

GREENSPACE ANALYSIS & INVENTORY

Technical Background Report



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INTRODUCTION

The Town of Stony Plain has a variety of greenspaces that offer a diverse range of uses and opportunities for the community to enjoy. Independently, greenspaces provide numerous benefits such as contributing to quality of life, shaping settlements, protecting and enhancing ecological health and functions, and providing leisure, recreational, and educational opportunities. Although an essential component of urban environments on their own, viewing greenspaces as a cohesive and integrated network can further leverage the multitude of functions and benefits they provide, while informing decision-making related to future acquisition and development of greenspaces.

To support development of an effective and well-designed greenspace network, Stony Plain's Greenspace Analysis & Inventory provides a framework to understand what elements comprise and influence the greenspace network, while exploring feasible recommendations for improving greenspace in the future.

Purpose

The purpose of the Greenspace Analysis and Inventory is to understand the current composition of greenspace in Stony Plain, evaluate its composition, accessibility, and functionality, and provide recommendations to guide future acquisition and development of greenspaces.

Significance of Greenspaces

Greenspaces contribute to healthy, sustainable, and desirable communities in several diverse and variable ways that generate positive impacts for the environment, human health, and social wellbeing.

Environment, Ecology, and Ecosystems

Greenspaces contain natural systems that support and sustain plant, animal, and human life. They enable and promote a collection of different ecosystems that offer habitats for a variety of species and provide essential functions that improve the health and quality of the environment. Some notable functions include but are not limited to absorbing overland water flow and stormwater runoff, reducing the likelihood of flooding, capturing carbon dioxide, improving air quality, and controlling microclimates.



Human Health

Greenspaces enable active and passive opportunities for exercise, relaxation, and reflection, which contributes to overall physical and mental health and well-being. Having sufficient access to parks and recreation opportunities helps increase physical activity. This contributes to healthier populations and communities, in addition to the inherent physiological and psychology effects that come from spending time in natural environments.



Social

Greenspaces provide areas for members of the community to gather in enjoyable and interactive settings. The recreation opportunities associated with greenspaces can foster inclusion, civic pride, and participation that increase feelings of belonging and enhance sense of place. This helps build stronger connections and relationships between people that enable individuals and communities to be more resilient during challenging times.



Objectives

The Greenspace Analysis and Inventory was developed to achieve the following five objectives:

1. Define and understand the existing greenspace network in Stony Plain;
2. Create an inventory of greenspaces that comprise the network;
3. Generate baseline statistics for the current greenspace network;
4. Conduct spatial analyses to explore composition and accessibility of the network; and
5. Provide future considerations to improve the greenspace network.

Related Plans

The Town has numerous plans and strategies that influence certain aspects of greenspace development including the following:

- Active Transportation Strategy
- Environmental Master Plan
- Environmental Stewardship Strategy
- Parks and Open Space Master Plan
- Stormwater Management Master Plan
- Trails Master Plan
- Transportation Master Plan
- Water and Sanitary Master Plan
- Uniquely Stony Plain Municipal Development Plan

While these plans guide progress for the future, the Greenspace Analysis and Inventory provides detailed review and analysis of the current greenspace network to establish a baseline to compare against future improvements.



BACKGROUND

Defining “Greenspace”

Greenspaces can exist in different shapes, structures, and types to enable and encourage specific functions. The term “greenspace” is generally defined as areas of contiguous vegetation that may include parks, natural tree stands, water bodies and courses, gardens, sports fields, trails, street trees, and medians, among other natural and manmade features and areas. In addition to the variety of terms that are included within the definition of greenspace, the term is commonly used synonymously with others like “open space”, “open areas”, and “public space”; all of which are captured with the definition of “greenspace” for the purpose of this analysis.

The town of Stony Plain is identified as a metropolitan municipality that is expected to experience urban growth and development. As such, many of Stony Plain’s greenspaces are classified as “urban greenspaces” meaning that they contain natural or semi-natural ecosystems that have been partially transformed by human intervention to create more urban spaces. As Stony Plain continues to grow, it is important to acknowledge the significant role that greenspaces play in urban development to ensure they are planned and managed effectively for the future.

