City of Fredericton

Asset Condition and Valuation Assessment for the Parks and Trees Division – Phase 2

June 2017

wsp.com

MEMO

TO: Jihad El Zamer

FROM: Brandon Searle and Martin Gordon

SUBJECT: **Parks and Trees Level of Service**

DATE: **May 27, 2019**

Initial Project: Strategy to collect inventory, assess condition and quantify value of Parks and Trees Division Assets

In 2017, the City of Fredericton engaged WSP Canada Group Ltd. [previously Opus International (Canada) Consultants Ltd.] to perform an Asset Condition and Valuation Study for their Parks and Trees assets which included five (5) key deliverables.

- The development of a "Recommended Practice for Developing an Inventory and Assessing the Condition and Value of Parks and Recreations Assets".
- Developing a Condition Assessment Guide to perform condition assessments on capital assets owned by the City and managed by the Parks and Trees Division.
- Data collection including inventory and condition assessments of three different classes of parks (neighbourhood, community and destination).
- Developing a price schedule for the Parks and Trees Division assets found in the three pilot parks.
- Developing the recommended approach for condition-based capital planning and budgeting for Parks and Trees Division assets.

These deliverables were completed in 2017, reviewed with the City as an interim deliverable and were used to scope and plan for a subsequent additional project phase. The second phase focussed on collecting information for the whole portfolio and establishing levels of service statements and possible performance indicators for recreational services.

Phase 2: A Focus on Level of Service for the Parks and Trees Division Portfolio

With the successful completion of the initial study (Phase 1), the City advanced with Phase 2 of the project. This next scope of work included the following components:

- Developing the complete inventory for all Parks and Trees Division managed assets, excluding trees and recreation facilities (Data collection was supported by City staff).
- Condition assessment of the portfolio following the guide developed in Phase 1 (also carried out by City staff)
- Importing, quality checking and building the inventory in a geodatabase using ArcGIS
- Using the recommended approach from Phase 1 to create a state of infrastructure report for each of the four park classes.
  - Neighbourhood Parks
  - Community Parks
  - Destination Parks
  - Linear Parks (Trails and other linear park areas).
- Performing a level of service workshop with the Parks and Trees staff to identify inputs for the level of service framework
- Creating an initial level of service framework for each of the four park classes to be used by the Parks and Trees Division.

Several key features of the work completed create significant value to the City's asset management program. These are highlighted in the Table below.

Table M1 Summary of Project Activities and Benefits to the City's Asset Management Program

Project Activity	Benefit to Asset Management Program
Field data collection was completed for all City of Fredericton Parks using a web-based application software, Survey123 and Collector for ArcGIS. This application allowed for City field staff, using their smart phone with a Trimble Catalyst Antenna (1-meter accuracy), to collect and assess the condition of park assets.	The software used for field collection was partially developed internally by the City and can be used for a variety of data collection activities. The mobile app, and the field processes that were refined as part of this project, will help the City advance their data collection practices and improve accuracy, efficiency, repeatability of these activities.
Following collection, the data was post processed; point, linear and polygon features were built accordingly and uploaded into a GIS database. Data was then reviewed for missing assets or attribute information, utilizing existing Imagery and scripts during the Quality Control process.	The resulting GIS database developed has a high-level of accuracy and strong alignment to aerial photography. Extra effort was made to ensure the database was sufficiently accurate to be useful to the operational team for their requirements, as well as for management and planners who require it for longer term tactical and strategic planning.
The data was structured in a way to enable the attribute information to be quickly uploaded into the State of Infrastructure spreadsheets.	This careful pre-planning allows for the reproduction of future updates to the State of Infrastructure Reporting to be relatively straight forward. It reduces the level of effort to prepare an update when new condition or inventory information is collected.
With a comprehensive GIS database, the City can increase the frequency and efficiency to update the Park Asset information on an annual basis. This could be done creating new online applications that field staff can use on their smart phones.	The prepopulated GIS database can now be used in the field to access existing attribute data as well as be used to assign activities (operations and maintenance costs and events). It will greatly simplify future data collection. The complete inventory can also be used for future valuation and financial long-term planning.
Hard Copy or Online Maps can be created to illustrate the Park Assets for City staff requirements as well as used for public consultation or communication purposes.	Public consultation, communication, internal work assignment and other activities can now be supported by comprehensive and accurate spatial data of the parks systems
A Level of service framework has been established for each of four park classes,	A Level of Service framework establishes a documented baseline against which future changes in service delivery can be evaluated in terms of cost of service and risk

The following report summarizes a proposed Levels of Service Framework for the parks system as well as a State of the Infrastructure Report for each of the four park classes. A digital inventory is also submitted electronically as a geodatabase as part of this final deliverable.

Brandon Searle, EIT
Global Advisory and Asset Management

City of Fredericton

Asset Condition and Valuation Assessment for the Parks and Trees Division – Phase 2

The preparation of this project was carried out with assistance from the Government of Canada and the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them."

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

LEVELS OF SERVICE

1

1 Levels of Service

1.1 Introduction

The City of Fredericton's Parks and Recreation facilities and programs are not only an important part of the public infrastructure system but also encourage community wellness and a vibrant city. Parks and Recreation services help build the health and well-being of a community. Parks and Recreation users often interact with these services on a daily basis and have specific service expectations. Through developing a Levels of Service framework, the City can better understand services offered by the Parks and Trees division and focus on stakeholder's needs and wants. To do this, the parks have been grouped into four distinct classes. Each class provides recreational services at different service level and may be used by different user groups. Each class is briefly described below.

Neighbourhood: are typically less structured, primarily serving immediate neighbourhoods. They include small bench areas and small playground areas. [i]

Community: serve more than one neighbourhood but are not designed to serve the City as a whole. Sport and recreation facilities within the Community level category are (1) playgrounds and wading pools, (2) community centres and public gymnasia and (3) outdoor playing fields, unlit tennis courts, skateboard parks, and outdoor pools. [i]

Destination (or Municipal): are those that serve the City as a whole. These facilities should be accessible by transit, automobile via arterial streets and trail linkages. Facility types noted are (1) lit outdoor rinks and lit tennis courts, (2) indoor pools, arenas, exhibition halls, and athletic complexes, courts; and (3) senior playing fields, beaches, all of which are intended to serve multiple neighbourhoods and draw from large geographic areas. [i]

Linear: are those that serve the City as a whole through providing important connections between neighbourhoods and local businesses. These facilities primarily consist of the trail system throughout the City including green space or open spaces in the City.

One critical step in this process is to define levels of service. This report documents the inaugural levels of service framework for the City's Parks and Trees division. Through the development process, the City identified the services offered by the Parks and Trees Division, identified relevant performance indicators, key performance indicators (KPIs), targets, measure method and whether it is an appropriate technical or customer performance measure, by park class.

1.2 Strategic Alignment

Service Goals

Statements that reflect "what" the City will do to Achieve its vision and desired outcomes. Service goals are measurable; however, they are not as specific as a strategic direction or actions steps/recommendations.

The City of Fredericton's strategic documents associated with parks and recreation services include the Recreation Master Plan developed in 2008 as well as the more recent parks improvement plans developed for Wilmot and Carleton Park (two destination facilities). From the Recreation Master Plan (2008) were various service goals associated with parks and recreation services that have a direct impact on the assets under the Parks and Trees Division. The following list presents the service goals from the Recreation Master Plan.

[i] City of Fredericton (2008), Recreation Master Plan, City of Fredericton, Fredericton, New Brunswick

1. To increase participation in active recreation activities for all segments of the City's population.
2. To develop strong partnerships with community and agency partners, to support delivery of common parks and recreation needs.
3. To ensure adequate and responsive facility provision that supports inclusive programming, participation, and activities of broad interest that contribute to healthy active living.
4. To ensure enhanced communication with public, partners and community groups through new and creative methods and initiatives.
5. To ensure that community level recreation needs of a non-sport nature are available to the community.
6. To enhance the City's community development role.

Understanding the overarching strategic goals can act as the linkage to the capital, tactical and operation actions required to deliver services to desired levels.

1.3 Legislative Requirements

As a municipality in New Brunswick, the City must meet the legislative and regulatory requirements at the municipal, provincial and federal levels. *Table 1-1* lists several overall acts and legislation that govern municipalities in New Brunswick and affect infrastructure decision-making by the City.

Table 1-1: Legislative requirements

Legislation	Requirement
Local Governance Act	Sets out role, purpose, responsibilities and powers of local governments. This includes the requirement for New Brunswick municipalities to complete annual audited financial statements which must be submitted to the province annually.
Police Act	Municipality must provide policing services required by Municipalities Act and in accordance with the Police Act that may rely on Protective Services assets.
Community Planning Act	Municipality must provide a municipal plan in accordance with the Act.
Emergency Measures Act	Municipalities must provide emergency measures planning and coordination that may rely in Protective Services assets.
Procurement Act and Regulation	Applies to municipalities and the purchases of goods, services. All municipalities and rural communities must issue a public invitation to tender for infrastructure goods and services over thresholds.

When thinking about levels of service and services delivered by the municipality, it is important to understand the minimum requirements outlined through legislation and the assets that help deliver these services.

1.4 Background

Within asset management practice, levels of service[ii] are one of the key drivers for making decisions on future asset-related investments. The City employs its infrastructure assets to deliver services. Service levels must be clearly articulated in terms that end users, the wider community, government officials, and decision-

Levels of Service [ii]

"… the outcomes an organization delivers and are directly related to the asset management objectives set by the organization"

[ii] NAMS (2015), *International Infrastructure Management Manual (version 5.0), National Asset Management Steering Group, Wellington, New Zealand.*

making staff can understand and communicate. Infrastructure investments are guided by what is required to maintain or improve service, rather than to maintain infrastructure alone. By developing and communicating service levels, the City's Parks and Trees Division can work with its stakeholders to identify the appropriate balance between affordability and the service level provision. The City can then balance the level of service provided against the Taxpayers' willingness to pay. The development of service levels is, therefore, a step towards a fiscally responsible approach to building and maintaining sustainable public infrastructure.

The level of service framework is part of a future asset management planning document and is based on the framework shown in *Table 1-2* from the International Infrastructure Management Manual (IIMM, 2015).

Table 1-2: Levels of Service Framework

Concept	Definition	Examples
Service attributes/ Performance indicators	Aspects or characteristics of a service.	Accessibility affordability/cost, efficiency, quality, quantity, reliability, responsiveness, safety.
Levels of service	**What the organization intends to deliver.** Levels of service describe attributes of the service from a customer point of view.	Provision of high quality pensioner housing. Provision of high speed internet access.
Customer performance measure	**How the customer receives or experiences the service.** Customer measures are generally those that would be used in public documents and should be aimed at a lay-person.	**Tangible measures:** Appearance of facilities, frequency of disruptions, incidence of illness. Intangible measures: Staff attitude, ease of dealing with you.
Technical performance Measure	**What the organization does to deliver the service.** These measures support customer measures and tend to be used internally to measure performance against service levels.	Number of times public toilets are cleaned each day, average wait times at intersections, the average condition rating of playgrounds.

Source: 2.2.1: Levels of Service Framework, IIMM 2015, p.2/24.

The level of service statements describes the service the City intends to deliver to meet its strategic goals and objectives. The performance measures indicate how well the City provides the services from both the customer and City's point of view. The performance targets give a goal to determine if the desired levels of service have been achieved. They can help to inform critical organizational decisions made with the consideration of customer requirements, legal and regulatory requirements, and affordability.

Through using the performance targets in future asset management plans (AMP), the City can determine the infrastructure investments needed over the long-term and attempt to provide the appropriate service levels at an affordable cost. Developing appropriate KPIs and targets is a process that requires data collection and customer consultation. Using the AM Maturity Index found in the IIMM, it is possible to show the City's current level of service AM maturity, as well as some steps towards advancing their AM program:

Figure 1-1: Levels of Service AM Maturity Index
(Source: Figure 2.2.1: Levels of Service AM Maturity Index, IIMM 2015, pg. 2|23)

The level of service workshop assessed the City as **core** maturity in their parks division AM maturity. Building from this, Fredericton can track performance where data exists, and identify customer consultation and data collection needs. After stakeholder consultation, the current measures, and targets established, will require review as part of the on-going improvement to the wider AM process.

Next Step: Identify data needs and develop programs and systems to collect it, including customer consultation programs

In future revisions of the level of service framework, the City will undertake a review of the wider stakeholder groups to develop service levels for all stakeholders in the plan. This may involve using satisfaction surveys and other public consultation methods to gauge the City's performance against service level targets.

Next Step: Undertake a review of wider stakeholder groups to develop and refine service levels for all stakeholders

1.5 Description and Scope of Services Provided

The City's Parks and Trees Division offers services that are managed in conjunction with other departments, including: Roadway Operations, Building Services, Recreation Department, and other third parties. Although these departments are mutually supportive and often overlap, it is important to note that the assets discussed are planned for and maintained by the Parks and Trees Division. The management activities conducted by the City's Parks and Trees Division are categorized as follows:

- Operational
- Maintenance
- Inspection
- Renewal
- Capital
- Program

To dissect the above-mentioned categories further, actions related to these management activities and the key assets associated with them are listed below.

