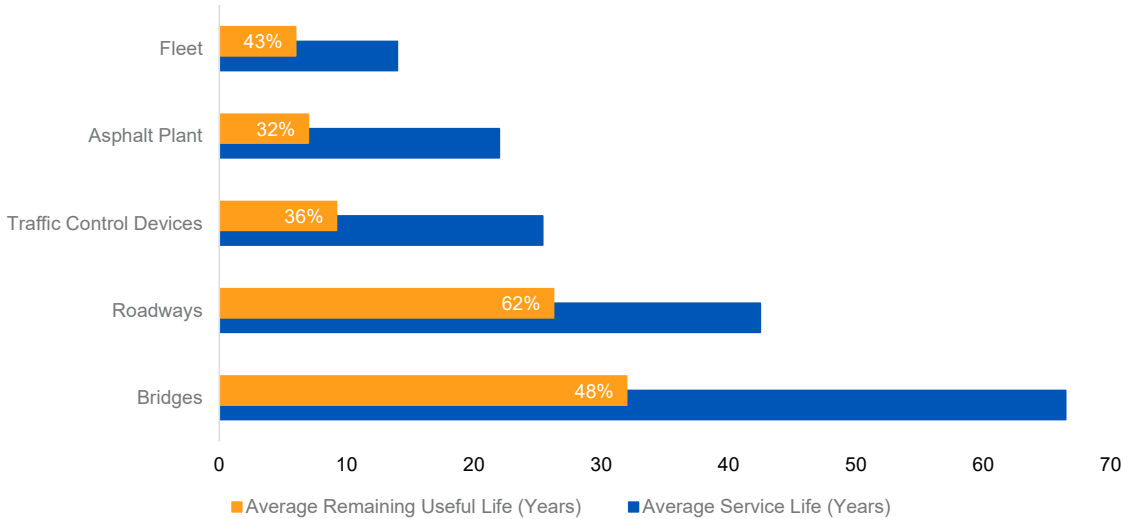
Active transportation modes are also supported by more than 130 kilometers of pathways.

A fleet of 383 assets consisting of vehicles, heavy and light equipment support service delivery. The City also runs an asphalt plant situated on 9.7 hectares of land, which includes storage space, material storage and several outbuildings.



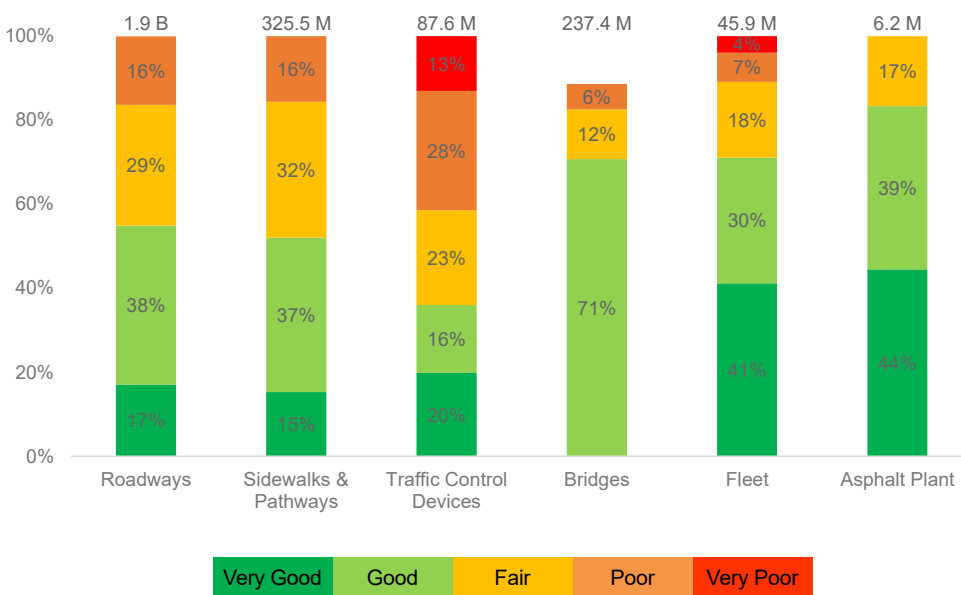
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

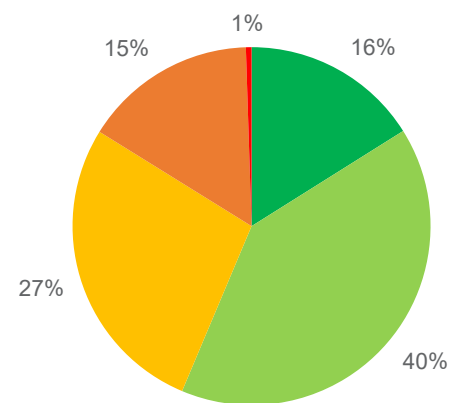


Overall, transportation assets have an average of 47 per cent remaining service life. In total, 56 per cent of the assets are in very good to good condition and 43 per cent are in fair to very poor condition. Pedestrian tunnels and rail underpasses condition is unknown.

Physical Condition by Asset Category



Overall Physical Condition



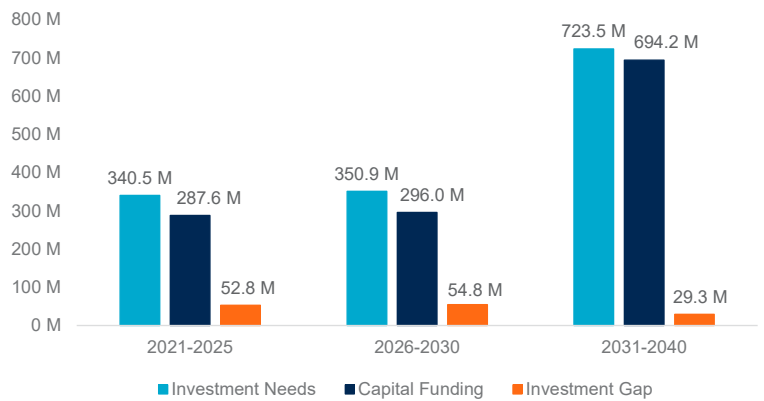
INVESTMENT NEEDS & GAPS

Current funding for the maintenance and renewal of the transportation service assets are primarily from taxation, the general reserve and the Canada Community-Building Fund. New transportation service assets are either contributed to the City subsequent to development of new subdivisions or funded by Servicing Agreement Fees.

The primary drivers of the investment need are identified broadly in the transportation goals of the OCP and the directions identified in the Transportation Master Plan.

The funding gap in the transportation service currently exists primarily from the costs needed to proactively maintain roads with appropriate treatments at defined intervals so that all roads receive the “right treatment at the right time” to prevent assets deteriorating further than desired.

Additionally, investment needs include active transportation mode assets, including pathways, on-street cycling and pedestrian connectivity improvements that supports the ability of residents to shift from single occupancy vehicles to active or public transportation modes.





4.7 **Transit**

OVERVIEW

This service consists of a public transportation system, including conventional and paratransit buses, which are available to all residents and visitors. Regina paratransit provides a door-to-door shared ride transportation service for persons experiencing a disability.

Factors that influence the Transit Service are usage, condition of the fleet, routes and rates. Regina Transit ridership in 2020 was at 6,091,654. It is anticipated that ridership will increase from 2022 on as Regina recovers from the COVID-19 Pandemic.

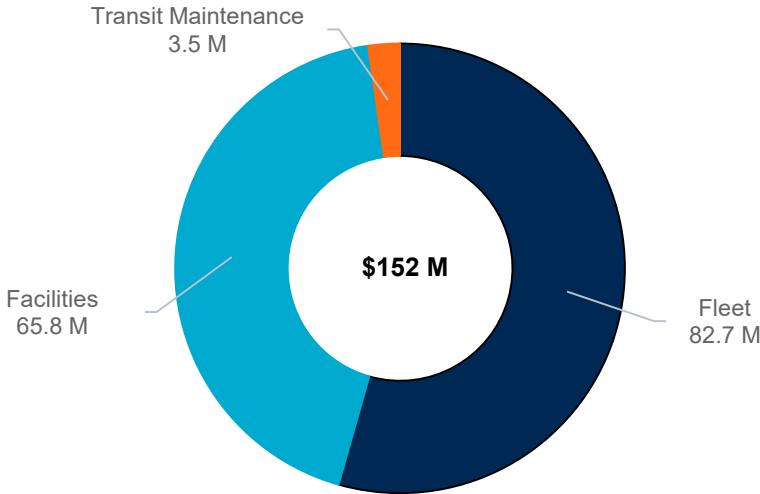
Total replacement value of the Transit assets is \$152 million. Fleet assets make up 54 per cent of the total replacement value.

REPLACEMENT VALUE
\$152 MILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Fleet	Buses	124	each	\$77.5
	Paratransit	34	each	\$4.4
	Transit Support	10	each	\$0.8
Facilities	Shelters (274)	12,107	square feet	\$4.3
	Parking Lots (2)	34,762	square feet	\$0.1
	Office Space ¹ (2)	106,294	square feet	\$31.9
	Transit Fleet Maintenance Facility (1)	61,010	square feet	\$29.6
Transit Maintenance	Equipment ²	77	each	\$3.5
Transit Total				\$152.0

INVENTORY

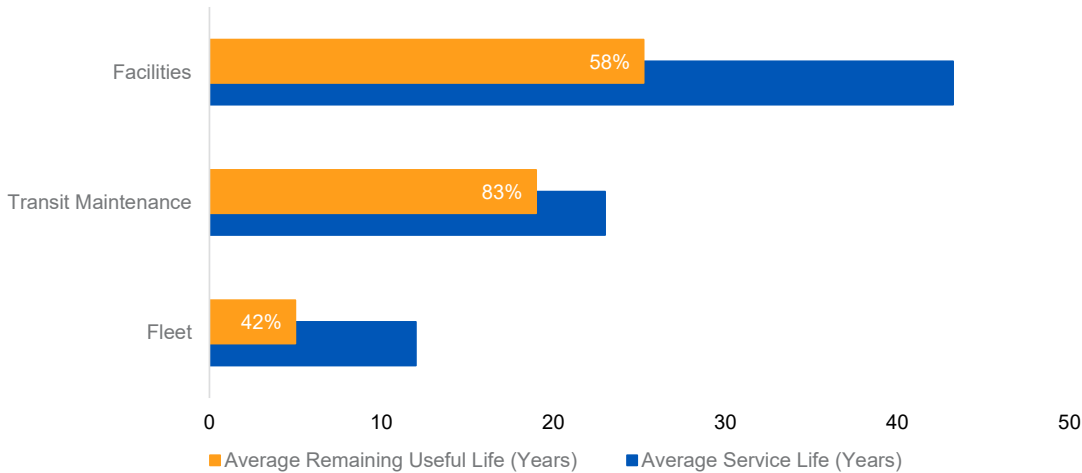
The transit service area asset portfolio has a total asset of 543 assets, including a fleet of 124 diesel buses, 34 paratransit and 10 support vehicles. The service maintains 21 routes, which includes 1,363 bus stops with 274 bus shelters. There are 77 large pieces of equipment used to maintain transit fleet, which provides safe, reliable and quality transportation.



1 Office space includes the Transit Information and Transit Operations Centres.
 2 Equipment includes items, such as lifts, hoists, tanks, washers and cleaning machines.

ASSET HEALTH INDICATORS

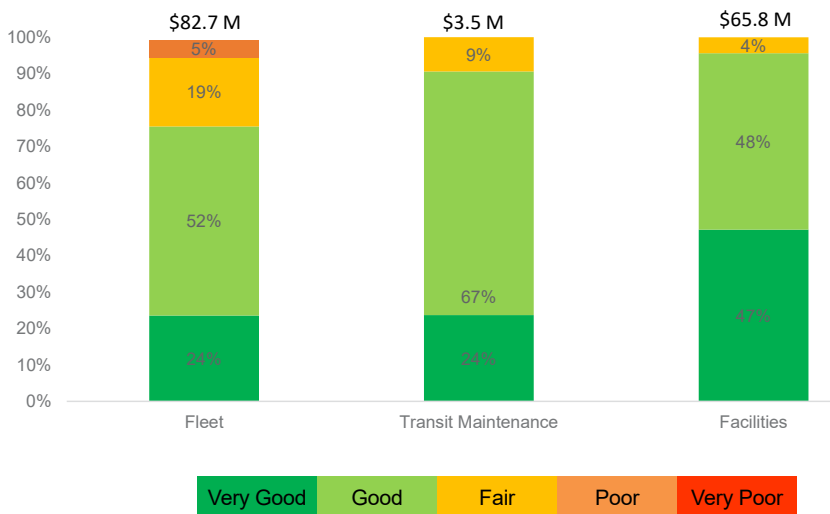
Percentage of Remaining Useful Life



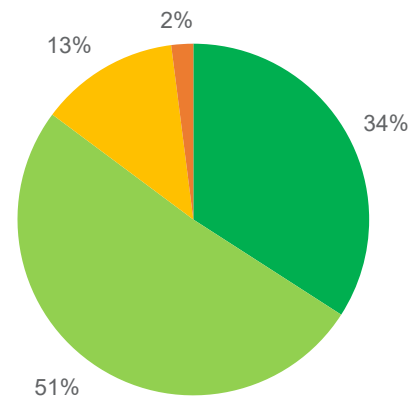
Transit assets have on average a 62 per cent remaining service life. In total, 85 per cent of the assets are in good to very good condition with only 15 per cent in fair to poor condition as the bus fleet is relatively new.

The Transit Fleet Maintenance Facility, constructed in 2020, makes up a large portion of the overall physical condition. This building has not had a formal condition assessment, but it is assumed to be in very good condition based on its age.

Physical Condition by Asset Category



Overall Physical Condition



INVESTMENT NEEDS & GAPS

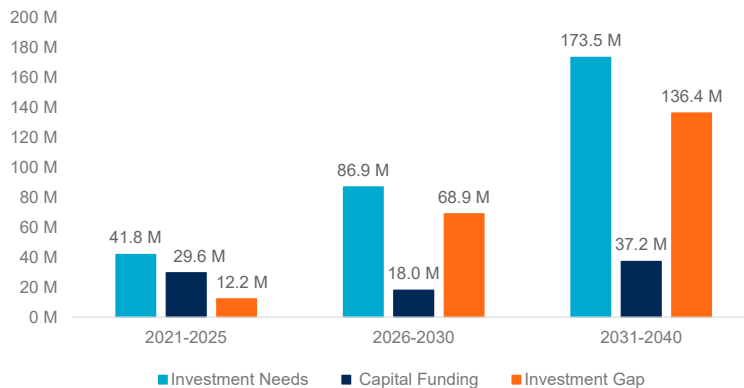
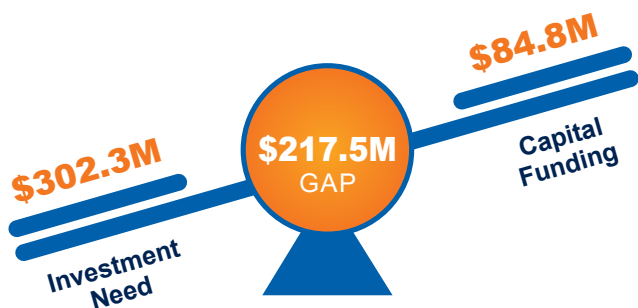
Although transit service generates revenue from the fares collected, it is not sufficient to fund the entire transit service. The transit reserve will continue to receive annual transfers; however, it is not enough to cover the future expansion of transit services and maintenance of existing service levels. A decrease in capital funding from 2026 to 2030 is due to unconfirmed capital funding.

The Regina Transit Master Plan, along with the Energy Sustainability Framework, is recommending that buses make the gradual change to battery electric vehicles, becoming a completely electric fleet by 2039. Adoption of alternate fuel vehicles are being planned for implementation within the next 20 years, which increases investment needs and creates additional gaps in the investment planning model.

The Regina Transit Master Plan projects an increase in bus service by 60 per cent; however, economic impact and current ridership will determine the exact time the service increases.

Service increases are centered around increasing frequency and operational hours to ensure the transit service is an attractive transportation option. Additional growth of the transit fleet is planned by 55 electric buses over the next 25 years.

Additionally, investment needs are captured but the funding towards maintaining parking lot assets is included in the gap.





4.8

Civic Fleet

OVERVIEW

The City owns and maintains a fleet of over 2,200 pieces of equipment, including transit buses, fire apparatuses, light, medium and heavy trucks, heavy equipment, agricultural and industrial equipment. In addition, fleet maintains small tools and attachments to support the work of many areas to provide services.

This section covers only a small portion (nine per cent) of the overall motor fleet, including shared or pooled fleet assets, training vehicles, equipment and vehicles that support multiple services. The motor pool and fleet training assets generally consist of vehicles and equipment, which have been replaced due to condition or obsolescence. These will be disposed of through sale or salvage but are able to support other services until this occurs. The motor pool and training vehicles/equipment no longer carry a monthly lease rate, therefore are not included in the asset condition or replacement value analysis.

The remaining 91 per cent of fleet assets are captured in other service area sections of this report. These service areas determine their fleet needs, pay for funding upgrades and growth. Service areas containing fleet assets include water, wastewater, stormwater, transportation, transit, solid waste & diversion, recreation, parks & open space, fire & protective services, and parking.

Replacement value for Civic Fleet service area totals \$27 million. Three civic fleet maintenance facilities account for 75 per cent of total replacement value.

REPLACEMENT VALUE
\$27 MILLION

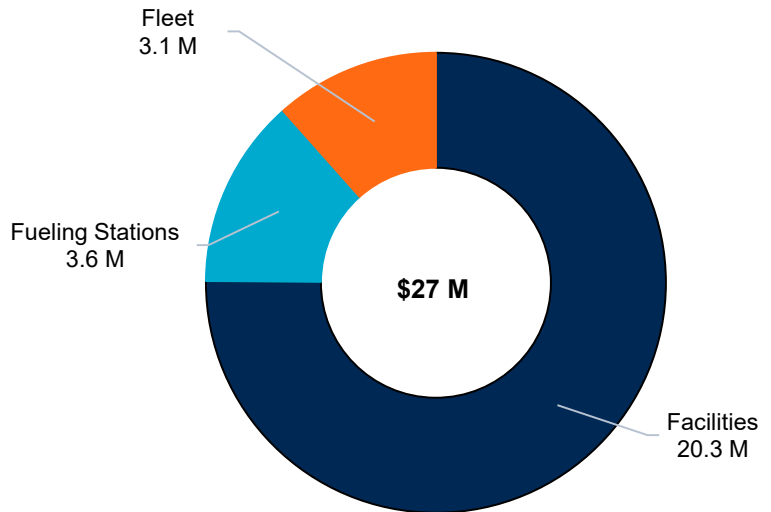
Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Fleet	Small Tools ¹	722	each	\$1.0
	Maintenance Equipment	231	each	\$0.7
	Equipment & Vehicles ²	120	each	\$0.8
	Corporate Support Vehicles ³	14	each	\$0.6
Fueling Stations	Fueling Stations	9	each	\$3.6
Facilities	Maintenance & Storage ⁴ (3)	69,042	square feet	\$20.3
Civic Fleet Total				\$27

INVENTORY

Within the Civic Fleet asset portfolio, there are a total of 134 motor vehicles and equipment, including 120 shared training equipment and vehicles. Fleet’s motor pool rental program manages short-term requirements to help some services with operational needs. These rentals depend on the service area requirements and equipment availability.

There are also 14 corporate support vehicles, that assist other services in the City, such as central stores, surveys, new subdivision inspection and mail services. The 722 small tools rental pool program is used by other service areas to maintain assets across the City.

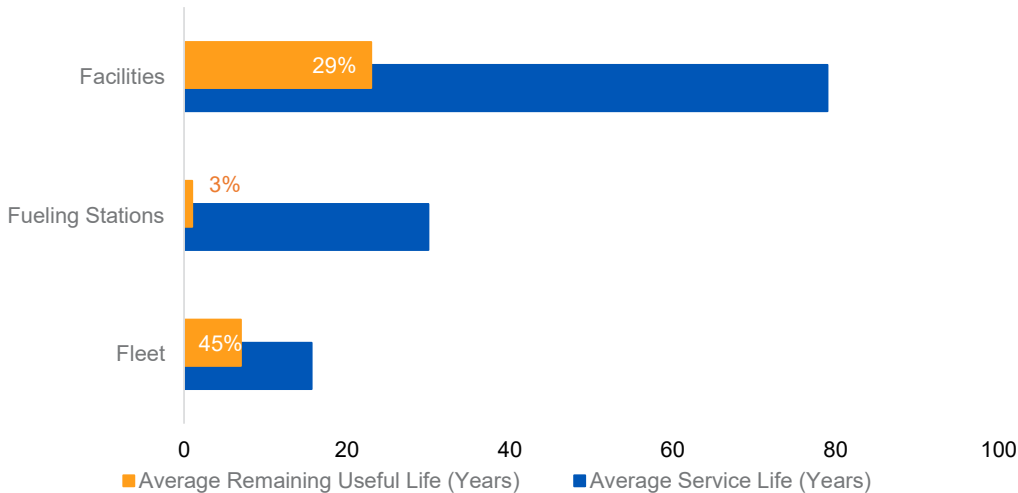
Approximately 231 larger unique maintenance tools and equipment are located in the three fleet maintenance facilities, equaling to 69,042 square feet. There is also a total of nine active fueling stations located across the city.



1 Includes items such as string trimmers, pole saws, concrete smoothers, water pumps
 2 Includes motor pool, training vehicles, only 26 vehicles and equipment are included in the analysis
 3 Includes surveys, central stores, development services, mail room corporate support
 4 Includes the lube shack, heavy fleet, and light fleet garage

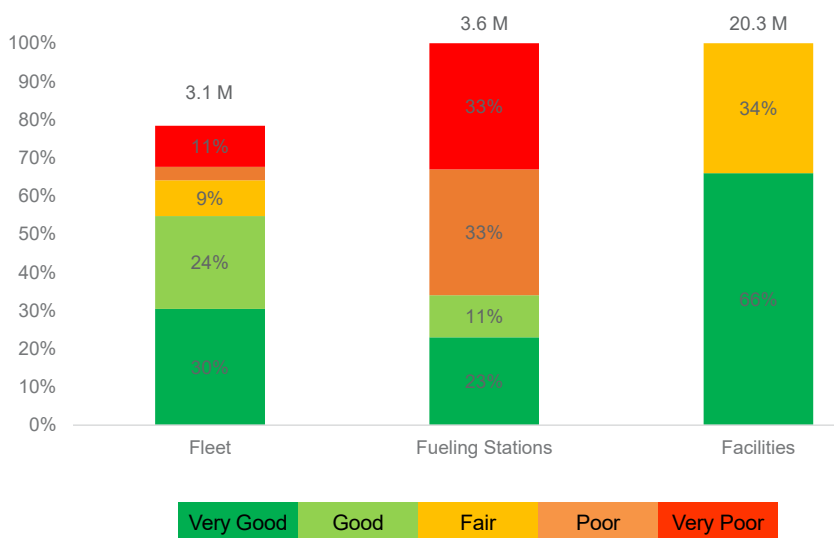
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

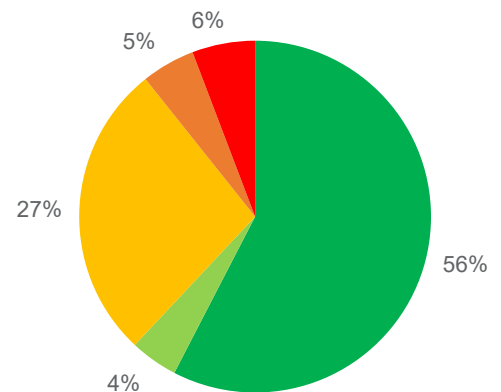


Overall, Civic Fleet assets have an average of a 24 per cent remaining service life. In total, 60 per cent of the assets are in good to very good condition and 38 per cent are in fair to very poor condition. This accounts for the older fueling stations that are in poor to very poor condition. A two per cent gap of the physical condition is unknown due to no formally documented assessment of fleet maintenance equipment.