Table 1-3: Operational, Maintenance and Inspection Activities

Activities	Action	Key Assets
Operational	Mowing	All park classes, sports fields, open spaces, etc.
Operational	Garbage Removal	Garbage bins
Operational	Playground safety inspections	playgrounds, swings, composite structures, safety surfaces, etc.
Operational	Monthly inspections	Wharf, pickle ball courts, tennis courts, basketball courts, volleyball courts, dog park, skate park, bike park, etc.
Operational	Plowing	Paved trails
Operational	Water Play Inspections	Pools and splash pads
Operational	Safety surface maintenance	Safety surface
Operational	Cenotaph maintenance	Cenotaph
Operational	Art and sculpture graffiti removal	Art and sculpture
Operational	Decking, plowing, graffiti, lighting	Walking bridge
Maintenance	Plowing	Trails
Maintenance	Whipping	Trails
Maintenance	Pruning	Trails
Maintenance	Pot hole repair	Trails
Maintenance	Bench repairs and inspections	Trails
Maintenance	Crack repairs	Trails
Maintenance	Playground maintenance	Composite structure
Maintenance	Daily sports field maintenance	Baseball fields
Maintenance	Daily sports field maintenance	Softball fields
Renewal	Culvert replacements	Trails
Renewal	Annual aerator replacement	O'Dell pond
Renewal	Paving	Parking lots

Activities	Action	Key Assets
Renewal	Paving	Trails
Renewal	Playground installation	Composite structure, slide, safety surface, etc.
Renewal	Paving sports courts	Tennis, basketball, pickle ball
Renewal	Adding plexipave to the asphalt	Tennis, basketball, pickle ball
Capital	Capital repairs	Walking bridge
Capital	Development	Botanic Garden
Capital	Design, building and repairs	All destination and community parks
Program	Scheduling	All sports fields, courts, etc.

This project focused primarily on capital activities and costs. The operations, maintenance and inspection (OMI) are particularly important to delivering the services provided by Parks and Recreation. The City will need to analyze the cost of OMI activities as a vital next step towards understanding the complete cost of service.

Next Step: Analyze the cost of OMI activities and assign these costs to asset types to understand the complete cost of service.

1.6 Service Users

Identifying stakeholders and customers using the City's infrastructure is a key step when developing service levels. To do this, all stakeholders affected by service decisions for the assets were identified for each park class and grouped into the following broad categories:

- Customer/Service users: Those who use the service provided by the asset.
- Service providers: Those who rely on the service provided by the asset to offer their services.
- Compliance groups: Organizations that oversee the compliance and regulations associated with the asset.
- The wider community: Stakeholder groups in the community who have a vested interest in the service provided by the asset.
- Neighbouring communities: Communities outside of the municipality who rely on the service provided by the asset to deliver their own services.

The stakeholder identification leads to investigating what their needs are and then defining a service statement. *Table 1-4* below provides an example of a stakeholder group and their service need.

Table 1-4: Service Statement Example

Stakeholder Group	Sub-Group	Service Statement
Service User	Families	A safe and clean facility to use.

This service statement leads to several performance indicators and a set of key performance indicators which will help guide the City in managing their infrastructure and meeting the needs and wants of the community.

1.7 Performance Indicators

Performance Indicators tend to fall into several broad categories. The indicators briefly described in the following table will be used by the City to develop its initial level of service statements for their future AMP.

Table 1-5: Performance Indicators that accommodate stakeholder's service expectations

Performance Indicator	Description
Accessibility	Ensure the service is available to a wide range of users including those with special needs, disabilities, the elderly and other groups. e.g. Accessible, uncongested park with bench.
Availability	Ensure the expected quantity or quality of service is delivered when it is expected. e.g. Customers expect park and its amenities to be available during planned hours to families, schools, sports organizations, pet owners, etc.
Compliance	Deliver the service that meets or exceeds a legislative, regulatory requirement guideline or standard. e.g. Clearly defined standards, compliance with accessibility standards, safety standards and record of injuries kept.
Safety	Ensure services meet all safety regulations and present an acceptable level of risk to users. e.g. Park equipment and areas meet safety needs and regulations such as the safety surface having enough peastone depth for the playground structure.
Asset Condition	Ensure the condition of the infrastructure used to deliver the service is acceptable for the asset, though in some cases, assets can be in poor condition e.g. Park equipment may be in poor condition for a considerable amount of time and will only be replaced when it breaks, whereas users may never want park equipment to be in poor condition, e.g. Parents expect park equipment to be secure and not have any defects that could put the safety of their children at risk.
Connectivity	Ensure infrastructure used to deliver the service allows for good interfacing across the City's network and those in neighboring communities e.g. Bike and walking trail users expect sidewalks, trails and bike paths to have good connection to allow extensive use
Coordination	Ensure infrastructure maintenance and renewal activities occur efficiently with other activities associated with other asset classes, or other municipalities, to minimize cost and service disruptions. e.g. Coordination between park asset projects to allow them to carry out at the same time.
Effective Decision-making / Stewardship	Ensure infrastructure management and service delivery decision-making are focused on a defined service level that aligns with customer expectations, at a cost that considers least lifecycle long-term planning, and budgeting. e.g. City seeking to adopt asset management good practice on behalf of taxpayers.
Sustainable Management	Ensure infrastructure management and service delivery considers economic, social and environmental sustainability and long-term factors when making investment decisions. e.g. Residents and taxpayers seeking City decision-making that aligns with City values and aspirational goals within the City's strategic documents.

Performance Indicator	Description
Risk	Deliver the service by avoiding perceived negative consequences that are likely to occur or leverage opportunities that have associated uncertainty. e.g. Insurance companies and safety advocates may prefer a splash pad instead of a pool as the risk of a child drowning would be minimized.
Visibility	Ensure park development considers site visibility for emergency responders and parents. e.g. Police want to be able to view the park with minimal blind spots from the road.
Capacity	The assets are able to meet the capacity demands at peak hours. e.g. The baseball field has enough seating during a minor league baseball game.
Cleanliness	Ensure the park is properly maintained and clean with minimal debris, graffiti, etc. that may negatively impact the stakeholder experience. e.g. Local businesses would like clean parks with no garbage or debris meaning that garbage bins must be available for the users.
Aesthetics	Ensure the environment is considered and the park is aesthetically pleasing with the use of green and natural infrastructure including flower beds, vegetation, etc. e.g. The Nature Trust of New Brunswick would like parks to have a certain portion of green space, vegetation, flower beds, trees, etc.

While these performance indicators were used in the development of the City's level of service framework; some were further dissected to be specific for particular user groups. As an example, the performance indicator availability may change for sports organizations, children, seniors, or the physically disabled community. Thus, the performance measure, target, and measurement method associated with Availability (sports organizations) may vary; which is demonstrated in *Table 1-6* to *Table 1-9*.

1.8 Creating the Level of Service Framework

Level of service statements developed for each of the City's service areas considered the attributes listed above in *Table 1-5* and the following key stakeholder groups:

- Those who use the asset / service provided:
  - Families;
  - Disabled community;
  - Pet owners;
  - Seniors;
  - Children.
- Those who provide a service in the City
  - Schools;
  - Day cares;
  - Zigzag program.
- Compliance and standard setting groups
  - CSA Standards;
  - Province of New Brunswick.
- The wider City of Fredericton community
  - Police;
  - Firefighters;
  - Tax payers;
  - City Staff;
  - Adjacent land owners;
  - Nature Trust of New Brunswick.
- Neighbouring communities
  - Developers;
  - First Nations communities;
  - Local Service District;
  - New Maryland;
  - Hanwell.

Table 1-6 to *Table 1-9* outline the initial service levels are targets for Neighbourhood, Community, Destination and Linear Parks, as well as performance measures currently used by the City for determining the appropriate level of infrastructure investment. For example, the current performance measure for "availability" is the percentage of actual hours available versus the total planned hours available. If customer performance measure is to have a park open from dusk to dawn, but the park is unavailable due to weather or construction, then the customer performance measure is affected. The target does not need to be 100% available as this is often not attainable.

Next Step: Begin to understand the complete cost to deliver services and adjust the targets appropriately.

Table 1-6: Specifying Service Requirements for Neighbourhood Parks

Neighbourhood Parks								
User Class	**User Group**	**Service Statements**	**Performance Indicator**	**KPI**	**Performance Measure**	**Target**	**Measurement Method**	**Technical/ Customer**
Those who use the service provided by the asset.	Families	Safe and clean facility	Personal Safety Cleanliness	Personal Safety	1 to 5 customer safety rating by park	4 out of 5	Survey	Technical
	Disabled community	Accessible uncongested park with bench	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of parks and (y) percent of amenities at the park are accessible to everyone	10% and 30%	Analysis	Technical and Customer
	Pet owners	Available park with waste collection	Availability (Pet Owners)	Availability (Pet Owners)	(x) number of waste bins per park	1 per park (seasonal)	Analysis	Customer
	Seniors	Accessible uncongested park with bench	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of amenities at the park are accessible to all seniors	100%	Analysis	Technical and Customer
	Children	Available park facility	Availability (schools) Service reliability	Availability (schools)	(x) hours per week / total available hours	106 out of 112 hours per week	Analysis	Customer
Service providers	Schools	Close, safe and accessible with available equipment	Personal Safety Availability (schools) Accessible and connected (technical)	Availability (schools)	(x) hours per week / total available hours	106 out of 112 hours per week	Analysis	Customer
	Daycares and after school programs	Close, safe and accessible with available equipment		Personal Safety	1 to 5 rating by park	4 out of 5	Survey	Technical
	Zig-zag program (recreation department)	Safe, available and accessible with shade		Accessible and connected (customer)	(x) percent are happy or very happy with the service	85%	Survey	Technical and Customer

Neighbourhood Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
Compliance groups	CSA standards	Compliant with safety standards	Compliance	Compliance	(x) percent compliant with all safety standards (i.e. lighting).	99% for seasonal components	Survey	Technical
The wider community	Police	Access and visibility (CEPTED)	Accessible and connected (customer) Visibility	Visibility	(x) percent are happy or very happy with the visibility and accessibility of the park	50%	Survey	Technical and Customer
	Firefighters							
	Tax payers	Good stewardship of assets and facilities that are well-used	Asset Condition Effective decision-making	Effective decision-making	(x) percent of assets are in god or very good condition	75%	Analysis	Technical
	City Staff - Parks and Trees	Clear standards, financially sustainable and easy to maintain	Asset condition Resources Sustainable management Coordination	Sustainable management	Trends in cost of management per capita (user)	Stable with +/-10% year to year	Analysis	Technical
	Recreation department	Clear standards, financially sustainable and easy to maintain						
	Adjacent land owners	Well maintained and informed of the projects in the area	Cleanliness Aesthetics	Coordination	(x) percent happy or very happy with information	75%	Survey	Customer
	Nature Trust of New Brunswick	Environmental consideration	Cleanliness Aesthetics Sustainable Management	Aesthetics	(x) percent happy or very happy with the site and environmental consideration	90%	Survey	Technical
Neighbouring communities	Developers	Minimum requirements that are clear and understandable	Coordination	Coordination	(x) percent happy or very happy with information provided.	90%	Survey	Customer

Table 1-7: Specifying Service Requirements for Community Parks

Community Parks								
User Class	**User Group**	**Service Statements**	**Performance Indicator**	**KPI**	**Performance Measure**	**Target**	**Measurement Method**	**Technical/ Customer**
Those who use the service provided by the asset.	Families	Safe and clean facility	Personal Safety Cleanliness	Personal Safety	1 to 5 customer safety rating by park	4 out of 5	Survey	Technical
	Disabled community	Accessible uncongested park with bench	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of parks and (y) percent of amenities at the park are accessible to everyone	80% and 50%	Analysis	Technical and Customer
	Pet owners	Available park with waste collection	Availability (Pet Owners)	Availability (Pet Owners)	(x) number of waste bins per park	1 per park (seasonal)	Analysis	Customer
	Seniors	Accessible uncongested park with bench	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of amenities at the park are accessible to all seniors	100%	Analysis	Technical and Customer
	Children	Available park facility	Availability (schools) Service reliability	Availability (schools)	(x) hours per week / total available hours	106 out of 112 hours per week	Analysis	Customer
Service providers	Schools	Close, safe and accessible with available equipment	Personal Safety Availability (schools) Accessible and connected (technical)	Availability (schools)	(x) hours per week / total available hours	106 out of 112 hours per week	Analysis	Customer
	Daycares and after school programs	Close, safe and accessible with available equipment		Personal Safety	1 to 5 rating by park	4 out of 5	Survey	Technical
	Zig-zag program (recreation department)	Safe, available and accessible with shade		Accessible and connected (customer)	(x) percent are happy or very happy with the service	85%	Survey	Technical and Customer
	Food Trucks	Parks are well maintained, clean and accessible.	Availability (non-sports) Service reliability Cleanliness Aesthetics Accessibility	Cleanliness	(x) percent clean during daily inspections	90%	Inspection	Customer

Community Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
Compliance groups	CSA standards	Compliant with safety standards	Compliance	Compliance	(x) percent compliant with all safety standards (i.e. lighting).	99% for seasonal components	Survey	Technical
The wider community	Police Firefighters	Access and visibility (CEPTED)	Accessible and connected (customer) Visibility	Visibility	(x) percent are happy or very happy with the visibility and accessibility of the park	50%	Survey	Technical and Customer
	Tax payers	Good stewardship of assets and facilities that are well-used	Asset Condition Effective decision-making	Asset Condition	Average asset condition	Fair	Analysis	Technical
	City Staff - Parks and Trees Recreation department	Clear standards, financially sustainable and easy to maintain	Asset condition Resources Sustainable management Coordination	Sustainable management	Trends in cost of management per capita (user)	Stable with +/-10% year to year	Analysis	Technical
	Adjacent land owners	Well maintained and informed of the projects in the area	Cleanliness Aesthetics	Coordination	(x) percent happy or very happy with information	75%	Survey	Customer
	Local businesses	Parks are well maintained, clean and accessible.	Availability (non-sports) Service reliability Cleanliness Aesthetics Accessibility	Cleanliness	(x) percent clean during daily inspections	90%	Inspection	Customer
	Nature Trust of New Brunswick	Environmental consideration	Cleanliness Aesthetics Sustainable Management	Aesthetics	(x) percent happy or very happy with the service	99%	Survey	Technical and Customer
Neighbouring communities	First Nations	Minimum requirements that are clear and understandable	Sustainable Management Coordination Maintained	Coordination	1 to 5 rating based on communication with the First Nations communities	3 out of 5 (fair)	Survey	Customer

Table 1-8: Specifying Service Requirements for Destination Parks

Destination Parks								
User Class	**User Group**	**Service Statements**	**Performance Indicator**	**KPI**	**Performance Measure**	**Target**	**Measurement Method**	**Technical/ Customer**
Those who use the service provided by the asset.	Families	Safe, clean park with washrooms, fountains, benches and parking	Personal Safety Cleanliness Accessibility	Personal Safety	1 to 5 customer safety rating by park	4 out of 5	Survey	Technical
	Disabled community	Accessible uncongested park with bench	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of parks and (y) percent of amenities at the park are accessible to everyone	95% and 75%	Analysis	Technical and Customer
	Pet owners	Available park with waste collection	Availability (Pet Owners)	Availability (Pet Owners)	(x) number of waste bins per park	1 per 100 acres	Analysis	Customer
	Seniors	Accessible uncongested park with benches	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of amenities at the park are accessible to all seniors	100%	Analysis	Technical and Customer
	Children	Available park facility	Availability (schools) Service reliability	Availability (schools)	(x) hours per week / total available hours	112 out of 112 hours per week	Analysis	Customer
	Tennis Players	Lighting, nets, surfacing in good condition and parking.	Availability (sports organizations) Asset condition (good stewardship)	Asset condition (good stewardship)	Average asset condition rating of (x) for all tennis courts	5 out of 5 (very good)	Analysis	Customer
	Swimmers	Compliant with health standards and trained lifeguards	Compliance Personal safety	Compliance	(x) percent compliant with standards and requirements	95% during daylight hours	Audit	Customer
	Sports Field Users	Availability with lighting, fencing, seating and washrooms	Availability (sports organizations) Accessibility	Availability (sports organizations)	(x) hours per week / total available hours	106 out of 112 hours per week	Analysis	Customer
	Trails: snowshoe, ski, bike and walk	Safe, accessible with proper signage for way-finding.	Personal safety Trail provision Accessibility	Trail provision	(x) percent are happy or very happy with the service	85%	Survey	Customer

Destination Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
	Tourists	Information and way-finding on the destination parks.	Accessible and connected (customer)	Accessible and connected (customer)	(x) percent are happy or very happy with the service.	75%	Survey	Customer
Service providers	Wostawea Ski-club	Safe, accessible with proper signage for way-finding.	Personal Safety Accessible and connected (customer)	Accessible and connected (customer)	(x) percent are happy or very happy with the service.	90%	Survey	Customer
	Schools	Close, safe and accessible with available equipment	Personal Safety Availability (schools) Accessible and connected (technical)	Availability (schools)	(x) hours per week / total available hours	112 out of 112 hours per week	Analysis	Customer
	Daycares and after school programs	Close, safe and accessible with available equipment						
	Zig-zag program (recreation department)	Safe, available and accessible with shade		Availability (non-sports)	(x) hours per week / total available hours	112 out of 112 hours per week	Analysis	Technical and Customer
	Botanic Gardens	Accessibility with space and parking.	Accessible and connected (customer) Accessibility	Accessible and connected (customer)	(x) percent are happy or very happy with the service.	100%	Survey	Customer
	Lawn Bowling Association	Clean facility that is available with available parking	Availability (sports organizations) Cleanliness Accessibility	Cleanliness	(x) percent clean during daily inspections	95%	Survey	Customer
	Minor Baseball	Clean facility that is available with available parking				95%	Survey	Customer
	Pickleball League	Clean facility that is available with available parking				90%	Survey	Customer
	Food Trucks	Parks are well maintained, clean and accessible.	Availability (non-sports) Service reliability Cleanliness Aesthetics Accessibility	Cleanliness	(x) percent clean during daily inspections	90%	Inspection	Customer
Compliance groups	CSA standards	Compliant with safety standards	Compliance	Compliance	(x) percent compliant	99%	Audit	Technical

Destination Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
	Province of New Brunswick	Well-maintained facilities	Asset condition (good stewardship)	Asset condition (good stewardship)	Average asset condition rating of (x) for all tennis courts	Good	Analysis	Customer
The wider City of Fredericton community	Folks on spokes	Well-maintained and available facilities	Availability (non-sports) Effective decision-making (good stewardship)	Effective decision-making	(x) percent of assets are in god or very good condition	99%	Survey	Technical and Customer
	Running groups	Well-maintained and available facilities						
	Police	Access and visibility (CEPTED)	Accessible and connected (customer) Visibility	Visibility	(x) percent are happy or very happy with the visibility and accessibility of the park	50%	Survey	Technical and Customer
	Firefighters							
	Land owners	Well-maintained and informed	Coordination	Coordination	(x) percent happy or very happy with information	75%	Survey	Customer
	Tax payers	Good stewardship of assets and facilities that are well-used	Asset Condition Effective decision-making	Asset Condition	Average asset condition	Good	Analysis	Technical
	City Staff - Parks and Trees	Clear standards, financially sustainable and easy to maintain	Asset condition Resources Sustainable management Coordination	Sustainable management	Trends in cost of management per capita (user)	Stable with +/-10% year to year	Analysis	Technical
	City staff Recreation department	Clear standards, financially sustainable and easy to maintain						
	Adjacent land owners	Well maintained and informed of the projects in the area	Cleanliness Aesthetics	Coordination	(x) percent happy or very happy with information	75%	Survey	Customer
	Nature Trust of New Brunswick	Environmental consideration	Cleanliness Aesthetics Sustainable Management	Aesthetics	(x) percent happy or very happy with the service	99%	Survey	Technical and Customer

Destination Parks								
User Class	**User Group**	**Service Statements**	**Performance Indicator**	**KPI**	**Performance Measure**	**Target**	**Measurement Method**	**Technical/ Customer**
Neighbouring communities	Local Service District	Fair availability	Availability (non-sports)	Availability (non-sports)	(x) hours per week / total available hours	112 out of 112 hours per week	Analysis	Technical
	New Maryland							
	Hanwell							
	First Nations	Minimum requirements that are clear and understandable	Sustainable Management Coordination Maintained	Coordination	(x) out of a 1 to 5 rating based on communication with the First Nations communities	3 out of 5 (fair)	Survey	Customer

Table 1-9: Specifying Service Requirements for Linear Parks

Linear Parks								
User Class	**User Group**	**Service Statements**	**Performance Indicator**	**KPI**	**Performance Measure**	**Target**	**Measurement Method**	**Technical/ Customer**
Those who use the service provided by the asset.	Families	Safe and clean facility	Personal Safety Cleanliness	Personal Safety	1 to 5 customer safety rating by park	4 out of 5	Survey	Technical
	Disabled community	Accessible uncongested park with bench	Accessible and connected (technical) Connectivity Accessibility	Accessibility	(x) percent of trails are accessible to everyone	95%	Analysis	Technical and Customer
	Seniors	Accessible uncongested park with bench		Accessibility	(x) percent of trails are accessible to seniors	95%	Analysis	Technical and Customer
	Pet owners	Available park with waste collection	Availability (Pet Owners)	Availability (Pet Owners)	(x) number of waste bins per park	1 per 250 metres	Analysis	Customer
	Children	Available park facility	Availability (schools) Service reliability	Availability (schools)	(x) hours per week / total available hours	All hours	Analysis	Customer

Linear Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
	Cyclists	Park routes are easily accessible, connected to other routes, not crowded, and well-maintained.	Accessible and connected (technical) Accessible and connected (customer) Connectivity Capacity Maintained Accessibility	Accessibility	(x) number of complaints due to hazards on paths	12 or less complaints per year	Survey (feedback collected through the City)	Customer
	Cross country skiers	Park routes are easily accessible, connected to other routes, not crowded, and well-maintained.						
	Snowshoeing users	Park routes are easily accessible, connected to other routes, not crowded, and well-maintained.						
	Fitness Users (runners and walkers)	Park routes are easily accessible, connected to other routes, not crowded, and well-maintained.						
Service Providers	Schools	Close, safe and accessible with available equipment	Personal Safety Availability (schools) Accessible and connected (technical) Accessible and connected (customer)	Availability (schools)	(x) hours per week / total available hours	All hours	Analysis	Customer
	Daycares and after school programs	Close, safe and accessible with available equipment		Personal Safety	1 to 5 customer safety rating by park	4 out of 5	Survey	Technical
	Zig-zag program (recreation department)	Safe, available and accessible with shade		Accessible and connected (customer)	x percent are happy or very happy with the service	TBD	Survey	Technical and Customer
	Food Trucks	Parks are well maintained, clean and accessible.	Availability (non-sports) Service reliability Cleanliness Aesthetics Accessibility	Cleanliness	(x) percent clean during daily inspections	90%	Inspection	Customer

Linear Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
Compliance groups	CSA standards	Compliant with safety standards	Compliance	Compliance	(x) percent compliant with standards	99%	Audit	Technical
The wider City of Fredericton community	Police Firefighters	Access and visibility (CEPTED)	Accessible and connected (customer) Visibility	Visibility	(x) percent are happy or very happy with the visibility and accessibility of the park	50%	Survey	Technical and Customer
	Tax payers	Good stewardship of assets and facilities that are well-used	Asset Condition Effective decision-making	Asset Condition	Average asset condition	Good	Analysis	Technical
	City Staff - Parks and Trees Recreation department	Clear standards, financially sustainable and easy to maintain	Asset condition Resources Sustainable management Coordination	Sustainable management	Trends in cost of management per capita	Increased responsibility and resources used are proportional	Analysis	Technical
	Adjacent land owners	Well maintained and informed of the projects in the area	Cleanliness Aesthetics	Coordination	(x) percent are happy or very happy with information	95%	Survey	Customer
	Local Businesses	Parks are well-maintained, clean and accessible.	Availability (non-sports) Service reliability Cleanliness Aesthetics Accessibility	Cleanliness	(x) clean during daily inspections	95%	Inspection	Customer
	Nature Trust of New Brunswick	Environmental consideration	Cleanliness Aesthetics Sustainable Management	Aesthetics	(x) percent are happy or very happy with the service	95%	Survey	Technical and Customer

Linear Parks

User Class	User Group	Service Statements	Performance Indicator	KPI	Performance Measure	Target	Measurement Method	Technical/ Customer
Neighbouring communities	Local Service District	Fair availability	Availability (non-sports)	Availability (non-sports)	(x) hours per week / total available hours	112 out of 112 hours per week	Analysis	Technical
	New Maryland							
	Hanwell							
	First Nations	Consider culture in location, service, design and aesthetics	Sustainable Management Coordination Maintained	Coordination	(x) out of a 1 to 5 rating based on communication with the First Nations communities	3 out of 5 (fair)	Survey	Customer

In summary, this project helped City staff identify performance measures and their initial targets. These will be reviewed, refined, and tracked over time as future development and implementation of the asset management program progresses. In the meantime, it is important to monitor current service levels. Adjustments may be considered as performance, and associated targets become refined and change over time.

Next Step: Track, review, and refine selected service measures and targets

1.9 Improvement Actions

Throughout the level of service chapter are many "next steps" for the City to improve on their initial Level of Service Framework. In addition to these next steps, the following table lists recommended actions to improve the quality and usefulness of the levels of service and performance measures for the City of Fredericton's Parks and Trees Division.

Table 1-10: Level of Service Improvement Tasks

Ref	Description	Priority
LOS.01	Develop and implement a data collection strategy that will provide the necessary support to inform the performance measures.	High
LOS.02	Develop a customer satisfaction survey to understand the performance measures that are measured using satisfaction surveys.	High
LOS.03	Develop procedures to implement measurement for the level of service that are currently not being measured.	High
LOS.04	Regularly review the service statements to ensure they continually align with the asset management organization's (Parks and Trees), and the stakeholder's expectations. This would be done prior to or as part of finalizing a future Parks asset management plan and updating the plan periodically.	Medium
LOS.05	Review and update any external trends or issues that may affect the City's level of service and/or its ability to meet them as appropriate.	Medium
LOS.06	Develop and implement a database to categorize complaints so statistics can be used for measuring performance. Include type of users, type of complaint, verification of validity, service area affected, and resolution status.	Medium
LOS.07	Reinforce the City's capacity to track the status of a work order, and to categorize work orders for work type and service area and be able to link to work orders to related/affected assets and record full costs or operations and capital investment by asset.	Medium
LOS.08	Ensure that the preferred asset specific performance measures reflect current asset management objectives, and regularly review the weights and the key performance measures that are used to aggregate them. Note this can only be done after relevant information is available to determine status of the current level of service performance measures.	Low

LOS.09	Consult with stakeholders to confirm the levels of service and performance measures. Note this can only be done after level of service and cost of service options are known, and when measured performance results are available. For these reasons, stakeholder consultation is categorized as a low priority, while tasks to obtain those details are a high priority.	Low

STATE OF INFRASTRUCTURE

2

2 State of Infrastructure

2.1 Overview

The following sections describe the current State of Infrastructure (SOI) of the assets that the Parks and Trees Division has within its portfolio. Current replacement cost for the assets included in the analysis is valued at $66.2 M (2019 dollars).

The SOI analysis offers a high-level indication of the current state of physical assets within Fredericton parks, using assessed condition grades of 1,2, and 3 representing condition states of Good, Fair, and Poor respectively. Each condition grade represents a specific remaining useful life (RUL) assumption for an asset type, which, in combination with the estimated useful life (EUL) of the asset, determines the replacement frequency over the course of the 100-year forecast period.

For example, a picnic table has an EUL of 10 years. Depending on the assessed condition, the table is forecast to be replaced in 10 years if it is in good condition, 5 years if it is currently in fair condition, or immediately within 1 year if the table is assessed as being in poor condition. After reaching the end of it's useful life, the table is forecasted to be replaced every 10 years, at the end of its useful life.