Physical Condition by Asset Category



Overall Physical Condition



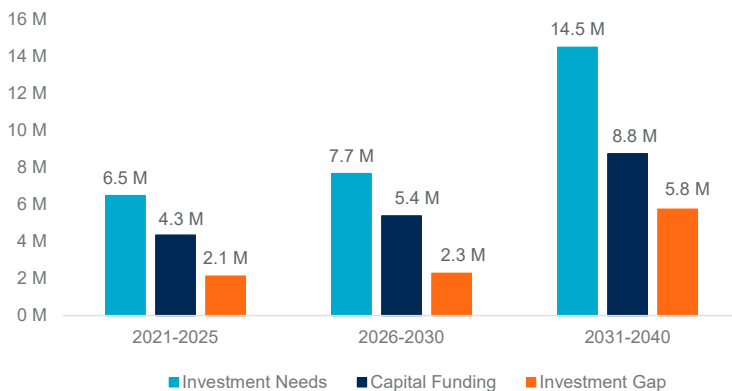
INVESTMENT NEEDS & GAPS

The Fleet Capital Replacement Program funds capital replacements, fleet maintenance equipment and storage through the fleet reserve. These expenses are fully funded by individual service areas. Funding is also received in the reserve from revenue generated at auction after the unit has met its useful life and it is no longer economical to operate.

Fueling stations have a total investment need of \$2.8 million which is also a gap in the next 20 years due to no renewal program. These cost estimates cover the replacement of the stations but exclude all environmental expenses required.

The remaining financial gap is due to the renewal of garages and buildings that support fleet maintenance to align with facility condition targets.

Fleet requirements are dynamic to manage changing needs. The future demand for additional fleet assets or equipment upgrades have been defined in the City’s five-year capital budget. A Fleet Governance Committee reviews and prioritizes all proposed acquisitions of additional vehicles and equipment. An upgrade to alternative fuel fleet was not yet realized and therefore not considered in the investment needs considerations.





4.9 **Parking**

OVERVIEW

This service provides on-street parking and enforcement of *The Regina Traffic Bylaw No. 9900* to maintain safety for the travelling public. Parking Services manages parking meter revenue and maintenance, issues parking permits, plans neighborhood and accessible parking zones and manages one off-street parking lot.

Parking services is influenced by changes in parking technology, usage, location and environmental considerations. Changes in technology could impact the existing type of meters used. Should this occur, replacement cost could change per meter and thus the total asset base. Facilities and office space supporting the parking service are included within Civic Facilities (Section 4.14).

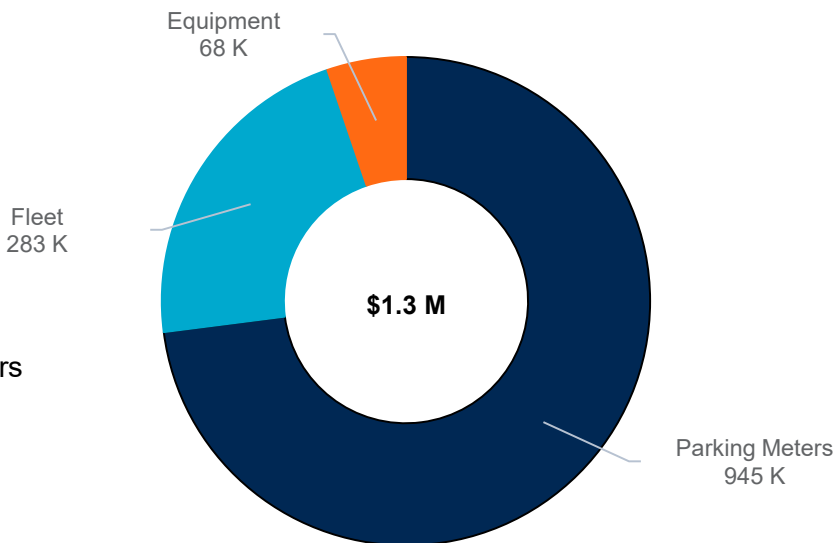
Parking meters, including unit and installation costs which make up 73 per cent of the total replacement value of \$1.3 million and are a source of revenue for the City.

REPLACEMENT VALUE
\$1.3 MILLION

Asset category	Quantity	Unit	Replacement Value (\$ M)
Parking Meters	1,263	each	\$0.9
Equipment - handhelds & printers	59	each	\$0.3
Fleet Support Vehicles	8	each	\$0.1
Total			\$1.3

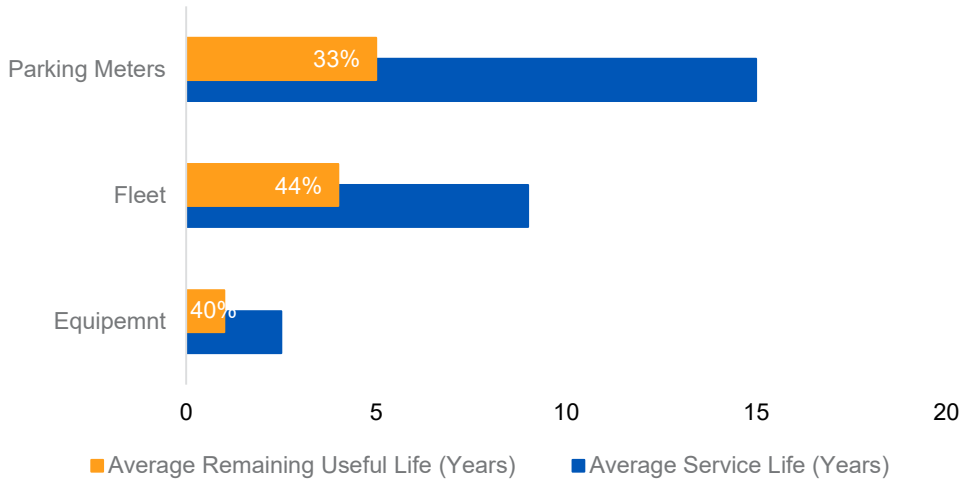
INVENTORY

Parking services has a total portfolio of 1,330 assets, including 1,263 City parking meters, which are mainly located downtown to facilitate paid on-street parking. The meters accept coin payment or payment can be made through an online service provider. The 59 units of parking meter equipment includes handhelds and printers and eight fleet vehicles to support the service.



ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

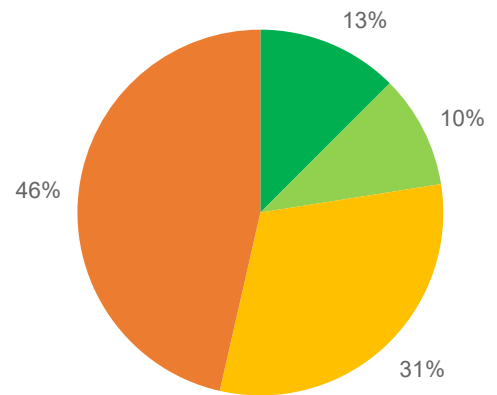


Overall Parking assets have an average of a 33 per cent remaining service life. In total 23 per cent of the assets are in good to very good condition and 77 per cent are in fair to poor condition. The overall fair to poor condition is due to limited resources for replacement with the City typically replacing 20 parking meters a year.

Physical Condition by Asset Category



Overall Physical Condition



INVESTMENT NEEDS & GAPS

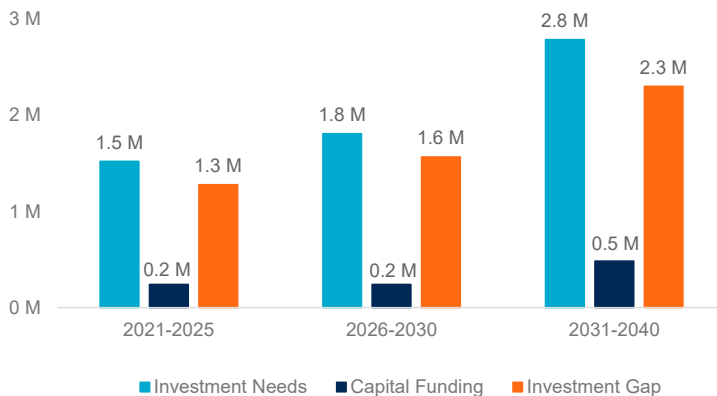
Parking services receives annual funding of \$15,000 for the replacement and maintenance of parking meters. Funding for parking ticket equipment of \$35,000 and \$30,000 every second and third year is also funded. This funding is provided through taxes and fees collected.

Investment needs were determined using the replacement value over the useful life of the assets. Current capital budget funding is insufficient to replace all parking meters before the end of their useful life and a funding gap of \$5.1 million is projected over the next 20 years.

Due to the limited annual funding available for the replacement of parking meters and the resources required, efforts are focused on repairing existing parking meters and replacing parking meters only when they are beyond repair or when located where other road/sidewalk repairs are occurring.

This strategy provides the ability to maintain low equipment costs and coordination of City resources while ensuring the parking service remains available to residents and visitors.

With a trend towards online payment or pay stations, as opposed to individual parking meters that make up our current inventory, introduction of pay stations could reduce long-term maintenance costs and increase the beautification of the downtown by reducing the amount of equipment placed on sidewalks. Replacement of the traditional parking meters currently in use with pay stations would require additional capital funding; however, ongoing maintenance and operating costs may be reduced.





4.10

Parks & Open Space



OVERVIEW

This service area supports recreational and leisure needs for residents and visitors to enjoy, which are accessible by persons of all ages and abilities. A combination of maintained and naturalized outdoor spaces enhance quality of life, as well as, economic, cultural, and environmental well-being of the community.

Passive amenities within parks and open space includes playgrounds, benches, picnic areas, off-leash dog areas and open space for walking and playing. Structured recreational activities include athletic fields, ball diamonds and golf courses, which can be scheduled and booked for organized sports. In addition to City park spaces, this service area also includes the urban forest.

Some parks serve a dual purpose by providing stormwater detention and retention ponds. These can be located within park space to protect areas from flooding, while allowing excess rainwater to drain once the surrounding stormwater pipes have recovered. Data for these assets are covered in Stormwater (Section 4.2). Pathways located within parks spaces are reported in Transportation (Section 4.5). Office space facilities supporting the service are included within Civic Facilities (Section 4.14).

The overall replacement value for parks and open space assets is \$2.1 billion. This includes the 318 parks, which were calculated using the open space modeling system at \$600,000 per hectare. The current assessed value of the City's urban forest is \$1.46 billion, which grows in value as trees mature.

REPLACEMENT VALUE
\$2.1 BILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Parks	Parks (318)	750	hectares	\$499.8
	Off-Leash Dog Parks (3)	9.4	hectares	\$0.6
	Urban Forest (street & park trees)	178,651	each	\$1,460.4
	Planting Pots	375	each	\$0.1
Outdoor Recreation Facilities	Golf Courses (4)	295	hectares	\$1.7
	Ball Diamonds	153	each	\$37.5
	Athletic Fields	55	each	\$3
	Sports Fields (multi-purpose)	55	each	\$1.0
	Outdoor Skateboard Parks/Pod	4	each	\$2.3
	Cricket Pitches	3	each	\$0.9
Park Amenities	Irrigation Lines	639	kilometers	\$7.4
	Irrigation Elements	35,613	each	\$12.5
	Water Features, Water Fountains, Benches, Tower Signs & Garbage Cans	1,069	each	\$3.4
	Playground Sites	153	each	\$17.4
	BBQ & Picnic Sites	17	each	\$0.1
Facilities	Parking Lots (11)	428,006	square feet	\$0.4
	Maintenance & Storage (19)	42,354	square feet	\$10.0
	Golf Course Facilities ¹ (22)	36,185	square feet	\$13.4
	Gazebo (13)	9,073	square feet	\$0.9
	Plaza Viewing areas ² (5)	3,197	square feet	\$0.5
	Pedestrian Bridges	52	each	\$1.4
	Pumphouses	13	each	\$0.2
	Signs ³	3	each	\$0.1
Fleet		353	each	\$17.0
Parks & Open Space Total				\$2,092.0

INVENTORY

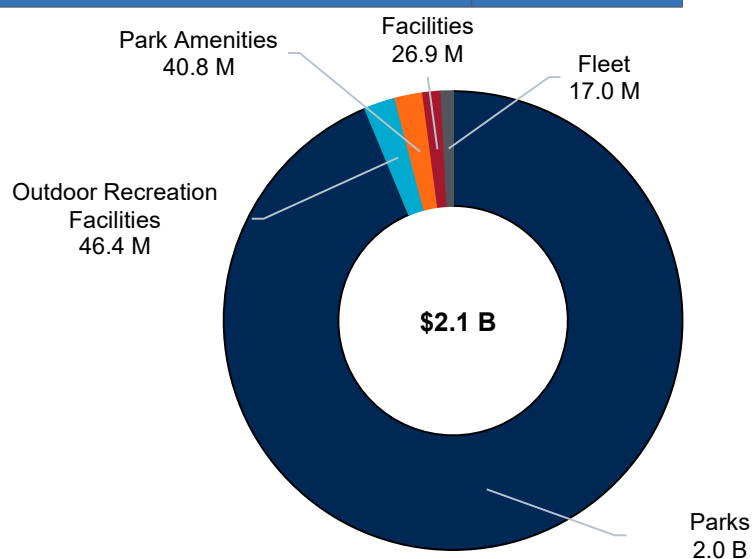
The service area has a large asset portfolio of 750 hectares with approximately 217,000 unique assets. Current inventory of 153 playground sites includes three fully accessible playgrounds.