Table 2-1: Condition Grades

Asset Condition	Description	Wooden picnic table RUL (years)
1	Good	10
2	Fair	5
3	Poor	1

Parks and Trees is responsible for a variety of assets across the municipality which, for this initial SOI, includes the following asset and component types.

Table 2-2: Parks Quantities

Asset type	Component type	Quantity	Units
Amphitheatre	Concrete slab	41	m^2
	Seating	1	each
Art	Concrete slab	31	m^2
	Sculpture	50	each
	Canon	1	each
	Commemorating Plaque	1	each

Asset type	Component type	Quantity	Units
Artificial Turf Field	Bench	2	each
	Bleachers	11	each
	Concrete slab	279	m^2
	Fence	950	m
	Gate	7	each
	Lacrosse net	1	each
	Metal barricade	80	each
	Metal bench	6	each
	Net	25	each
	Portable upright	2	each
	Retaining wall	43	m
	Scoreboard	2	each
	Sign	8	each
	Turf	21,861	m^2
	Upright	4	each
	Wood bench	5	each
Baseball field	Bleachers	63	each
	Concrete slab	242	m^2
	Dugout	52	each
	Fence	10,131	m
	Flag pole	1	each
	Foul pole	37	each
	Gate	41	each
	In Field	33,825	m^2
	Irrigation System	1	each
	Large Backstop	3	each
	Large Netting	5	each
	Medium Backstop	26	each
	Medium Netting	2	each
	Musco Lights	104	each
	Out Field	113,363	m^2
	Picnic Table	3	each
	Scoreboard	3	each
	Sign	53	each
	Stairway	1	each
	Wood Table	2	each
Basketball court	Court surface	3,990	m^2
	Fence	194	m
	Net	23	each
	Small Bleacher	1	each
Bike park	Bench	2	each
	Dirt Jump Area	8,731	m^2
	Gate	1	each
	Sign	1	each
Bike rack	Concrete slab	28	m^2
	Rack	20	each

Asset type	Component type	Quantity	Units
Disc golf	Basket	9	each
Dog park	Bench	12	each
	Dispenser	7	each
	Fence	754	m
	Fountain	2	each
	Gate	14	each
	Sign	15	each
	Turf	10,828	m^2
Fencing	Fence	2,958	m
Fitness equipment	Large Structure	1	each
	Medium Structure	1	each
	Small Structure	5	each
Football field	Bleachers	6	each
	Fence	542	m
	Flag pole	1	each
	Gate	3	each
	Musco Lights	56	each
	Running track	1	each
	Turf	7,746	m^2
	Upright	2	each
Garbage can	Bin	221	each
	Concrete slab	1	m^2
Garden	Hardscaping	381	m^2
	Retaining wall	31	m
Gate	Gate	45	each
Lawn bowling	Bench	15	each
	Fence	196	m
	Gate	3	each
	Light	4	each
	Picnic table	8	each
	Turf	1390	m^2
Outdoor rink	Board	119	m
	Fence	56	m
	Gate	3	each
	Surface	1980	m^2
Park Bench	Bench	303	each
	Concrete slab	44	m^2
	Metal bench	18	each
	Wood bench	11	each

Asset type	Component type	Quantity	Units
Parking area	Asphalt Surface	47,230	m^2
	Curbing	6,710	m
	Fence	90	m
	Gate	1	each
	Gravel Surface	28,297	m^2
	Railing	3	each
	Sign	57	each
	Surface (unknown material)	35,802	m^2
Pickleball court	Net	3	each
	Surface	238	m2
	Surface Boundary	439	m2
Picnic table	Concrete slab	251	m^2
	Metal table	10	each
	Table	49	each
	Wood table	43	each
Playground equipment	Concrete slab	13	m^2
	Structure	196	each
	Safety Surface	17,010	m^2
	Sign	6	each
	Slide	2	each
Road	Asphalt Surface	3,135	m
	Gravel Surface	1,395	m
	Natural Surface	347	m
Sign	Display case	64	each
	Sign	455	each
Skate park	Railing	17	each
	Sign	1	each
	Land area	1,806	m^2
	Ramp	12	each
Soccer field	Bench	2	each
	Bleachers	8	each
	Concrete slab	9	m^2
	Dugout	4	each
	Fence	1,333	m
	Gate	17	each
	Goal post	44	each
	Musco Lights	60	each
	Net	16	each
	Running track	1	each
	Sign	11	each
	Turf	6,5047	m^2
Splash pad	Complete splash pad	1,409	m^2
Stoop and scoop dispenser	Dispenser	12	each
	Sign	2	each

Asset type	Component type	Quantity	Units
Swimming pool	Deck	1,952	m^2
	Fence	367	m
	Gate	7	each
	Pool	1,748	m^2
	Sign	1	each
Swing set	Accessible bay	2	each
	Bay	145	each
Tennis court	Bench	6	each
	Court surface	7,572	m^2
	Fence	1,657	m
	Gate	32	each
	Musco Lights	58	each
	Net	16	each
	Pole	28	each
	Post	12	each
	Small Bleacher	1	each
	Surface Boundary	9,435	m^2
	Wood bench	6	each
Trail	Concrete Surface	3,311	m
	Footrbrige	26	each
	Gravel Surface	68,178	m
	Marker post	13	each
	Natural Surface	15,738	m
	Pavement Surface	28,547	m
	Retaining wall	131	m
	Stairway	9	each
	Trail railing	30	each
	Walkway foundation	69	m
	Wood Chip Surface	1,871	m
Volleyball court	Fence	193	m
	Gate	1	each
	Net	7	each
	Post	2	each
	Surface	2,078	m^2
Wading pool	Replacement with splash pad	9	each
Water equipment	Boat ramp	292	m^2
Water fountain	Fountain	13	each
Miscellaneous	Concrete Slab	7	m^2
	Fire Pits	10	each
	Flag pole	12	each
	Graffiti board	1	each
	Seating	1	each

Similar to the level of service section, these assets are grouped by park class; identified as Neighbourhood, Community, Destination, and Linear, and are summarized by asset dashboards found in Appendix A.

2.2 Data Collection and GIS Build

The Fredericton Parks and Trees Division is responsible for tracking and maintaining thousands of park assets such as benches, fences, lights, and sports fields. As part of the development of the State of Infrastructure for the portfolio, a Geographic Information System (GIS) data collection solution was implemented to accurately capture the physical location and assess the condition and replacement value of park infrastructure assets.

GIS is a tool for collecting, managing and analyzing geographic data. Creating a complete GIS of the Division's assets will assist City staff to produce hard copy or online map applications to display recorded information and to easily show which assets are associated with each City Park. This will also assist long term planning, operational activities and external communication and consultation.

A web-based GIS application was built using Survey123 and Collector for ArcGIS. The GIS application was built to enable a field inspector using a smart phone to be able to select an existing asset (i.e. trail section), or collect a new asset (i.e. bench) and input attributes such as Asset Type, Material, Size, Condition. A Trimble Catalyst Antenna was used to capture assets within an accuracy of +/- 1 metre.

Once the field data was collected, data was extracted from the existing Survey123 geodatabase. This output was modified into a more workable format using scripts and manual operations. The goal was to post process the GIS data into a format that would directly feed into the project's State of Infrastructure spreadsheets. As part of the post processing, linear and polygon (area) asset features were built or updated depending on how the asset was collected in the field. As part of updating and the quality assurance process, WSP used the latest available digital imagery, as well as EagleView pictometry, to review and ensure that any incorrect or missing data was updated and added accordingly into the database. This extra level of effort ensures strong alignment of aerial photography, and field data capture.

This phase of the project ensured that the City of Fredericton has a complete GIS database of all existing park assets, which is a snap shot of existing infrastructure in 2018. Going forward, the City will be prudent to annually update and maintain this GIS database. With a GIS database now in place, the City can increase the frequency, accuracy and efficiency of compiling updates. This could be achieved by creating one or more Collector for ArcGIS applications that could be utilized by staff to update the park asset information.

Currently, there is not information available associated with asset age, nor an Install Year attribute. Capturing Install Year information as a new attribute field, and as new assets are installed, will improve historical tracking of all assets, and better enable decision makers to understand assets' longevity based on age and condition.

Next Step: Capture Install Date for all new assets added to the Parks portfolio to aid in future planning.

Examples of existing park assets collected for and displayed in the City's GIS as part of the initial AMP for Fredericton Parks are shown in Appendix A.

2.3 Assumptions

When creating the State of the Infrastructure dashboards, some assumptions were required to offset data availability issues or limited information (field data collection was completed by City staff). *Table 2-3* lists the asset group, issue and assumptions made in the development of the dashboards.

Table 2-3: SOI Assumptions

Asset type	Issue	Assumption
Facilities / Buildings	Not componentized or condition assessed properly during data collection.	Removed from the state of infrastructure analysis for this phase. Improvement action for the future.
Lighting	Owner is unknown for all lighting except for Musco lights.	All lighting except for Musco lights have been removed from the state of infrastructure analysis.
Culverts	Unknown if the culverts collected are managed by the Parks and Trees division.	Removed from the state of infrastructure analysis for this phase. Improvement action for the future.
Electical / Control Boxes	Owner is unknown for electrical and control boxes.	Removed from the state of infrastructure analysis for this phase. Improvement action for the future.
Roads	Data for road length is available, but width of roadways has not been collected, which is necessary for costing.	An average width of 7.5 m has been assumed for all roadways.
Trails	Data for trail width was not available at time of reporting. Widths are assumed:	Concrete Surface: 1.5 m Asphalt Surface: 3m Gravel and Natural Surface: 1.8m Wood Chip: 1.8m
Picnic Tables	Unknown picnic table material	Where picnic table material is unknown, a replacement cost of $2,000 is used with an EUL equal to concrete tables.
Park Benches	Unknown park bench material	Where park bench material is unknown, a replacement cost of $2,400 is used with an EUL equal to concrete benches.
Parking Areas	Parking Area material unknown.	Where the parking area material is unknown, an asphalt surface is assumed.
Playground Safety Surface	Unknown Material	All Playground Safety Surfaces Assumed to be peastone.
Railings (component)	Unknown length and/or material	Railings having an unknown length have been removed from the analysis. Railings having an unknown material are assumed to have an equal replacement cost and EUL to metal railings.
Bleachers	Unknown size	Average replacement cost of large, medium, and small bleachers has been used.

Asset type	Issue	Assumption
Wading Pool	No longer being installed by the City.	All wading pools were assumed to be replaced with a small splash pad at the end of useful life, with a cost of $250,000. Asset components such as fences, signs, and pools that were collected during field pickup have been removed from the SOI and assumed to be included as part of the wading pool replacement with a splash pad.
Lawn Bowling Turf and Soccer Field Natural Turf	Unit cost of replacement for lawn bowling turf and soccer field turf differ.	Pricing table indicated that total replacement cost is $5,000 for the lawn bowling turf, and a unit rate of $18/$m^2$ for natural turf. Have used given values in the pricing schedule.
Retaining Wall	Retaining wall height unknown.	All retaining walls assumed to have height of 1m.
Vegetation	No capital costs associated with maintaining vegetation.	Not included in the state of infrastructure analysis as there's no capital costs assumed.
Flower Beds	No capital costs associated with maintaining flower beds.	Not included in the state of infrastructure analysis as there's no capital costs assumed.
Shrub Areas	No capital costs associated with maintaining shrub areas.	Not included in the state of infrastructure analysis as there's no capital costs assumed.
Water tower	Not managed by the Parks and Trees division.	Removed from the state of infrastructure analysis.
Dam	Not componentized or condition assessed properly during data collection and requires specialized assessment.	Removed from the state of infrastructure analysis. Improvement action for the future.
Irrigation System	No pricing or quantities.	To be included in the field costs.
Musco Lighting	Not collected separately from lighting	Used quantities from Musco warranty report by park location. Assumed the City will pay the full price at the end of warranty. Used replacement value received from the City during Phase 1.

Asset type	Issue	Assumption
General assumptions: • Unless otherwise indicated, the analysis has been performed with the assumption that assets will be replaced by similar assets having the same replacement cost and EUL. • Assets which were not included in the price schedule from Phase 1 (i.e. unique assets such as the canon in Queen's Square) were given an assumed current replacement value and should be confirmed by Parks and Trees staff. • Assets that were not assessed during the in-field data pickup have been exlcuded from the SOI analysis. • Assets which did not have quantities associated with them and which could not be estimated through satellite imagery were not included in the SOI analysis. For example, railings which were collected in-field without a measurement of lineal metres could not be priced in some instances, because tree cover limited the view of the railing in satellite imagery. As a result, a replacement cost could not be calculated for the asset. • Assumptions related to unit pricing are stated in the "Comment on Unit Rate" column of the Pricing Schedule. • Applicable assets in the "Recreational Facility" and the "Undeveloped" asset classes have been placed into the "Destination" and "Community" park asset classes respectively. • The "Linear Parks" Group includes the following Parks Classes: ○ Community_Linear ○ Destination_Linear ○ Linear ○ Municipal Linear ○ Neighbourhood_Connector ○ Neighbourhood_Linear ○ Recreation_Facility_Linear ○ Trail_Head_Linear ○ Undeveloped_Linear		

Using these assumptions, the inaugural state of infrastructure was created. An electronic file of the dataset and pricing schedule was provided to the City of Fredericton.

2.4 Results of State of Infrastructure

Fredericton Parks and Trees Division divides managed assets into the following asset classes: Neighbourhood, Community, Destination, and Linear. Assets falling within these classes have been grouped by park name and displayed in their respective dashboards below, with a brief summary of each analysis. Current asset replacement cost is provided, in combination with projected asset replacement forecasts over a 100-year period. Weighted averages based on current replacement cost are summarized for asset age, expected asset life, and asset condition.

A brief analysis of all Fredericton park assets is provided below. Dashboards for each park class are provided in Appendix A, each showing a summary by park name within the Neighbourhood, Community, Destination, or Linear park class.

Assets included in the first iteration of the Fredericton Parks and Trees SOI have a total replacement value of $66.2 M. The Neighbourhood Parks asset class holds the greatest replacement cost value, accounting for 41% ($26.9 M) of the portfolio, followed by Community Parks at 35% ($ 23.4 M).

Figure 2-1: Asset Class Current Replacement Cost

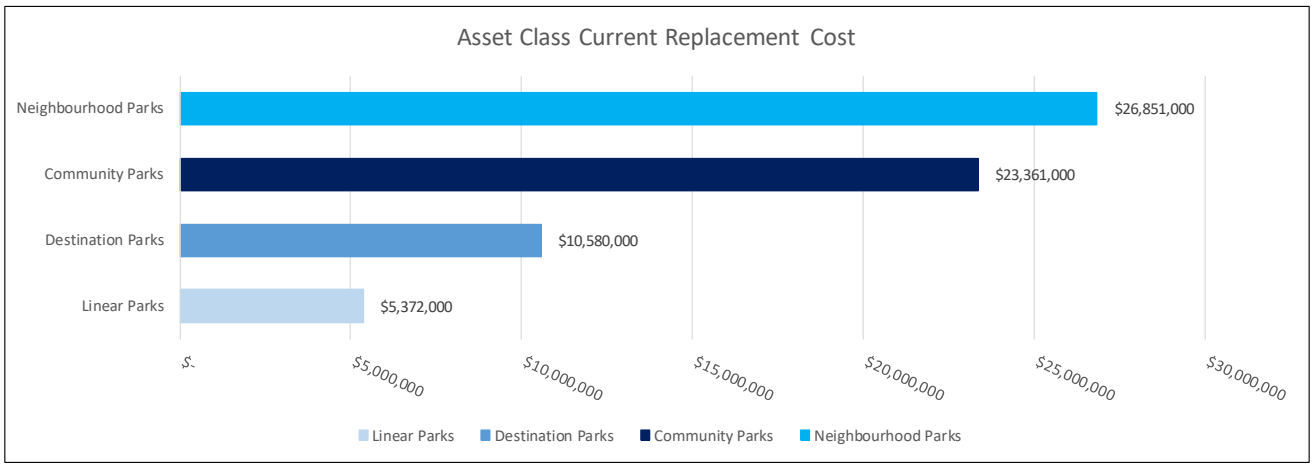
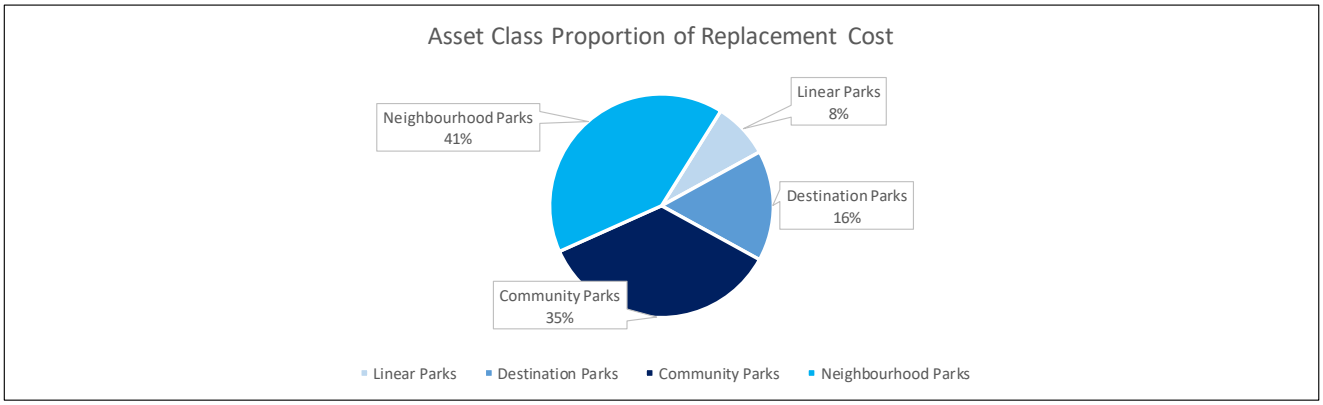


Figure 2-2: Asset Class Proportion of Replacement Cost:



2.5 Summary of Analysis

The following observations can be made from a synthesis of the State of Infrastructure analysis:

- Weighted average asset condition falls between good and fair, at 1.5 (Good=1, Fair=2), signifying that many assets do not require immediate replacement. A majority of the value of park assets included in the initial SOI are considered to be in good condition, accounting for approximately $36.7 M of the portfolio. Assets assessed as being in fair and poor condition are valued at approximately $28.4 M and $1.0 M respectively.

- Referring to *Figure 2-5* below, from 2020 to 2025 it is projected that $29.0 M will be required for renewal of assets owned and managed by the Parks and Trees Division. The following 5-year period, from 2025 to 2030, sees a significant reduction in projected replacement cost, having a replacement value of $2.1 M, and offers an opportunity to prepare for future expected capital expenditures.

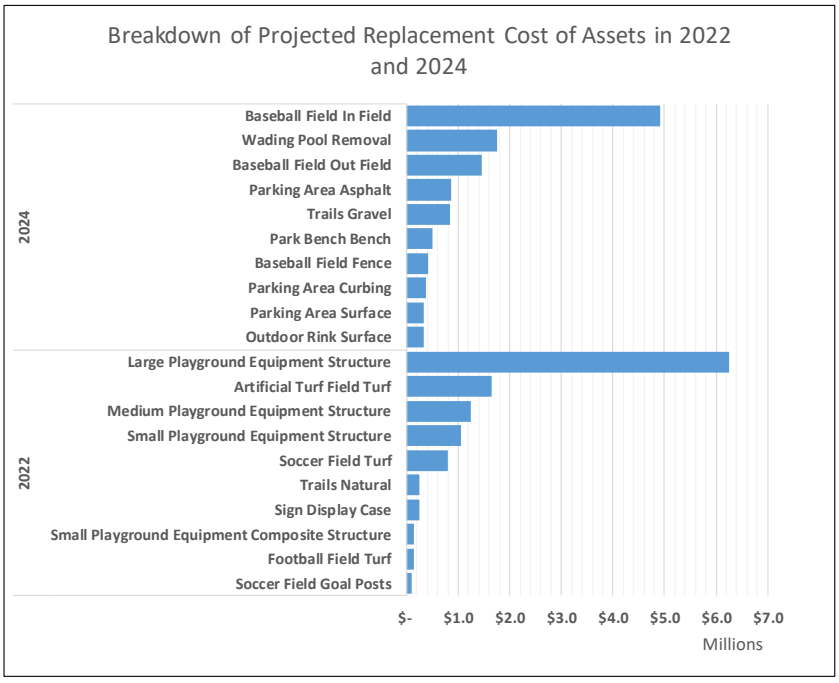
- The age profile of assets has been estimated based on the condition of each asset. From a high-level perspective, RUL has been estimated for each condition value, meaning that an asset having a condition of good is expected to have nearly it's entire EUL remaining, and an asset having been assessed in poor condition is projected to be replaced in the short term, typically within the next 1 to

3 years. Assets having been assessed in fair condition were projected to be replaced in the medium term, typically between 6 to 10 years.

- Due to the high-level nature of assuming an asset's install year based on general assumptions of the RUL and condition, it should be noted that the age profile may not reflect the true age distribution of assets, and that a more accurate distribution can be ascertained using recorded install years. Utilizing available information and a high-level estimation of each asset's install year, the analysis predicts that 63% of the value of park assets have been installed within the past decade, about 32% of the value of all assets were installed 10 to 30 years ago, and that about 6% of the value of all assets are older than 30 years.

- In the short-term, a period requiring significant investment is forecast from 2022 to 2024, when it is projected that $28.0 M will be required to replace assets reaching end-of-life. Figure 2-3 shows the ten highest valued asset types and components from all park classes that are projected to reach end-of-life in these two years. For example, in 2022 it is projected that Large Playground Equipment Structures will require replacement, valued at just over $6 M. Likewise, in 2024 Baseball Field In-Fields are projected to require significant investment, valued at nearly $5 M.

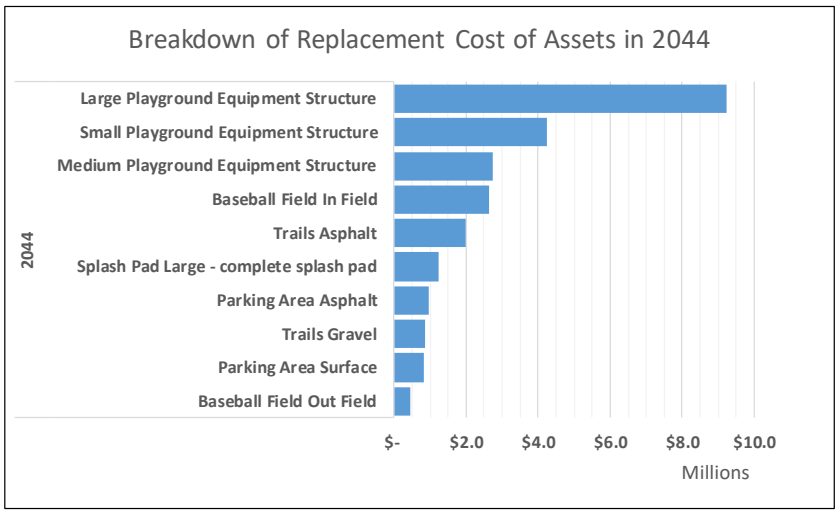
Figure 2-3: 2022 and 2024 Projected Asset Replacement Costs



The period beyond 2024, specifically 2025 to 2030, is projected to incur relatively low replacement costs and offers an opportunity to mitigate the financial impact of immediate replacement by exploring options for prolonging asset life through rehabilitation.

- Spikes in renewal costs valued at about $30 M are projected to occur in 2044, 2069, 2094, and 2119, showing that the most significant investments are estimated to occur approximately every 25 years. Figure 2-4 shows the ten highest valued asset types and components from all park classes that are projected to reach end-of-life in 2044. For example, Playground Equipment Structures are projected to require significant investment in 2044, accounting for about $16 M of the nearly $30 M in renewal costs in that year.

Figure 2-4: 2044 Projected Asset Replacement Costs

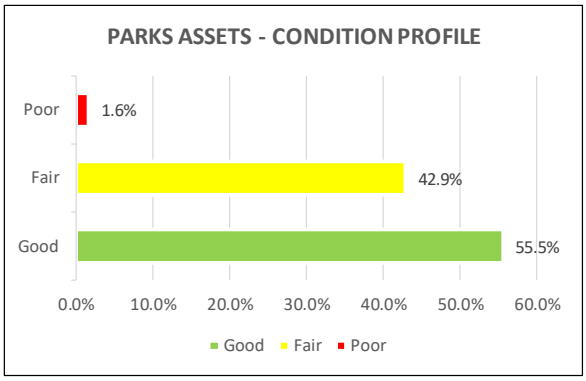


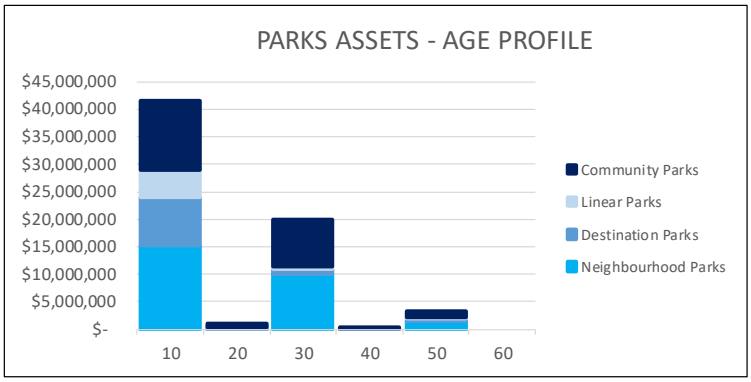
An average annual investment of $3.0 M is calculated over the 100-year forecast period to provide adequate funding over the forecast period as assets reach end-of-life. This amount can be set aside in a reserve fund during years when relatively few replacements are projected to occur.