A fleet of 353 vehicles and equipment are used for over 11 lines of business within the service area, such as parks maintenance, athletic fields restoration, urban forestry, horticulture, irrigation services and golf course maintenance.

1 Golf Course Facilities includes washrooms, buildings, clubhouses and pumphouses.

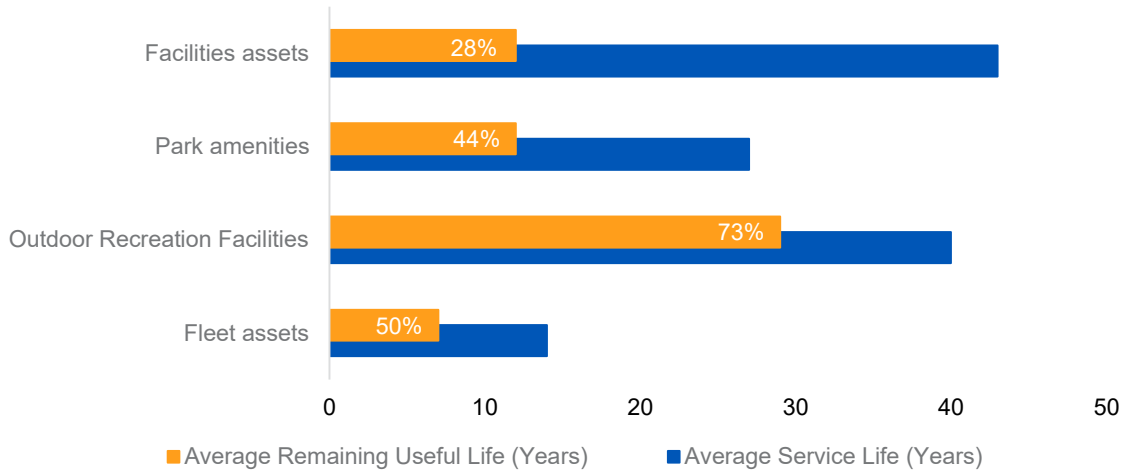
2 Plaza viewing areas includes City Square Plaza, Lakewood Park & Rochdale Park boardwalks, Windsor Park East & West viewing Deck

3 Signs include Central Park, Lakeridge and Mount Pleasant entrance signs.



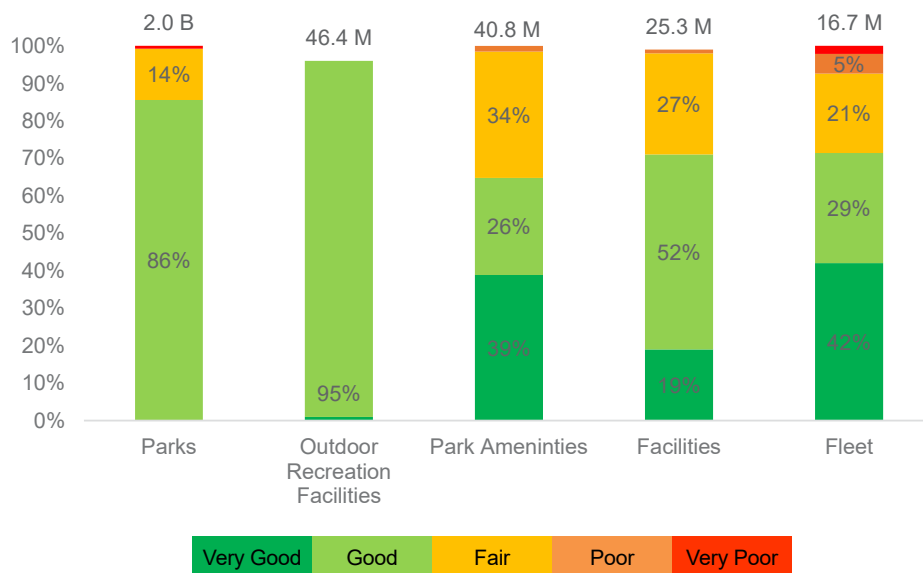
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

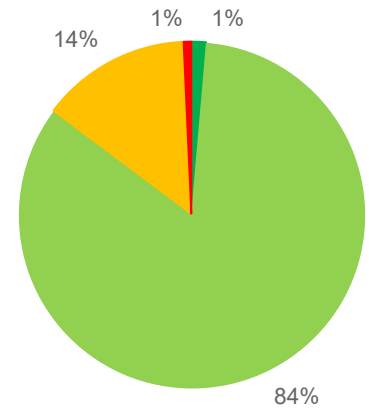


Overall, parks and open space assets have an average of a 48 percent remaining service life requiring a significant investment to renew or replace assets in the future with some natural assets estimated to last over 100 years. Developed park lands, open space, sports fields and the urban forest were excluded in the service life analysis due to the ability to determine service life. In total, 85 per cent of the assets are in good to very good condition and 15 per cent are in fair to very poor condition.

Physical Condition by Asset Category



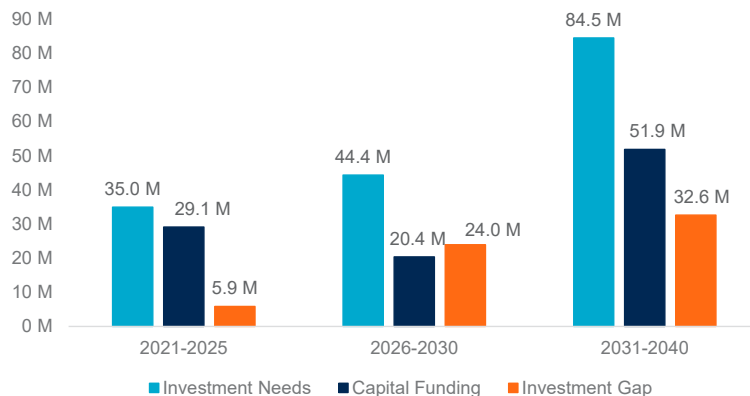
Overall Physical Condition



INVESTMENT NEEDS & GAPS

Investment needs were calculated using a formula of the asset replacement value prorated over the service life based on the condition rating. On average, many parks and open space assets are nearing the end of their useful life and the investment gap speaks to the funding needed to sustain current levels of service. An example is the replacement and upgrades to existing playground assets.

The current capital funding allows one to two sites per year to be replaced; however, the typical service life of 25 - 30 years per site means at the current investment rate, the City will not keep up with sustaining the current service levels or be able to provide additional accessible playground sites that are desired. Also, with the addition of more parks and open space assets due to growth, the investment needs increase to safeguard aging assets.





4.11

Recreation

OVERVIEW

This service area provides facilities that enable residents and visitors to be healthier and more connected to each other and their communities. Amenities include indoor, outdoor and support facilities that are maintained for the purpose of providing both active and passive recreation, arts, cultural, social, intellectual, creative and spiritual programs improving community wellbeing.

Factors that influence the service area delivery include growth, diversity, changing business needs, condition of assets and environmental sustainability. Some recreation assets, such as skateboard parks, playgrounds and athletic fields are captured within Parks & Open Space (Section 4.10). Some office space facilities supporting the service area are included within Civic Facilities (Section 4.14).

The recreation facilities managed by subsidiaries, operated by external organizations or by a contract are not included in this Report.

The overall replacement value is \$239 million, with 77 per cent from indoor recreation facilities including arenas, community centres and city-wide facilities, such as the North West Leisure Centre, Sandra Schmirler Leisure Centre, Fieldhouse and Lawson Aquatic Centre.

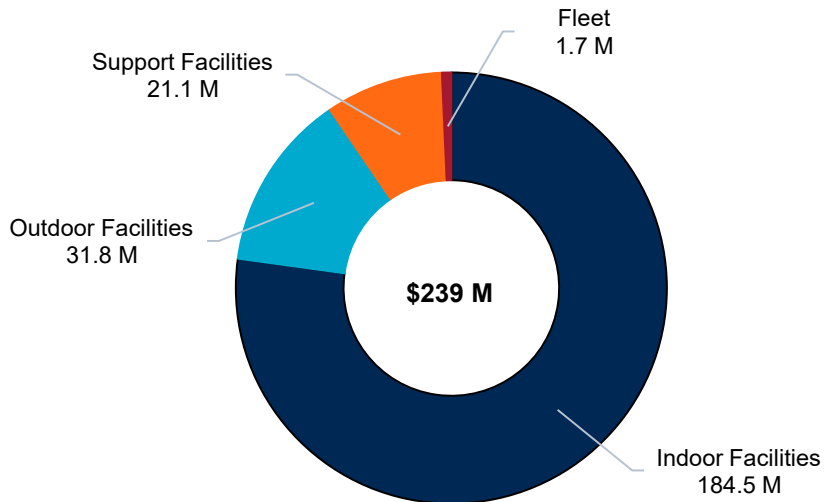
REPLACEMENT VALUE
\$239 MILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Indoor Facilities	Arenas (8)	218,524	square feet	\$55.2
	Major facilities (4)	189,907	square feet	\$75.1
	Neighborhood/Community Centers (13)	227,597	square feet	\$54.2
Outdoor Facilities	Courts, Leibel Field, Douglas Park Track (20)	534,778	square feet	\$11.1
	Outdoor Pools (4)	49,271	square feet	\$12.9
	Spray Pads (15)	9,435	square feet	\$2.8
	Outdoor Rinks ¹ (58)	58	each	\$5.0
Support Facilities	Parking Lots (49)	1,260,367	square feet	\$2.4
	Athletic Field Support Facilities (15)	74,658	square feet	\$8.3
	Outdoor Rink Shelters (40)	19,763	square feet	\$3.9
	Washrooms (7)	8,033	square feet	\$5.1
	Maintenance and Storage Facilities (11)	5,345	square feet	\$1.4
Fleet	Equipment & Vehicles	28	each	\$1.7
Recreation Total				\$239.0

INVENTORY

Recreation has a total portfolio of 243 facilities assets and a fleet of 28 vehicles and equipment. Within this service area there are three asset categories with approximately 636,000 square feet of indoor facilities. These include four major recreation facilities, 13 neighborhood centers and eight arenas. Outdoor facilities consist of tennis and pickleball courts, Leibel Field, Douglas Park track, four seasonal pools, 15 spray pads, 58 boarded rinks and leisure skating sites for a total of 136,000 square feet.

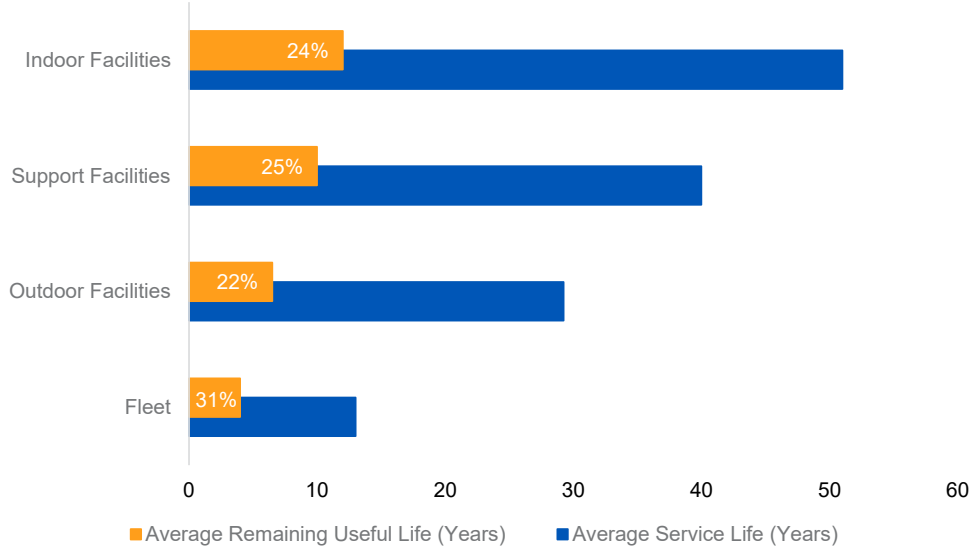
The final asset category is support facilities. These include maintenance and storage, washrooms, rink shelters, parking lots and athletic field support facilities.