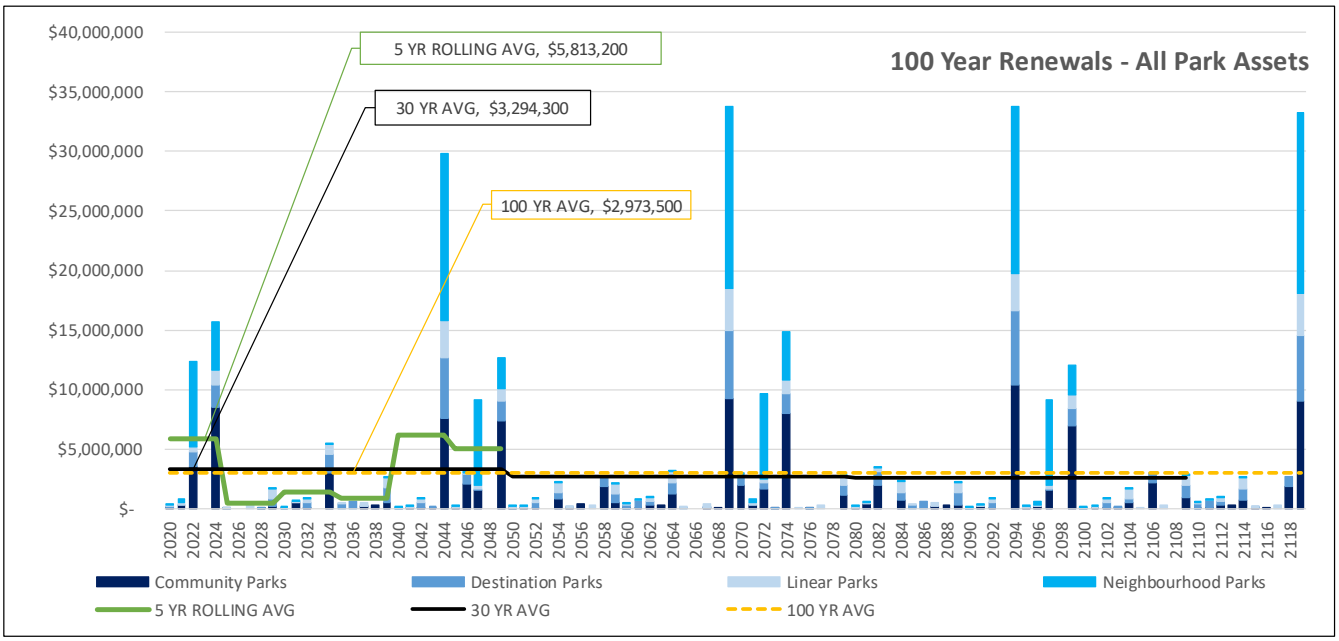
Figure 2-5: Portfolio Dashboards

Fredericton Parks 2019

Asset Class	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Neighbourhood Parks	12	27	1.4	$ 26.9	$ 1,027,400
Community Parks	12	27	1.6	$ 23.4	$ 1,030,600
Destination Parks	8	24	1.3	$ 10.6	$ 537,000
Linear Parks	5	21	1.4	$ 5.4	$ 378,600
Network Total	**11**	**26**	**1.5**	**$ 66.2**	**$ 2,973,600**







2.6 State of Infrastructure Improvement Actions

The following table captures recommended actions to improve the quality and usefulness of the data and methods contributing to the State of Infrastructure for the City of Fredericton's Parks and Trees Division.

Table 2-4: State of Infrastructure Improvement Tasks

Ref	Description	Priority
SOI.01	Supplement GIS data with information such as installation year, material (where applicable), size (where applicable), relevant dimensions, and ownership. This can assist with developing increased accuracy for the renewal forecast and replacement valuations.	High
SOI.02	Continue to periodically review and refine the pricing schedule by capturing relevant unit replacement costs based on recent construction or supplier information.	High
SOI.03	Continue to develop a strategy for the completion of assessing and valuing recreation facility, building, electrical, lighting, and vegetation asset types. (These were excluded from this initial SOI)	High
SOI.04	Develop useful life information based on how assets are performing in service.	High
SOI.05	Assess assets having a condition rating of <null>, and update the asset database so that these assets may be included in the next iteration of the SOI analysis.	Medium
SOI.06	Determine appropriate park class where Recreational Facility and Undeveloped class assets will be categorized for next iteration of the SOI (e.g. Neighbourhood, Community, Destination, Linear).	Low

FREDERICTON PARKS INVENTORY

A

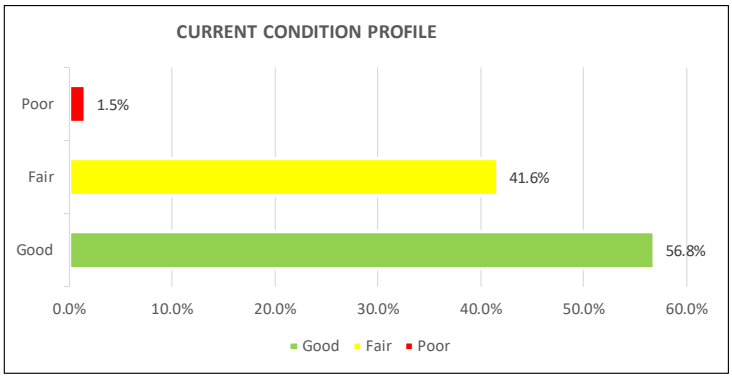
Appendix A

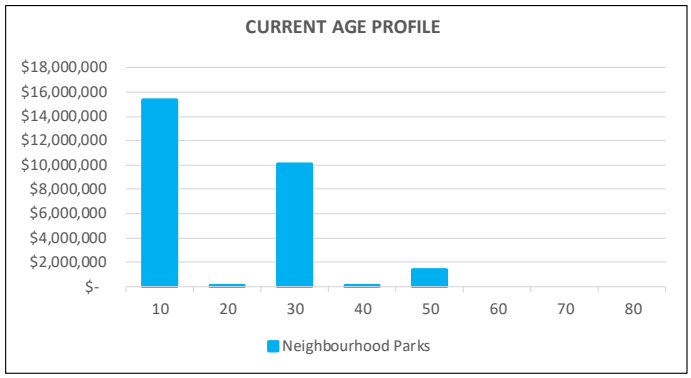
Neighbourhood Parks

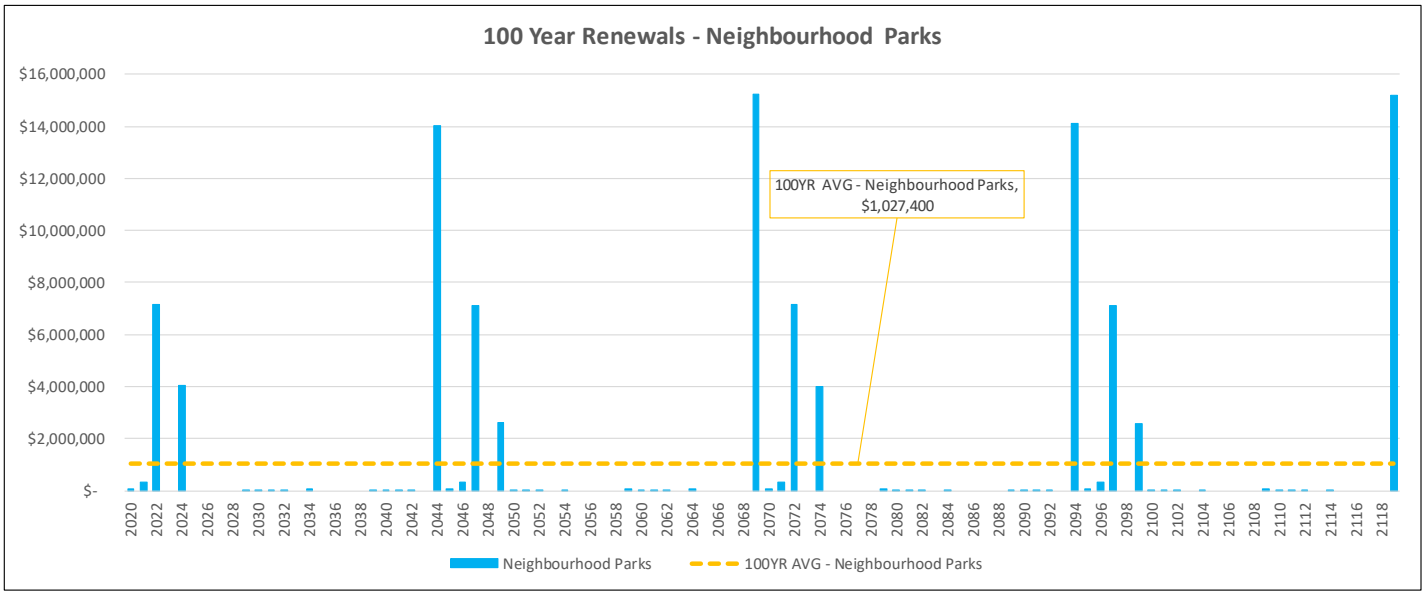
Fredericton - Neighbourhood Parks 2019

Asset Group	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Adney Street Park	1	25	1.0	$ 453,900	$ 1,027,400
Barton Crescent Park	17	25	1.7	$ 409,500	$ 1,027,400
Beechwood Street Park	28	32	2.0	$ 8,800	$ 1,027,400
Cambridge Crescent Park	23	25	2.0	$ 260,900	$ 1,027,400
Canterbury Drive Park	15	25	1.7	$ 1,659,100	$ 1,027,400
Case Street Park	12	25	1.5	$ 515,600	$ 1,027,400
Charles Avenue Park	1	25	1.0	$ 317,400	$ 1,027,400
Cherry Avenue Park	5	25	1.2	$ 627,100	$ 1,027,400
Clayton Street Park	2	25	1.0	$ 290,300	$ 1,027,400
Coburn Court Park	12	25	1.5	$ 515,100	$ 1,027,400
Cowperthwaite Park	11	26	1.4	$ 645,800	$ 1,027,400
Devon Avenue Green Space	46	50	2.0	$ 2,400	$ 1,027,400
Dewitt Acres Park	8	25	1.3	$ 400,200	$ 1,027,400
Dover Crescent Park	3	25	1.1	$ 160,100	$ 1,027,400
Downing Street Park	2	25	1.0	$ 710,000	$ 1,027,400
Eagle Birdie Park	6	26	1.2	$ 320,500	$ 1,027,400
Evans Street Park	1	25	1.0	$ 625,500	$ 1,027,400
Fisher Field Park	21	25	2.0	$ 857,700	$ 1,027,400
Forest Hill Road School Foster Field	14	25	2.0	$ 283,600	$ 1,027,400
Gloucester Crescent Park	28	32	2.0	$ 6,900	$ 1,027,400
Heron	2	25	1.0	$ 776,300	$ 1,027,400
Hillcrest Drive Park	1	25	1.0	$ 619,500	$ 1,027,400
Hummingbird Street Park	1	19	1.0	$ 83,000	$ 1,027,400
Islandview Park	25	34	1.7	$ 701,400	$ 1,027,400
Jolyn	2	25	1.0	$ 520,100	$ 1,027,400
Kent Street Park	9	33	1.3	$ 772,800	$ 1,027,400
LaPointe Street Park	9	27	1.3	$ 22,700	$ 1,027,400
Lincoln Heights Park	11	31	1.5	$ 1,210,200	$ 1,027,400
Lincoln Park	15	25	1.8	$ 969,700	$ 1,027,400
London Court Park	1	25	1.0	$ 371,100	$ 1,027,400
Malloy Park	7	25	1.3	$ 1,095,400	$ 1,027,400
Mannington Lane Park	23	25	2.0	$ 402,800	$ 1,027,400
Massey Street Park	27	32	1.9	$ 884,700	$ 1,027,400
McGregor Street Park	2	25	1.0	$ 435,500	$ 1,027,400
McKinley Avenue Park	2	26	1.0	$ 204,200	$ 1,027,400
Murray Avenue Park	13	26	1.5	$ 292,100	$ 1,027,400
Neville Street Park	8	25	1.3	$ 513,900	$ 1,027,400
Old Burial Ground	20	28	1.8	$ 83,500	$ 1,027,400
Park Street Park	24	28	2.0	$ 2,112,900	$ 1,027,400
Pederson Crescent Park	46	50	2.0	$ 4,800	$ 1,027,400
Rabbit Town Park	8	10	2.0	$ 500	$ 1,027,400
Randolph Street Park	7	25	1.3	$ 844,100	$ 1,027,400
Riverside Park	19	34	1.4	$ 690,100	$ 1,027,400
Robinson Drive Park	13	25	1.6	$ 308,000	$ 1,027,400
Rosewood Estates Park	12	25	1.5	$ 509,700	$ 1,027,400
Royal Road Park	6	33	1.2	$ 1,897,900	$ 1,027,400
Sierra Drive Park	1	25	1.0	$ 684,000	$ 1,027,400
Smythe Street Green	1	8	0.8	$ 300	$ 1,027,400
Tilley Drive Park	43	48	1.9	$ 5,100	$ 1,027,400
Timber Lane Park	12	25	1.5	$ 508,300	$ 1,027,400
University Avenue Green	7	8	1.7	$ 300	$ 1,027,400
Woodbridge Street Pool	46	50	2.0	$ 255,600	$ 1,027,400
TOTAL	**12**	**27**	**1.4**	**$ 26,850,900**	

Neighbourhood Parks cont.