¹ Outdoor rinks includes both the outdoor boarded, leisure skate sites and crokicurl.

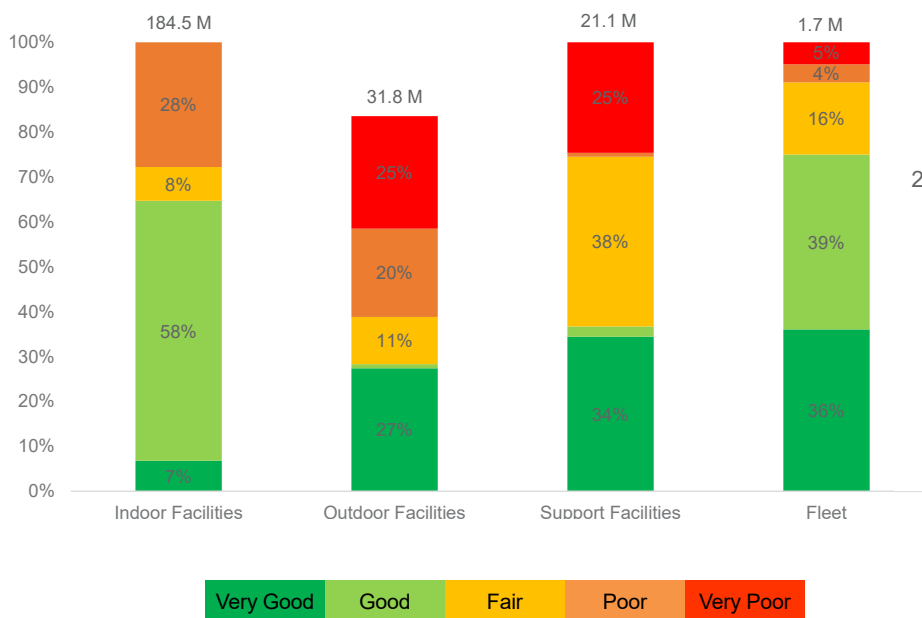
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

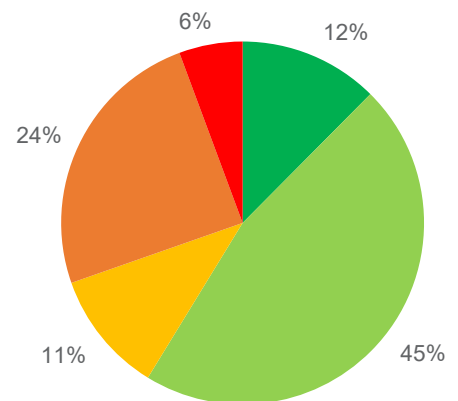


Overall, recreation assets have an average of a 24 per cent remaining service life. In total, 57 per cent of the assets are in good to very good condition and 41 per cent are in fair to very poor condition. Two per cent of the overall physical condition is unknown for outdoor rinks and leisure skate sites.

Physical Condition by Asset Category



Overall Physical Condition

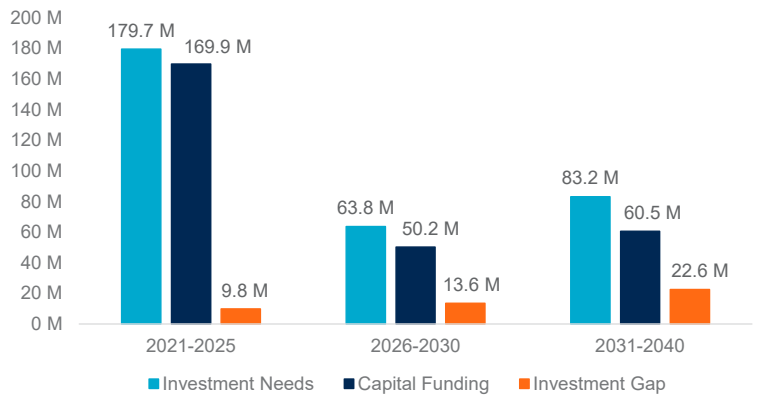


INVESTMENT NEEDS & GAPS

Investment needs are high in the next five years with more moderate needs in the years to follow. In 2020, the Recreational Infrastructure Mill Rate Program was announced, which commits a 0.5 per cent annual mill rate increase over the next five years to invest in new recreation infrastructure to accommodate community growth. The investment gap in recreation assets exists due to the need to address condition and deferred maintenance for the existing facilities that are not being replaced.

In addition, a new Recreation and Culture Capital Program will further advance the Recreation Master Plan with an additional capital investment is required.

The City is challenged with operating aging infrastructure to meet modern user needs while optimizing efficiency and implementing leading practices. The goal is to meet the City’s strategic priorities to enable people of all ages to participate in recreation and address constraints of participation faced by children and youth from disadvantaged families and older adults. With city growth and increased diversity expected in Regina, the provision of new spaces to meet overall community needs must also be balanced.





4.12

Cemeteries

OVERVIEW

This service provides interment options both in-ground and above ground in a peaceful location to remember and honour loved ones. The City owns two cemeteries. Regina Cemetery is a historical cemetery with limited interment options. Riverside Memorial Park Cemetery (Riverside), opened in 1953, provides interment services by the City and facilities for administration and operations staff.

Interment options have changed over the years to meet current trends and needs of the community. The number of interments remain relatively consistent over the past 10 years at around 600 yearly. Cemetery assets meet the functional needs as the demand for cremation and alternative interment options have shifted in recent years. Development of cremation areas and installation columbariums have become standard practice.

Cemetery assets have a total replacement value of \$54.7 million, including the two cemeteries land which is 89 per cent of the total replacement value. This was calculated using the current estimated open space park development cost at \$600,000 per hectare.

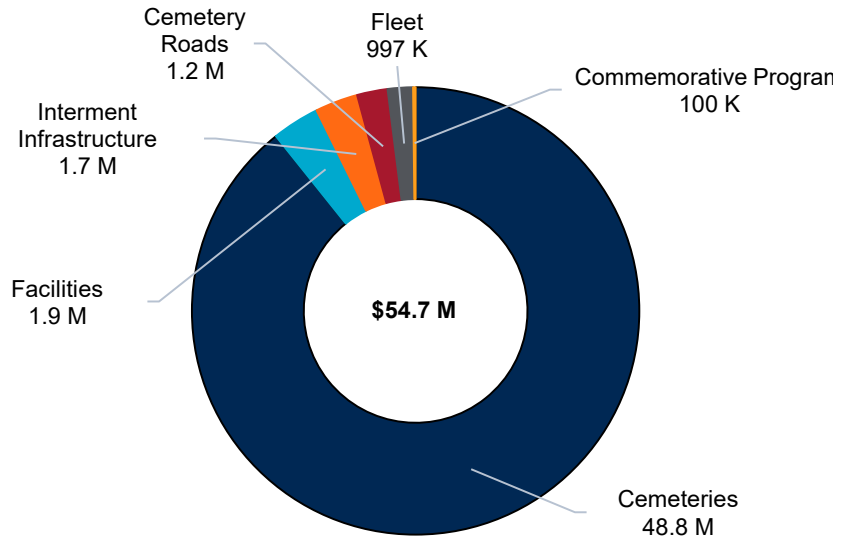
REPLACEMENT VALUE
\$54.7 MILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Cemeteries (Developed Land)	Riverside Memorial Park	68	hectares	\$38.6
	Regina	17	hectares	\$10.2
Interment Infrastructure ¹	Columbarium	30	each	\$1.7
	Scattering garden	2	each	\$0.04
	Ossuaries	2	each	\$0.04
Commemorative Program	Legacy Benches	84	each	\$0.92
	Legacy Trees	51	each	\$0.08
Cemetery Roads	Roads	14	kilometers	\$0.838
	Gates	2	each	\$0.370
Facilities	Pumphouse (1)	258	square feet	\$0.56
	Parking Lots (3)	39,304	square feet	\$0.87
	Office (2)	4,661	square feet	\$1.2
	Maintenance & Storage (4)	4,220	square feet	\$0.508
Fleet	Equipment & Vehicles	24	each	\$0.997
Cemeteries Total				\$54.7

INVENTORY

The City Cemeteries have a total asset portfolio of 205 assets plus 14 kilometers of informal roads. The 30 columbarium structures provide a total of 1,902 niches, 324 indoor and 1,753 outdoor niches. A fleet of 24 assets consisting of equipment and vehicles support service delivery. The various administrative, maintenance and chapel facilities total approximately 48,000 square feet.

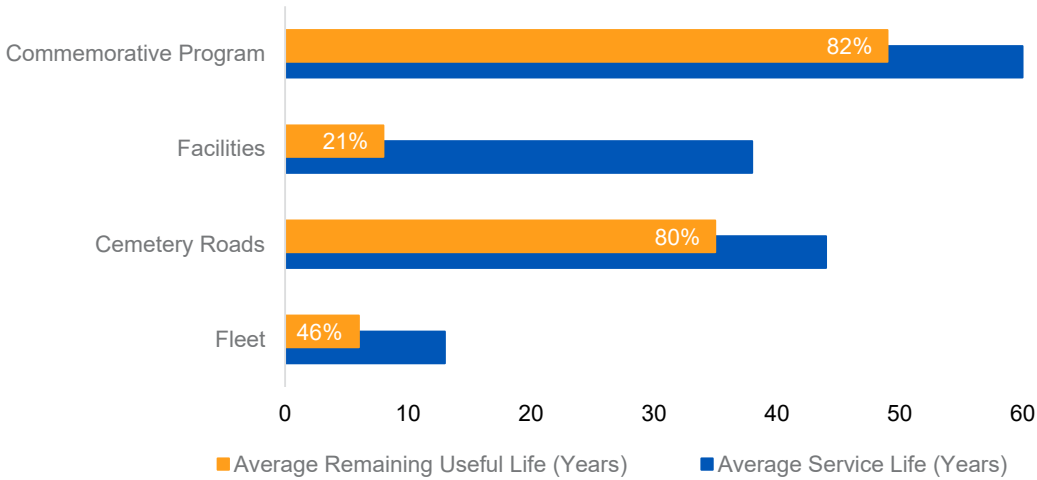
As a part of the commemorative program, legacy benches and trees provide an opportunity for members of the community to remember or honour a loved one.



¹ Interment Infrastructure includes all cremation both indoor and outdoor.

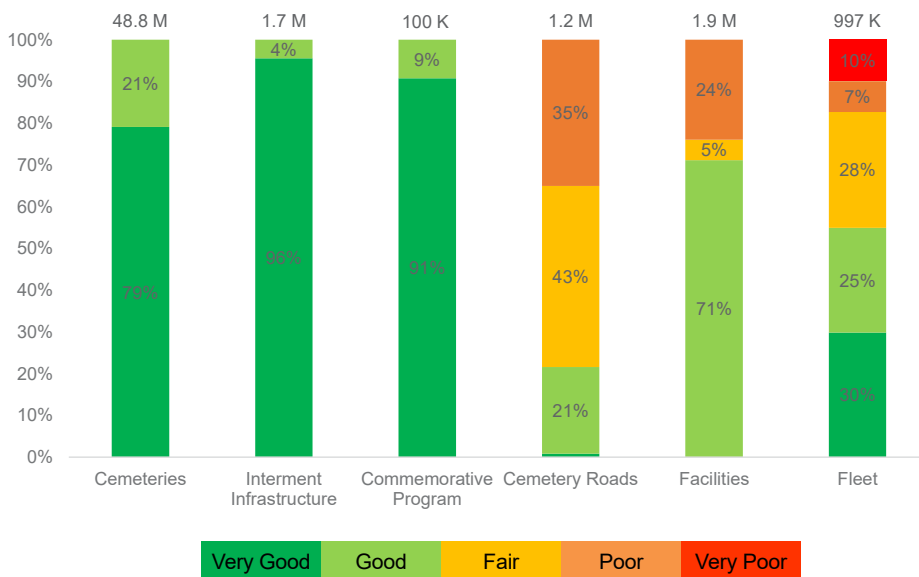
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

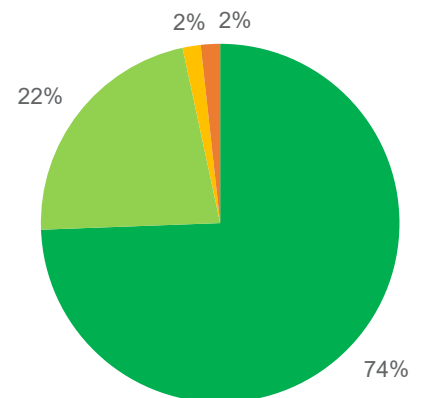


Overall, cemetery assets average a 64 per cent remaining service life. In total, 96 per cent of the assets are in good to very good condition, with only four per cent in fair to poor condition. The maintenance shop, well and pumphouse facilities are functional but are in poor physical condition and will need to be replaced in the next 10 years. All interment infrastructure like columbarium units made of granite and steel remain in very good condition.