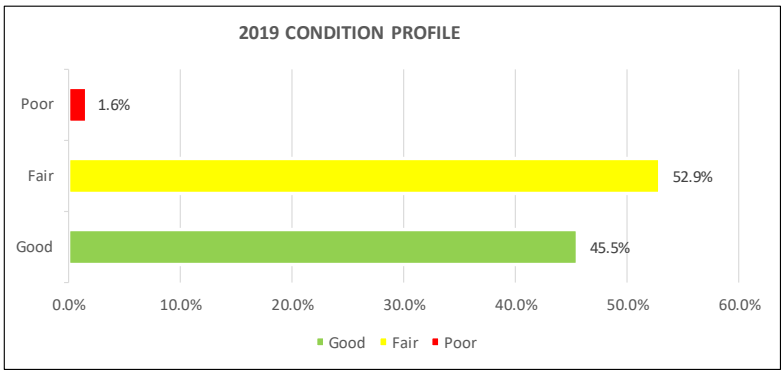


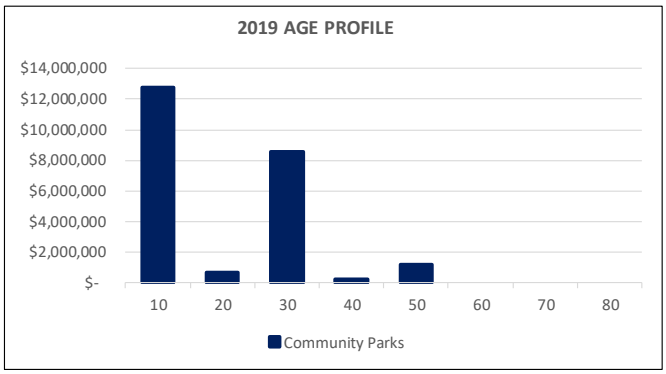


Community Parks

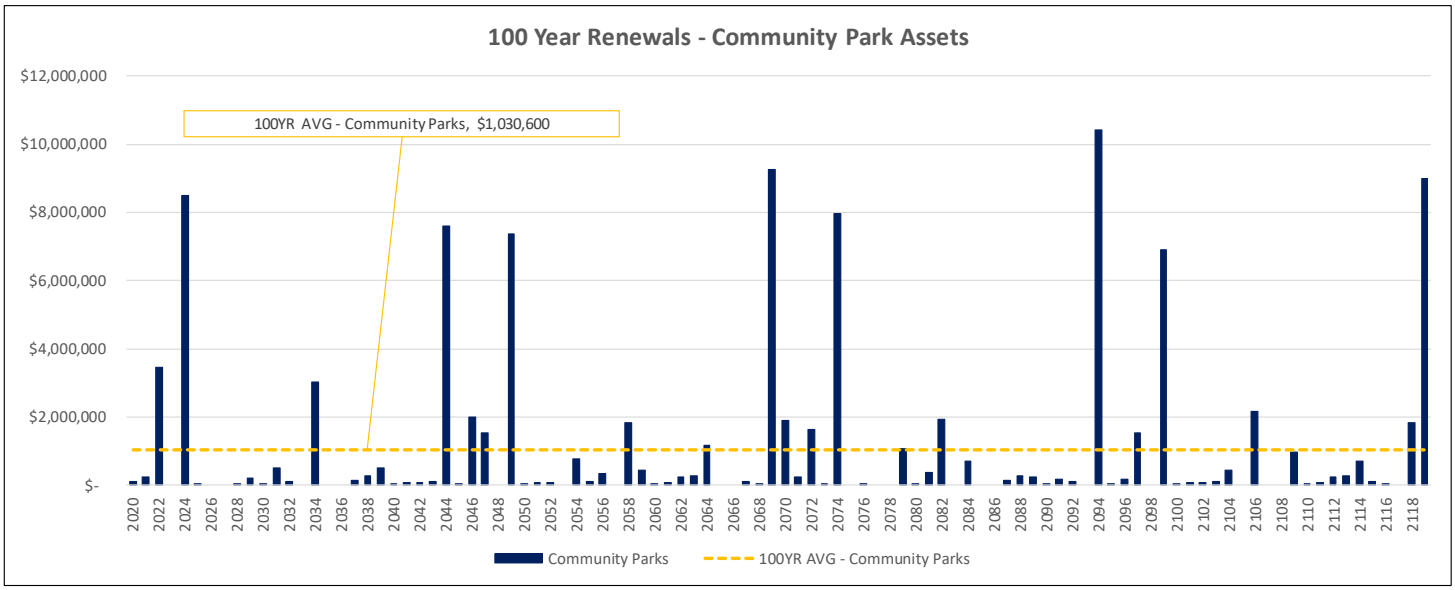
Fredericton - Community Parks 2019

Asset Group	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Angelview Park	18	23	2.0	$ 57,100	$ 1,030,600
Barkers Point	37	42	2.0	$ 357,000	$ 1,030,600
Barkers Point Cenotaph Area	1	50	1.0	$ 600	$ 1,030,600
Barkers Street Sports Field	16	19	2.0	$ 218,800	$ 1,030,600
Campbell Creek Open Space Mill Pond	7	11	2.0	$ 34,800	$ 1,030,600
City Avenue Open Space	7	10	2.0	$ 1,000	$ 1,030,600
Fredericton Dog Park	15	23	1.8	$ 130,700	$ 1,030,600
Fredericton High School	13	18	1.9	$ 944,500	$ 1,030,600
Garden Creek School	23	25	2.2	$ 327,000	$ 1,030,600
Grant Harvey	8	26	1.4	$ 3,094,600	$ 1,030,600
Henry Park	11	29	1.4	$ 3,367,700	$ 1,030,600
Heritage Center	8	10	2.8	$ 32,400	$ 1,030,600
Hyla Park	5	10	1.9	$ 11,800	$ 1,030,600
Kimble Drive Park	8	27	1.4	$ 1,282,400	$ 1,030,600
Leeds Drive Park	2	22	1.0	$ 228,200	$ 1,030,600
Limerick Road Park	18	31	1.6	$ 1,109,200	$ 1,030,600
Loyalist Cemetery	23	29	1.4	$ 600	$ 1,030,600
Marysville Cenotaph	19	36	1.4	$ 12,300	$ 1,030,600
Marysville Pool & Tennis Courts	3	45	1.1	$ 576,100	$ 1,030,600
McAdam Avenue School	13	24	1.7	$ 1,050,500	$ 1,030,600
Morell Park	19	24	1.9	$ 409,600	$ 1,030,600
Nashwaaksis Amphitheater	18	41	1.5	$ 26,000	$ 1,030,600
Nashwaaksis Arena	27	31	2.0	$ 755,200	$ 1,030,600
Nashwaaksis Commons	20	24	2.0	$ 1,014,600	$ 1,030,600
Nashwaaksis Memorial School Tennis Court	10	20	1.7	$ 65,100	$ 1,030,600
Nashwaaksis Middle School	15	21	1.8	$ 1,774,100	$ 1,030,600
Queen Square Park	10	32	1.4	$ 1,996,000	$ 1,030,600
Queen Street Cenotaph	1	28	1.0	$ 15,700	$ 1,030,600
Reading Street Park	3	25	1.1	$ 1,009,500	$ 1,030,600
Royals Field	13	26	1.5	$ 2,857,300	$ 1,030,600
Silverwood Lagoon Property	6	11	2.0	$ 42,500	$ 1,030,600
Stoneybrook Crescent Park	12	25	1.5	$ 546,500	$ 1,030,600
York County Municipal Home Cemetery	21	25	2.0	$ 12,300	$ 1,030,600
TOTAL	**12**	**27**	**1.6**	**$ 23,361,700**	



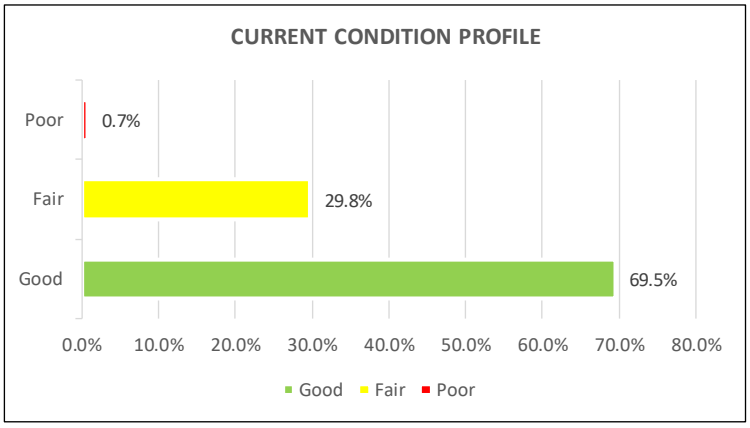


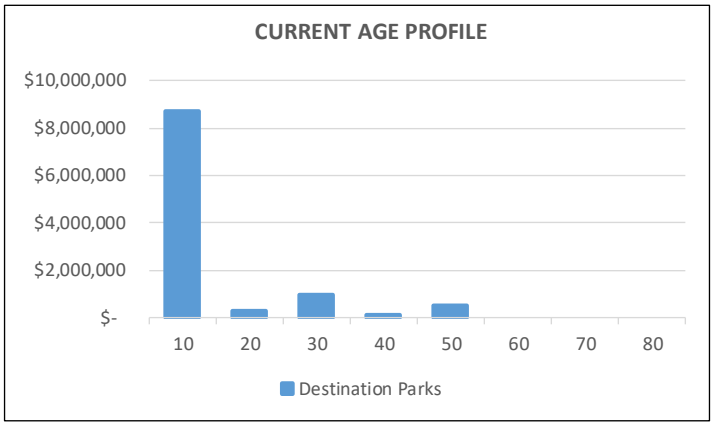
Community Parks cont.

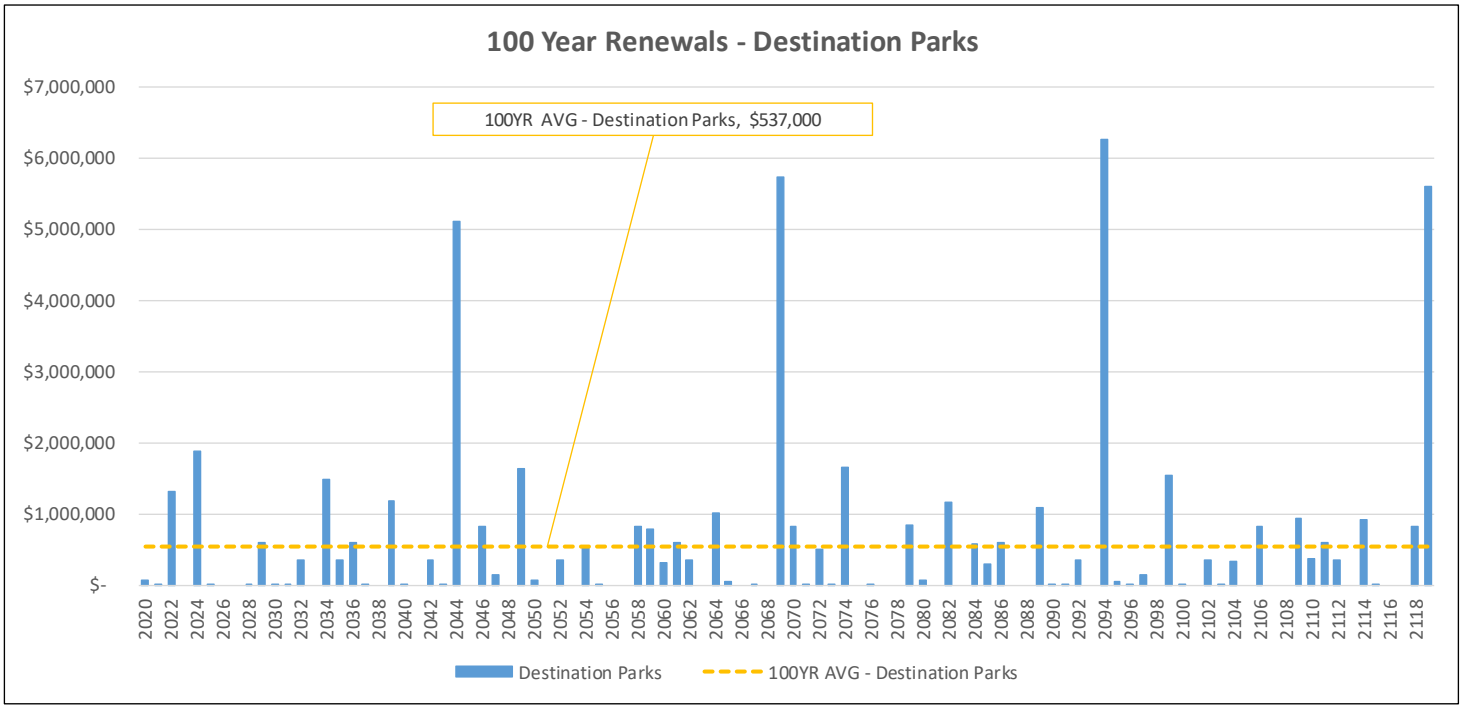


Fredericton - Destination Parks 2019

Asset Group	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Carleton Park	13	20	1.9	$ 229,300	$ 537,000
Fredericton Yacht Club	3	12	1.3	$ 594,100	$ 537,000
Killarney	21	25	2.0	$ 1,600	$ 537,000
Killarney Lake Park	20	26	1.9	$ 429,700	$ 537,000
Lady Beaverbrook Arena	1	28	1.0	$ 49,700	$ 537,000
Odell Park	7	25	1.2	$ 3,726,200	$ 537,000
Small Craft Aquatic Center	13	22	1.7	$ 23,400	$ 537,000
Willie O'Ree Center and Scotiabank North Turf Field	10	22	1.4	$ 2,589,800	$ 537,000
Wilmot Park	5	26	1.1	$ 2,782,800	$ 537,000
York Arena	19	23	2.1	$ 153,600	$ 537,000
TOTAL	**8**	**24**	**1.3**	**$ 10,580,200**	