Physical Condition by Asset Category



Overall Physical Condition

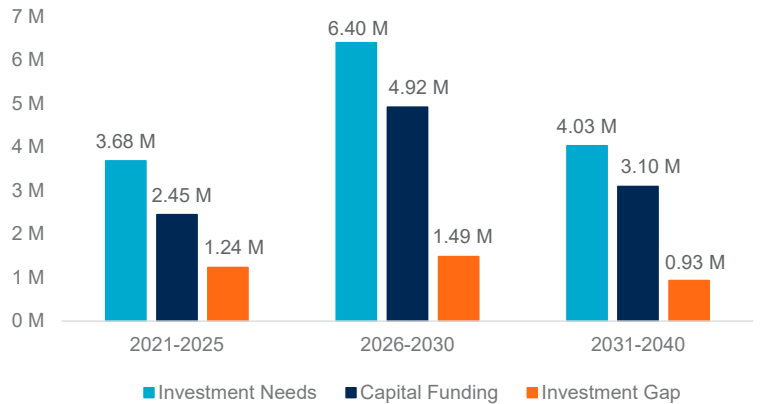


INVESTMENT NEEDS & GAPS

Cemeteries have operated at 100 per cent cost recovery since 1987; however, there have been no major capital improvements to address aging infrastructure in need of renewal or land development for additional interment areas since the late 1980s. Major infrastructure renewal and expansion areas needed at the Cemeteries have been identified but have been delayed due to a focus on columbarium units. An expansion project to develop areas within Riverside requires a financial investment to secure revenue opportunities and interment options for the next 20 years.

Interment assets have a service life based on capacity. When burial lots or columbarium niches are filled, additional land is developed, or a columbarium is built. These existing cemetery assets are never planned to be replaced, only maintained.

Regina Cemetery has very limited capacity with no vacant burial lots available. Riverside is low on current inventory for interment options with 90 per cent of the columbarium niches owned and six per cent of inground burial options available for purchase.





4.13

Information Technology

OVERVIEW

This service provides hardware combined with an array of software solutions necessary for employees to deliver all City services. Upgrades are regularly required as hardware and software are ever-changing at a rapid pace. This means the lifespan of many IT assets is relatively short to meet resident and business needs, provide an attractive and modern workplace experience for employees and ensure City data is secure.

Factors that influence the service are adapting to rapid changes in technology and standards, cybersecurity demands and technology needs by other City services. Office spaces supporting the service are included within Civic Facilities (Section 4.14).

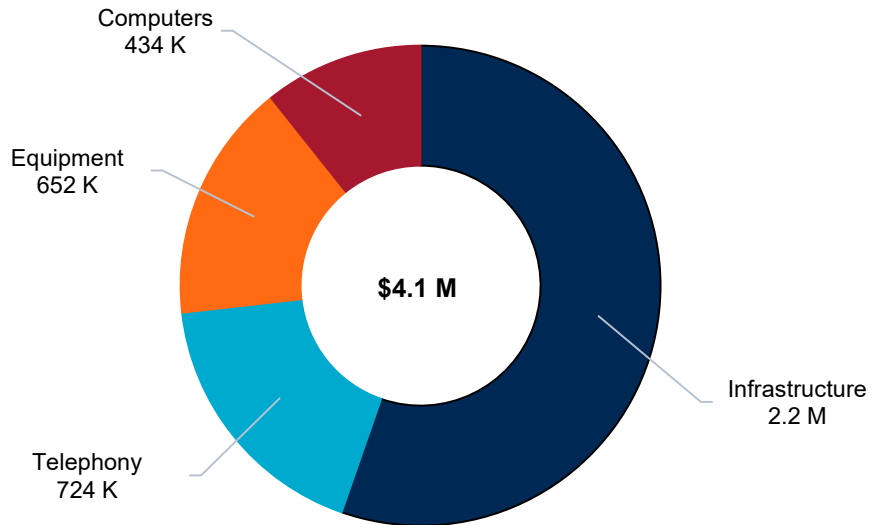
The total replacement value of IT assets is \$4.1 million. The majority of the City's personal computers are leased assets and are not included in this Report.

REPLACEMENT VALUE
\$4.1 MILLION

Asset category	Asset Subcategory	Quantity	Unit	Replacement Value (\$ M)
Computers	Laptops & Tablets	236	each	\$0.4
	Desktops	9	each	\$0.1
Telephony	Mobile	1,534	each	\$0.6
	Landlines	738	each	\$0.1
Equipment	Monitors/Displays	2,153	each	\$0.5
	Print Shop Equipment	21	each	\$0.1
Infrastructure ¹	Network Hardware	633	each	\$1.7
	Network Fibre	12	kilometers	\$0.6
Information Technology Total				\$4.1

INVENTORY

The IT asset portfolio includes 5,336 devices and 12 kilometers of fibreoptic cable. These assets primarily support two internal services: user devices and technology infrastructure. The user devices are focused on PCs (desktops, laptops, mobile devices) and print shop devices (inserter, printers). Technology infrastructure consists of all servers, modems, switches, fiber and components that provide network connectivity and access to applications/systems.



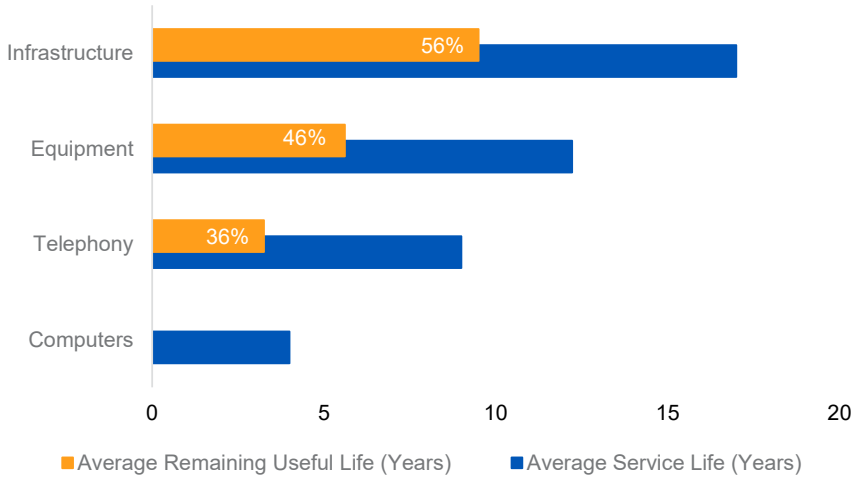
The City is moving toward a leased model for all personal computers. As a result, the inventory of this category will be reduced over time.



¹ Infrastructure includes wi-fi access points, firewall, servers etc.

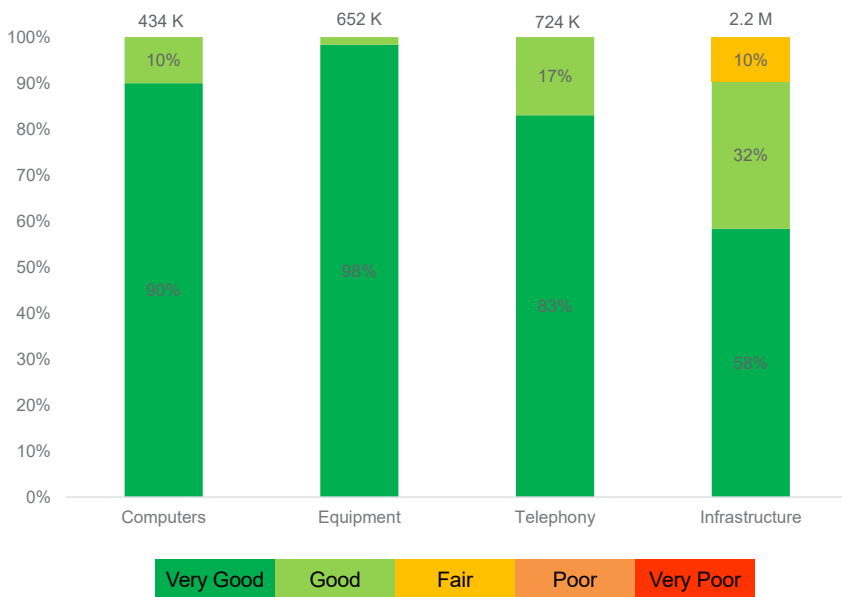
ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

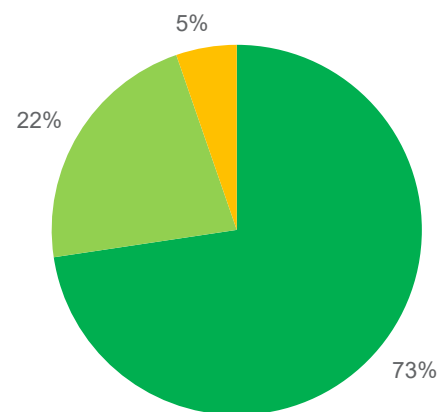


Overall, IT assets have an average of a 45 per cent remaining service life. In total, 95 per cent of the assets are in good to very good condition, with only five per cent in fair condition. It is not unusual for IT assets to not drop below very good physical condition due to the rapid changes in technology. Some assets, such as network fibreoptic cables, are not able to be examined for the physical condition readily due to their location (i.e. buried under sidewalks).

Physical Condition by Asset Category



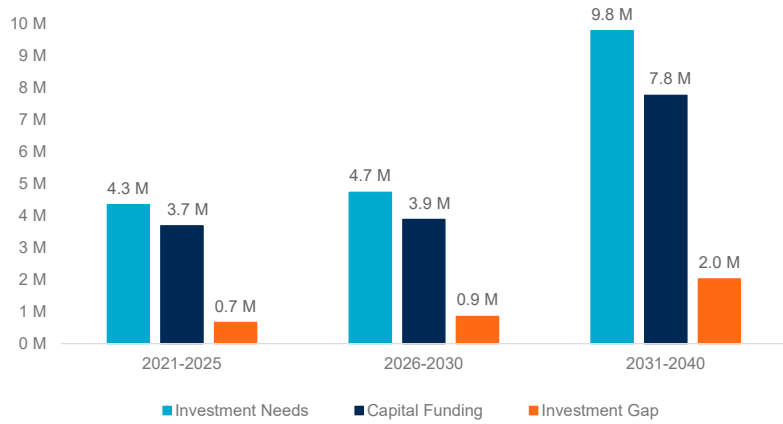
Overall Physical Condition

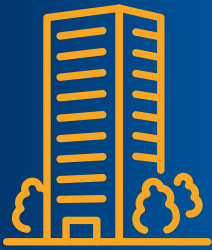


INVESTMENT NEEDS & GAPS

To ensure the IT service area can maintain current and effective services, capital programs are established to provide ongoing funding for technology growth and sustainability.

The gap shown in the chart is primarily related to the replacement of IT assets that are no longer supported due to rapid changes in technology within City facilities.





4.14

Civic Facilities

OVERVIEW

This service area is integral to all the services the City provides to residents. Contained within the service is a diverse portfolio of assets, from office space to pedways that are either utilized by the various departments to deliver or support City services or provides a direct service to residents.

Factors which affect this service area include environmental sustainability initiatives, the number of services the City delivers, growth and capacity, asset condition, as well as innovation and efficiency. All of the services within this Report rely on Civic Facilities to some degree, but only a small portion (11 per cent) is captured in this section. Dedicated facilities to specific service areas in this Report are captured in the previous sections (example: Fire Facilities are in Section 4.5).

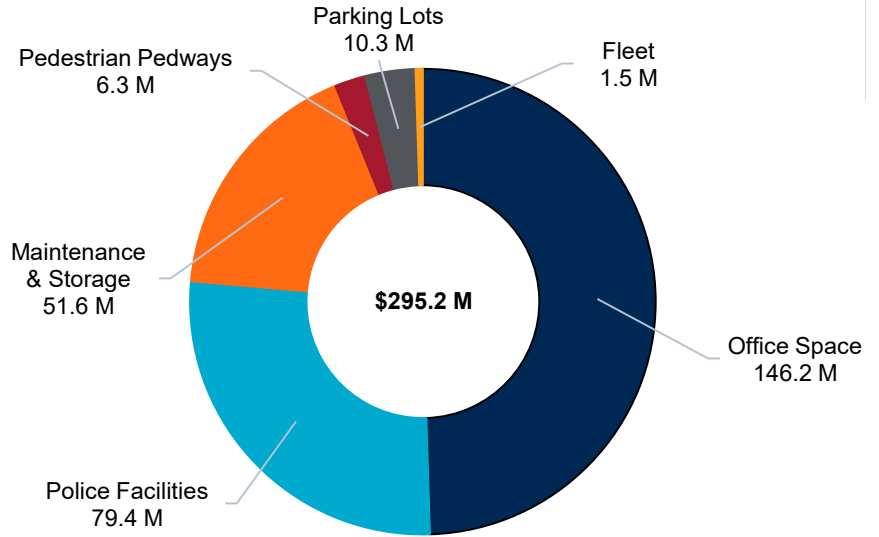
REPLACEMENT VALUE
\$295.2 MILLION

Asset category	Quantity	Unit	Replacement Value (\$ M)
Police Facilities ¹ (5)	254,040	square feet	\$79.4
Office Space (19)	612,750	square feet	\$146.2
Maintenance & Storage ² (32)	275,597	square feet	\$51.6
Pedestrian Pedways (6)	6,826	square feet	\$6.3
Parking Lots (47)	1,813,681	square feet	\$10.3
Fleet	39	each	\$1.5
Civic Facilities Total			\$295.2

INVENTORY

The Civic Facilities asset portfolio represents approximately 2.9 million square feet of buildings and non-building assets, including five police facilities, 19 office spaces, 32 maintenance and storage facilities, 47 parking lots, six pedestrian pedways. A fleet of 39 vehicles and equipment support integrated services across the organization.

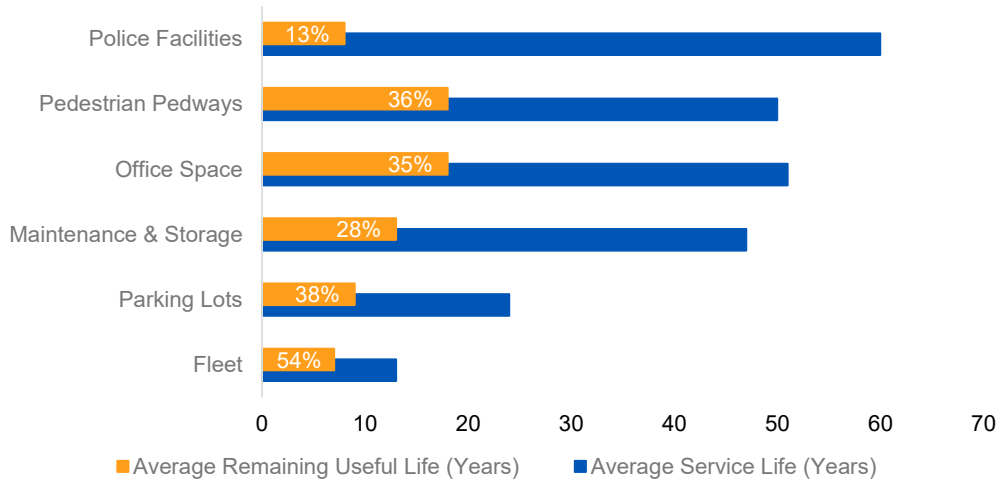
Police Facilities include headquarters and the Municipal Justice Building, which is being transformed to a community centre through recent capital investment commitments.



1 Police Facilities include police stations and storage buildings
 2 Maintenance & Storage includes Parks Depots, Water Shops and Garages

ASSET HEALTH INDICATORS

Percentage of Remaining Useful Life

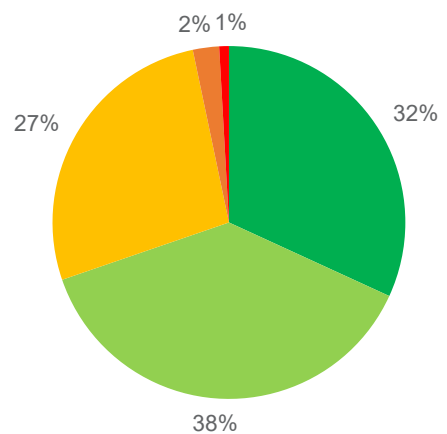


Overall, the total replacement value of the assets in this service area is \$295 million and approximately half of this total is in office space facilities. Overall, the assets in this service area have an average of a 29 per cent remaining service life. In total, 70 per cent of the assets are in good to very good condition and 30 per cent are in fair to very poor condition.

Physical Condition by Asset Category



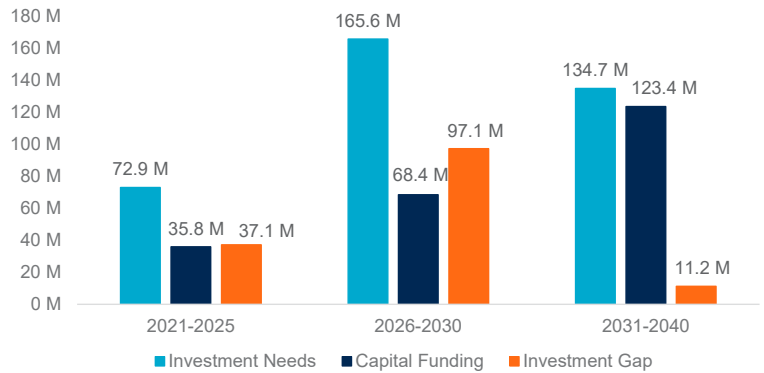
Overall Physical Condition



INVESTMENT NEEDS & GAPS

Currently, a gap exists in Civic Facilities between the investment need and capital funding provided based upon examination and determination of a Facility Condition Index (FCI). A facility FCI is a metric of the current condition and is compared against a pre-determined 'standard of care' targeted. The investment needed between the

current condition and 'standard of care' is the deferred maintenance and is a gap without the commitment of funds. Based on the funding identified in the current capital plan, this funding gap will remain and as a result, may impact service delivery.





Glossary of Terms

Asset

An asset is an item of value that derives its worth from its ability to be used to deliver a service or create a product.

Canada Community-Building Fund

The Canada Community-Building Fund (formerly Gas Tax Funding) is a permanent source of funding provided up front, twice-a-year, to provinces and territories, who in turn flow this funding to their municipalities to support local infrastructure priorities.

Capacity

The suitability or effectiveness of an asset for its intended function.

Condition Rating

A score used to indicate an assets place on a condition spectrum, usually in the form of a point scoring system.

Function

The ability of an asset to meet the required service demand.

Infrastructure Assets

Stationary systems forming a network or portfolio of assets serving whole communities, intended to be maintained indefinitely at a particular level of service by continuing replacement and refurbishment of its components. It may include normally recognized ordinary assets as components.

Investment Gaps

The investment gap is something often referred to in the context of Reports to baseline the difference between the investment need projected into the future and anticipate available revenues.

This gap can be tracked over time to demonstrate how asset management strategies and other changing conditions are addressing overall service delivery and asset needs. This is one way to measure overall sustainability of your asset management approach.

Investment Needs

At what level should the City be investing in its assets and why (service delivery and community outcomes/risks). Investment need was projected using capital costs considering four investment drivers maintaining service, enhancing service, growth and regulatory requirements.

Levels of Service

High level indicators that establish defined thresholds at which municipal services are supplied to the community.

Physical Integrity

The physical condition of an asset and its ability to maintain operation without interruption or failure.

Remaining Useful Life

The estimated time, in years, that an asset can be expected to continue to serve its intended function. Remaining useful life is the difference between current age and service life.

Replacement Value

The cost of replacing an existing asset with a substantially identical new asset or a modern equivalent.

Services

Municipal services or city services refer to basic services provided by city government in exchange for the taxes or fees and charges which citizens pay. That could include traditional local services such as sewer, water and municipal roads, to community services such as recreation programs, and facilities, parks, to newer services such as social or economic development.

Service Area

A grouping of related services, which may be delivered or supported by one or more Departments within the City.

Service Life

The period of time, in years, which an asset (and its components) provides adequate performance and function and includes the period from which it is commissioned for service to when it decommissioned.

Utility

This encompasses water, wastewater and stormwater services and assets managed with a holistic approach.



Acronyms and Abbreviations

AMP	Asset Management Plan
BPWTP	Buffalo Pound Water Treatment Plant
CAMP	Corporate Asset Management Plan
City	City of Regina
FCI	Facility Condition Index
IT	Information Technology
OCP	Design Regina: The Official Community Plan
PPE	Personal Protective Equipment
RFPS	Regina Fire & Protective Services
Riverside	Riverside Memorial Park Cemetery
RTMP	Regina Transit Master Plan
SAF	Servicing Agreement Fees
TMP	Transportation Master Plan
WWTP	Wastewater Treatment Plant



APPENDIX 1:

Methodology

The following summarized methodology outlines the process in developing this Report.

City Assets Inventory:

- Available data up to December 31, 2020.
- Inventory is rolled up into asset categories to summarize service areas.

Replacement Value:

- Replacement value assumed the asset is either:
 - a) the current cost of the same or a similar asset; or
 - b) the modern equivalent of the same asset that meets current standards, regulations or technological change.
- Generally, includes materials, labour and design costs.
- Does not include other assets impacted by an actual project to replace the asset as the overall value is a metric rather a project construction cost, which may take various forms in approach.

Remaining Useful Life:

- Service life for assets is generally the anticipated physical, functional or technological ability to provide a service and is obtained from researching various sources.
- Remaining service life is the service life minus the current age.
- Assets with a negative remaining service life are assumed to be zero.

Asset Condition:

- Condition for this report is the physical integrity of an asset.
- Condition was based on one or more of the following:
 - a) Formalized inspection data;
 - b) Expert opinion based on staff observations or and/or proxy of similar assets; or
 - c) Remaining service life as percent of total service life as proxy.
- Condition is reported using a standardized five-point scale suitable for reporting organization wide from Very Poor to Very Good condition.
- Asset condition based on inspections and reported in other scales are converted to the five-point scale as shown.

Grade	Rating	Description
1	Very Good	Fit for future Well maintained, good condition, new or recently rehabilitated.
2	Good	Adequate for now Acceptable, generally approaching mid stage of expected service life.
3	Fair	Requires attention Signs of deterioration, some elements exhibit deficiencies.
4	Poor	At risk of affecting service Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration.
5	Very Poor	Unfit for sustained service Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable.

- Where remaining service life is used as a proxy for condition, the following was used as a conversion:
 - Very Good = 80 – 100 per cent life remaining
 - Good = 60 – 80 per cent life remaining
 - Fair = 40 – 60 per cent life remaining
 - Poor = 20 – 40 per cent life remaining
 - Very Poor = 0 – 20 per cent life remaining

Investment Needs, Capital Funding and Investment Gaps:

- Data only captures the capital requirements.
- The time horizon to capture investment needs is 20 years
- Investment needs captured included funding to:
 - Maintain existing service levels
 - Enhance service levels if deemed necessary
 - Growth
 - Other investment needs as result of internal or external drivers

- Anticipated capital funding captured:
 - known sustainable revenue sources (i.e. taxes, user rates, fees and charges)
 - undefined, but consistent revenue sources (i.e. grants)
 - growth specific revenue
- Operating funding was captured only where a portion was invested in to capital assets

Data Accuracy and Completeness

- Accuracy and completeness of the data provided was assessed by the staff involved in the creation of this Report. These are subjective measures, but generally align with the following tables.