Linear Parks

Fredericton - Linear Parks 2019

Asset Group	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Aberdeen St	1	25	1.0	$ 16,100	$ 378,600
Barbara to Kimble Neighbourhood Connector	1	50	1.0	$ 6,700	$ 378,600
Barton Crescent Park	6	10	1.9	$ 1,000	$ 378,600
Beaconsfield to Bristol Neighbourhood Connector	6	10	2.0	$ 2,100	$ 378,600
Boss Gibson Monument Area	12	22	1.4	$ 22,400	$ 378,600
Burpee Street Park	6	10	2.0	$ 1,500	$ 378,600
Cambridge to Manchester Neighbourhood Connector	16	16	3.0	$ 6,100	$ 378,600
Canada	16	20	1.9	$ 10,100	$ 378,600
Canterbury Drive Park	6	10	2.0	$ 14,900	$ 378,600
Canterbury to Birmingham Neighbourhood Connector	6	10	2.0	$ 1,500	$ 378,600
Carleton Park	2	19	1.1	$ 65,000	$ 378,600
Carrington to Lexington Neighbourhood Connector	6	10	2.0	$ 1,900	$ 378,600
Case Street Park	9	10	2.9	$ 1,000	$ 378,600
Castleton to Southall Neighbourhood Connector	9	10	3.1	$ 1,800	$ 378,600
Cherry Douglas Trail	1	25	1.0	$ 10,200	$ 378,600
City Avenue Open Space	4	10	1.7	$ 29,000	$ 378,600
Cliffe St	1	25	1.0	$ 150,200	$ 378,600
Connector to Nashwaaksis Middle School	6	10	2.0	$ 4,700	$ 378,600
Coventry to Canterbury Neighbourhood Connector	5	5	3.1	$ 1,900	$ 378,600
Derby to London Neighbourhood Connector	5	5	3.0	$ 1,800	$ 378,600
Dora Drive Trail	9	10	2.9	$ 2,100	$ 378,600
Downing to Elliott Connector	21	25	2.0	$ 7,400	$ 378,600
Eagle Birdie Park	3	17	1.7	$ 9,100	$ 378,600
Ecole Les Eclaireurs	6	10	2.0	$ 14,300	$ 378,600
Edward to Adams Neighbour Connector	6	10	2.0	$ 4,100	$ 378,600
Evans Street Park	9	10	3.0	$ 1,400	$ 378,600
Folkstone to Rochester Neighbourhood Connector	5	5	3.1	$ 1,900	$ 378,600
Fredericton High School	3	22	1.4	$ 8,700	$ 378,600
Gibson Trail	1	14	1.0	$ 158,100	$ 378,600
Gloucester Crescent Park	9	10	2.9	$ 1,900	$ 378,600
Gloucester to Bliss Carman Neighbourhood Connector	17	21	2.0	$ 16,600	$ 378,600
Grant Harvey	1	46	1.0	$ 214,000	$ 378,600
Hemlock to McAdam Neighbourhood Connector	6	10	2.0	$ 1,900	$ 378,600
Henry Park	8	23	1.5	$ 11,300	$ 378,600
Heron	6	10	2.0	$ 13,800	$ 378,600
Jolyn	1	10	1.0	$ 1,700	$ 378,600
Killarney	3	5	2.0	$ 150,200	$ 378,600
Killarney Lake Park	3	17	1.6	$ 289,900	$ 378,600
Kimble Dr	1	25	1.0	$ 14,900	$ 378,600
Kimble Drive Park	3	34	1.4	$ 83,000	$ 378,600

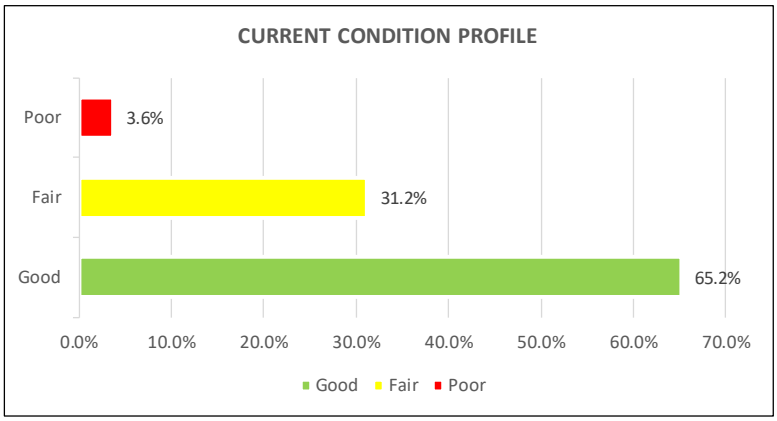
Linear Parks cont.

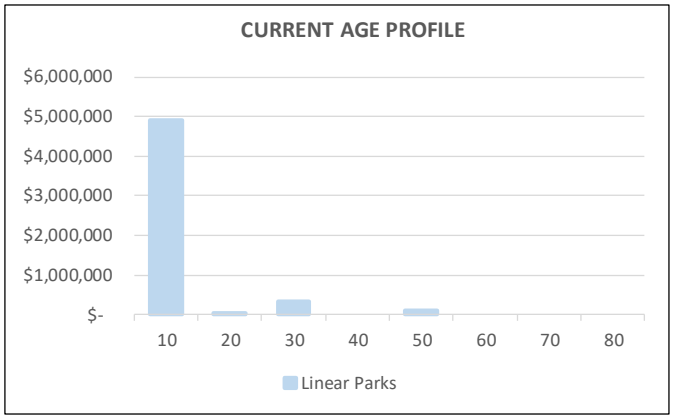
Asset Group	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Kitchen to Regent Neighbourhood Connector	21	25	2.0	$ 7,200	$ 378,600
Knowledge Park Dr	21	25	2.0	$ 17,100	$ 378,600
Lady Beaverbrook Arena	48	50	3.0	$ 12,800	$ 378,600
Lawson Court Park	8	10	2.5	$ 2,000	$ 378,600
Leeds Drive Park	1	9	0.9	$ 200	$ 378,600
Leicester to Chelsea Neighbourhood Connector	18	22	2.0	$ 8,700	$ 378,600
Limerick Road Park	6	10	2.0	$ 13,700	$ 378,600
Lincoln Heights Park	6	10	2.0	$ 33,300	$ 378,600
Lincoln Trail	1	22	1.0	$ 462,700	$ 378,600
London Court Park	12	17	1.5	$ 10,200	$ 378,600
Loyalist Cemetery	6	10	2.0	$ 1,000	$ 378,600
MacPherson Street Park	9	10	3.0	$ 3,800	$ 378,600
Malloy Park	6	10	2.0	$ 8,000	$ 378,600
Mannington Lane Park	9	10	3.0	$ 3,100	$ 378,600
Mannington Ln to Douglas Ave Neighbourhood Connector	6	10	2.0	$ 2,500	$ 378,600
Maple to Linden Neighbourhood Connector	1	50	1.0	$ 12,600	$ 378,600
Marysville Cenotaph	6	10	2.0	$ 2,500	$ 378,600
Massey Street Park	6	10	2.0	$ 2,700	$ 378,600
McGregor Street Park	6	10	2.1	$ 1,200	$ 378,600
Melvin Street Park	6	10	2.1	$ 1,500	$ 378,600
Montgomery to Oxford Neighbourhood Connector	6	10	2.0	$ 2,100	$ 378,600
Mullberry to Broad Neighbourhood Connector	1	50	1.0	$ 13,200	$ 378,600
Murray Avenue Park	5	7	2.5	$ 1,900	$ 378,600
Nashwaak Trail	3	21	1.1	$ 384,600	$ 378,600
Nashwaaksis Amphitheater	14	17	2.0	$ 11,000	$ 378,600
Nashwaaksis Commons	9	13	2.0	$ 29,100	$ 378,600
Nashwaaksis Middle School	5	24	1.5	$ 86,200	$ 378,600
Nason	6	10	2.0	$ 3,600	$ 378,600
Neil to Carney Neighbourhood Connector	1	25	1.0	$ 5,900	$ 378,600
New Maryland Highway	21	25	2.0	$ 27,600	$ 378,600
Norfolk to Liverpool Neighbourhood Connector	5	5	2.9	$ 2,000	$ 378,600
NorthSide Trail	2	22	1.1	$ 565,300	$ 378,600
Odell Park	9	13	2.0	$ 493,900	$ 378,600
Old Burial Ground	31	34	2.2	$ 31,900	$ 378,600
Park Street Park	3	20	1.4	$ 9,400	$ 378,600
Patience Ln	1	25	1.0	$ 16,900	$ 378,600
Pederson Crescent Park	9	10	3.0	$ 2,400	$ 378,600

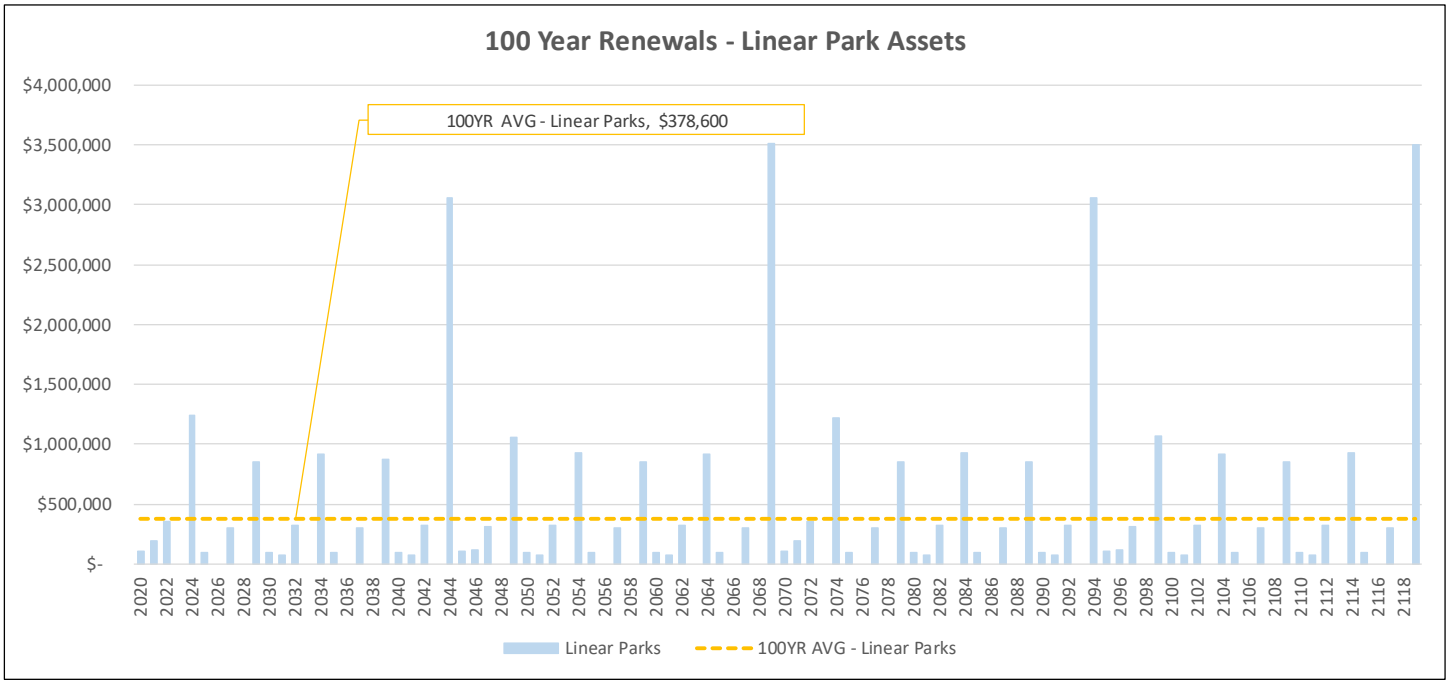
Linear Parks cont.

Asset Group	Current Average Asset Age	Average Expected Asset Life	Average Asset Condition	Current Asset Replacement Cost ($M)	100 YR Average Per Annum Renewals Cost ($)
Picaroons Living Wall	8	27	1.2	$ 30,800	$ 378,600
Piercy to Adams Neighbourhood Connector	6	10	2.0	$ 2,100	$ 378,600
Priestman to Willingdon Neighbourhood Connector	16	20	2.0	$ 9,700	$ 378,600
Promenade Eco Terra Dr	1	10	1.0	$ 17,400	$ 378,600
Prospect St	3	10	1.4	$ 30,600	$ 378,600
Queen Square Park	1	25	1.0	$ 24,500	$ 378,600
Queen Street Cenotaph	1	10	1.0	$ 4,400	$ 378,600
Rabbit Town Park	6	10	2.0	$ 4,900	$ 378,600
Reading Street Park	1	10	1.0	$ 25,600	$ 378,600
Regent - University	1	25	1.0	$ 58,600	$ 378,600
Regent Street at Kings College	8	10	2.0	$ 5,000	$ 378,600
Regent Street Park	46	50	2.0	$ 2,400	$ 378,600
River Street Green	15	22	1.3	$ 7,700	$ 378,600
Riverfront North Green	17	32	1.5	$ 138,300	$ 378,600
Riverfront South Green	6	25	1.3	$ 343,800	$ 378,600
Royal Road Park	6	10	2.0	$ 2,500	$ 378,600
Sheffield to Forest Hill Neighbour Connector	16	17	3.0	$ 5,000	$ 378,600
Sierra Drive Park	6	10	2.0	$ 900	$ 378,600
Small Craft Aquatic Center	1	25	1.0	$ 2,100	$ 378,600
Spinner Ct to Fox Hound Ct Neighbourhood Connector	1	25	1.0	$ 5,200	$ 378,600
Stoneybrook Crescent Park	6	10	2.0	$ 22,000	$ 378,600
The Green	7	23	1.6	$ 211,400	$ 378,600
Tilley Drive Park	5	5	3.0	$ 1,800	$ 378,600
Topcliffe to Topcliffe Neighbourhood Connector	14	17	2.0	$ 5,100	$ 378,600
Two Nations Crossing	10	25	1.5	$ 34,700	$ 378,600
Valley Trail	1	18	1.0	$ 387,400	$ 378,600
Vanier Industrial to Edward Connector	6	10	2.0	$ 4,200	$ 378,600
Vanier Trail	6	9	2.2	$ 121,700	$ 378,600
Wetmore to Bliss Neighbourhood Connector	5	5	2.9	$ 1,900	$ 378,600
Wiggins to Douglas Neighbourhood Connector	9	10	2.9	$ 2,100	$ 378,600
Wiggins to Staples Neighbourhood Connector	6	10	2.0	$ 2,000	$ 378,600
Willie O'Ree Center and Scotiabank North Turf Field	1	47	1.0	$ 93,700	$ 378,600
Willingdon to Stanley Neighbourhood Connector	6	10	2.0	$ 2,500	$ 378,600
Wilmot Park	1	17	1.1	$ 95,500	$ 378,600
Woodbridge to Topcliffe Neighbourhood Connector	3	5	2.0	$ 2,400	$ 378,600
York Regent	6	10	2.0	$ 12,300	$ 378,600
TOTAL	**5**	**21**	**1.3**	**$ 5,372,200**	

Linear Parks cont.







GIS MAPS

1- Wilmot Park
2- Grant Harvey Centre
3- Royals Field
4- Willie O'Ree Place

B