Accuracy	Description (abridged)
Very High	Dataset is current. Estimated to be accurate ± 2%.
High	Dataset is estimated to be accurate ± 10%.
Medium	Dataset is substantially complete but up to 50% is extrapolated data and accuracy ± 25%.
Low	Dataset is not documented or entered. Most data is estimated or extrapolated. Accuracy ± 40%.
Very Low	None or very little data held.

Completeness	Description (abridged)
Very High	Dataset is complete and covers the entire set of assets and attributes (> 98%).
High	Dataset is fairly complete and covers most of the assets and attributes (> 90%).
Medium	Most major assets captured, but there may be some gaps. Portions of non-major assets are missing (>50% captured).
Low	Significant gaps. <50% captured including major assets. Data may be inconsistent with other sources or exhibit duplication.
Very Low	None or very little data held.

APPENDIX 2:

Out of Scope Assets

Assets not owned, maintained or operated by the City were excluded from the Report. In addition, assets included were physical assets and those which experience deterioration over time and have a defined lifespan. The following is a list of out-of-scope assets for this Report:

- Software
- Regina Police Service assets (furniture, fixtures, fleet, equipment)
- Furniture and Fixtures
- Cultural Assets (e.g., Civic Art and Monuments)
- Land Assets (both with and without improvements)
- Leased IT hardware. (i.e., most PCs, multi-function devices)
- Cemetery memorials owned by the families
- Cemetery memorials maintained through agreements with external parties
- Community Crematorium Ltd.
- School Board owned and City maintained playgrounds
- Regina Public Library assets
- Facilities leased by the City
- Facilities managed by subsidiaries or operated by external organizations through a contractual relationship (examples include Cooperators Centre, Mosaic Stadium, Regina Thunder Football Clubhouse)
- Wascana Centre assets owned and managed by Wascana Centre Authority
- Wastewater Treatment Plant (WWTP), (operated and maintained by EPCOR)
- Buffalo Pound Water Treatment Plant (BPWTP) managed by Buffalo Pound Water Treatment Plant Corporation. BPWTP provides the primary treatment and supply to the Cities of Regina and Moose Jaw who are each part owners.
- Infrastructure for the Global Transportation Hub Authority
- Receiving bodies of water having shared responsibilities (i.e., Wascana Lake, Wascana Creek, Pilot Butte Creek and Chuka Creek)
- Waste Diversion assets provided under contract (Blue carts, big blue bins, recycling collection fleet)
- Yard waste depot site contracted to external organization to haul and process waste



APPENDIX 3:

Gaps and Assumptions

In the gathering of data and analysis of the 14 service areas, the following gaps in inventory or data were identified. Additionally, assumptions made in compiling replacement value, service life, condition, investment needs and anticipated capital funding were captured.

Water

Gaps:

- Condition data of water service connections

Assumptions:

- Replacement costs based on insured values, studies, contracts and historical information
- Replacement costs does not include repair of roadway above, if present
- Asset installation dates with a range of years determined through an average
- Break history used as a proxy for condition of assets where access, cost and technology constraints limit data collection

Wastewater

Gaps:

- Some condition data for force mains and gravity sewers
- Automatic wastewater samplers and some values were not included in inventory

Assumptions:

- Replacement costs based on insured values, studies, contracts and historical information
- Replacement costs does not include repair of roadway above, if present.
- 55 per cent of linear assets were assigned a condition rating using proxy data
- Manhole condition is based 2011 - 2021 inspections as proxy

Stormwater

Gaps:

- Inventory and data on culverts in undeveloped areas
- Inventory of physical assets which make up the City clean hydrovac site
- Condition data of catch basin leads and outfall structures
- Condition of remaining residential stormwater service connections

Assumptions:

- Replacement costs based on insured values, studies, contracts and historical information
- Natural assets can appreciate in value overtime

Water, Wastewater & Stormwater

Financial Assumptions:

- Capital projects and programs which impact more than one City utility services were included with the water service investment needs
- Investment needs consisting of utility rate and taxes only included the utility portion
- Investment needs are based on the 2022 Utility Investment Plan (UIP) and the 25-year utility funding model.
- Capital investment needs use a 3.5 per cent per annum inflationary index to calculate future capital costs from current estimates

Solid Waste & Diversion

Gaps:

- Condition data for a portion of the leachate system

Assumptions:

- Any promotional gifts such as kitchen catchers provided in the Food and Yard Waste Pilot program were excluded
- Blue carts were excluded from the inventory as per this contracted service
- Service life based on specifications, reports and expert opinion of staff
- Condition ratings were based on a visual inspections and expert opinion
- Asset condition remaining service life was used as a proxy if an inspection could not be performed

Financial Assumptions:

- Investment needs were projected from the solid waste financial model
- Capital investment needs do not account for the introduction of the food & yard waste program impacts
- The investment need does not include landfill closure costs and costs to develop a new landfill as these are forecast to be beyond the time horizon of this Report
- Capital investment needs use a three per cent per annum inflationary index

Fire & Protective Services

Gaps:

- Inventory and data for RFPS fleet maintenance assets
- Service life for some PPE, compressors, thermal imaging equipment and radios
- Assumptions:
 - Information gathered from external vendors which track some asset inventory and condition data
 - Service life is estimated based on industry standards or regulations and equipment performance
 - Fire turnout gear issued every five years and replaced at 10 years

Financial Assumptions:

- Fire Master Plan provided assumptions for investment needs
- Investment needs included growth and service coverage of the city
- Capital funding forecast for fire apparatus is based on previous six year approved budgeted average
- Capital investment needs use a two per cent per annum inflationary index to calculate future capital costs from current estimates
- The investment gap assumes the current five-year budget is secured whereas additional needs identified in the Fire Master Plan is unfunded

Transportation**Gaps:**

- Inventory and data on snow storage site assets
- Inventory on roadway high speed fencing and center medians
- Inventory of roadside ditches
- Inventory of pathway lighting
- Inventory of some pathway types (i.e., trails, crusher dust paths, walkways)
- Replacement value for pedestrian tunnels, permanent pavement markings
- Condition data for gravel roads, rail underpasses and pedestrian tunnel
- Condition data of Traffic Control Devices

Assumptions:

- Inventory of signalized intersections and pedestrian crossings counted as sets
- Pathway inventory compiled with information available in the GIS system
- Replacement values for roads and sidewalks based on historical unit costs
- Bridge replacement values are based on either unit area costs, recent contracts or cost data from other municipalities

Financial Assumptions:

- Capital funding forecasts are based on yearly averages of 2021-2025 General Budget including all current funding sources.
- Capital investment needs use a two per cent per annum inflationary index to calculate future from current capital costs
- Service Agreement Fee funding is based on the 2022 model and cashflow projections

Transit**Gaps:**

- Replacement values for some transit fleet maintenance equipment

Assumptions:

- Replacement values determined from capital fleet replacement program costs
- Service life of a bus assumed to be 18 years
- Condition ratings of transit fleet based on age and mileage

Financial Assumptions:

- Investment needs assumed alternate fuel transit implemented within 10 years
- Investment needs assume levels of service identified in the Regina Transit Master Plan
- Investment needs for supporting infrastructure for service and repair of alternate fuel vehicles is not included
- Forecasted funding assumes the transit fleet replacement reserve will continue to receive the current annual allocation of \$3 million
- Potential grants for alternate fuel transit are not included
- The current cost of alternate fuel buses and paratransit buses are inflated at 1.5 and five per cent per annum respectively to the forecasted time of acquisition
- Funding residuals from disposal of transit assets are not included

Civic Fleet

Note: The Gaps and Assumptions listed apply to all fleet assets, in the Civic Fleet and other Service Areas

Gaps:

- Replacement value and condition of some fleet maintenance equipment

Assumptions:

- Replacement value for storage and equipment are based on recent costs
- Service life is based on historical replacement data
- Motor pool assets and training equipment replaced through the capital replacement program were not included in calculations

- Condition is based on a mix of age, mileage and expert opinion

Financial Assumptions:

- Investment needs did not forecast a change in the number of Civic Fleet assets
- Costs of alternate fuel Civic Fleet is not included

Parking**Gaps:**

- None

Financial Assumptions:

- Assumed the number of parking meters remain static

Parks & Open Space**Gaps:**

- Golf course sub-assets (e.g. irrigation systems, pumps, benches, paths, etc.)
- Shrubs
- Some playgrounds in new development areas not yet recorded
- Service life of developed park and open space land, sports fields and trees

Assumptions:

- Total tree inventory is based on 70 per cent of the total captured in the City GIS
- Golf course developed land is included in the calculations.
- Replacement values are based on a mix of historical and current costs

- Tree replacement cost is based on a \$800 per tree, including establishment, mature trees are replaced with a sapling or young tree.
- Developed park land value is based on a \$600,000 per hectare cost

Financial Assumptions:

- Assumed maintenance costs of golf courses increases by \$50K every five years
- The capital funding is forecasted based on the five-year capital plan with an additional per cent increase going forward
- A one-time payment from The Canada Community-Building Fund was assumed
- Project funding was calculated using the Servicing Agreement Fee or Servicing Agreement Model
- The funding from reserves uses the current contribution per year with no increase calculated

Recreation

Gaps:

- Outdoor basketball courts and crokicurl sites
- Boarded rinks and leisure skate sites determined by active site locations
- Replacement value, service life or condition ratings for outdoor boarded rinks or leisure skate sites
- Value, service life and condition of boarded rinks and leisure skate sites

Assumptions:

- Remaining service life of assets utilized beyond the expected service life assumed to be zero

Financial Assumptions:

- Reference: #12 Civic Facilities for Recreation

Cemeteries

Gaps:

- Various assets such as garbage cans, flowerpots and signage
- Irrigation system, lines and components
- Service life of the informal roads in the cemeteries

Assumptions:

- Veterans Memorial (cenotaph), Cross of Sacrifice, Chinese pagoda, Ukrainian Cross memorial, plaque walls and Spanish flu memorial are not included
- Developed cemetery land value is based on a \$600,000 per hectare cost
- Other replacement values are based on a mix recent acquisitions and research
- Trees were assumed to have a 100-year service life
- Legacy benches were assumed to have an approximate service life of 20 years.
- Developed land is excluded from service life calculations
- Assets constructed of granite are not included in service life calculations

Financial Assumptions:

- Cemeteries financial model was used to determine investment needs
- Funding forecasts used the cemeteries fees and charges less operating expenses
- Revenues are assumed to increase at four per cent per annum
- Capital Inflation was assumed at 3.5 per cent per annum
- Capital funding included an annual interest payment from the perpetual care fund with no growth projected
- A constant reserve transfer amount was included in capital funding projections

Information Technology**Gaps:**

- Some unique IT assets not centrally inventoried

Assumptions:

- Condition ratings were provided by utilizing industry estimates
- Service life used vendor recommended replacement dates or warranties

Financial Assumptions:

- Assumed funding balance remains stable between capital to operating expenditures
- Includes investment needs for IT assets in Mosaic Stadium, though the facility is not included

Civic Facilities

Note: The Gaps and Assumptions listed apply to all facilities assets, in the Civic Facilities and other Service Areas

Gaps:

- Replacement value and service life of facility parking lots

Assumptions:

- Replacement values calculated using current, historical costs combined with a global facilities index to inflate values accordingly

Financial Assumptions:

- Projects in master plans were included in investment needs
- Investment need used facilities condition targets to calculate the value of deferred maintenance

APPENDIX 4:

Data Accuracy and Completeness

The following measures and descriptions were used to assess data accuracy and completeness based on a qualitative assessment. Each of the 14 Service Areas assessed their data confidence for relative accuracy and completeness.

Measure	Description
Accuracy	How confident are we in the data we have? Does the data correctly describe the real-world asset and its attributes? Does it conform to the requirements and syntax as defined? Is it up to date?
Completeness	How whole is our data set? Does the data represent the entire possible asset data set? Are items duplicated within the data set? Are there differences between data bases/sources of data?

Service Area	Accuracy How confident are we with the data?	Completeness How whole is our data?
Transit	Very High	Very High
Cemeteries	High	High
Civic Fleet	High	High
Water	High	High
Parking	High	High
Transportation	High	High
Recreation	High	Medium
Civic Facilities	High	Medium
Solid Waste & Diversion	Medium	High
Stormwater	Medium	High
Wastewater	Medium	High
Information Technology	High	Low
Fire & Protective Services	Medium	Medium
Parks & Open Space	Medium	Medium



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