History of Public Parks

We often think of parks as one of the most common types of greenspaces, however, it is easy to overlook the different factors that influenced their development. Generally, the definition and description of any given park is based on its purpose, intended use, characteristics, ownership, maintenance, or management, or combination of these. Although it is common for parks to change over time to adapt to the needs of current populations, major influences in park development remain evident in our urban centres today.

Understanding these park influences can help us tell the story about why parks were developed when and where they are located today.

Historic Park Models

There are generally four major park models that are considered to have influenced park development over time. Their overarching characteristics are listed as follows:

- **PLEASURE GROUND (1850-1900)**
 - Large spaces located on the edges of cities
 - Active with diversified programming and sports and allow passive and contemplative uses
 - Presented challenges because the working class was unable to access them
- **REFORM PARK (1900-1930)**
 - Smaller spaces designed for a variety of uses for working class people
 - Intended to bring people together as a relief from the pressures of everyday life
- **RECREATION FACILITY (1930-1965)**
 - Reduction of outdoor greenspace, introduction of recreation facilities with parking lots
- **OPEN SPACE SYSTEM (1965-1995)**
 - An integrated network of open spaces that considers all open space to have potential recreation value

Historic Park Influences

In addition to the various park models, there are several major factors that have prompted intense park building. The first factor was the belief that the city dweller’s increasing separation from nature caused physical, mental, and moral distress. Around the 1850’s, cities were experiencing industrialization, major technological innovation, rapid growth, and increased migration, which caused crowded, polluted, and diseased urban centres. This led to the idea that escaping the city for the “country” to experience fresh air, meadows, lakes, etc. was

the solution to alleviate the stress and problems associated with city life. The challenge with this idea was that only the wealthy could afford to travel to the country, which increased disparity between rich and poor.

The second factor was the rise of the City Beautiful Movement around 1893, which is a philosophy of urban improvement that promoted beautification, claiming that design could not be separated from social issues. As urban populations started to outnumber rural populations, the City Beautiful Movement suggested that the desire for more humane and functional cities could be achieved through the design of the built environment. This movement gained traction and spurred development of civic centres, parks, grand boulevards, and monuments, to inspire residents to respect their environment and become loyal, dignified citizens. Over time, it became apparent that improving the physical elements of the city cannot improve urban life without addressing underlying social and economic issues; this was a contributing factor in the downfall of the movement around 1914.

The third factor was civic boosterism; a popular promotion tactic used in to advance investment and growth in cities and towns by stressing the economic benefits of parks. These arguments emphasized that parks raised the value of adjacent land, even being advertised in real-estate as visible proof of a prosperous community. It was thought that investment led to attraction, growth, industry, and employment, which would thereby lead to prosperity for all.

Lastly, was the creation of large parks that prioritized design and access; these parks were heavily influenced by rolling hills, large grassy areas, and aesthetic displays of shrub, tree, and flower groupings. Combining the ideas that parks can combat the negative effects of urban life and that they should be accessible to all social classes, this park style led to the creation of park planning policy and have since become some of the most famous and well-known parks around the world. Despite the perceived benefits with this park style, they were

a lower priority compared to small urban parks or ornamental squares dispersed throughout the city.

Acquiring Greenspace in Stony Plain

In Alberta, the provincial planning legislation called the Municipal Government Act RSA 2000, gives municipalities authority to require owners of a parcel of land that is the subject of a proposed subdivision to provide part of that parcel of land as municipal reserve; a municipal land designation that allows for use as public park, public recreation area, for school board purposes, or to separate areas of land that are used for different purposes. When areas are designated as municipal reserve, they are given to the municipality when the subdivision is registered at Land Titles.

In Stony Plain, the requirement for landowners to designate land as municipal reserve through the subdivision process is the most common way that public greenspace is established and acquired by the Town. Alternatively, if land is identified as environmentally significant or undevelopable due to environmental conditions, it may be dedicated to the Town as environmental reserve or conservation reserve; two more restrictive designations that prioritize keeping environmental areas in a natural state. Other greenspaces can be provided to the Municipality through road right of way dedications, and when public utility lots are required to provide necessary services to the community. Public utility lots may include stormwater management facilities or underground infrastructure.

UNDERSTANDING STONY PLAIN'S GREENSPACE NETWORK

Greenspace Types

The Town has defined three types of greenspaces within the community, each with their own elements, characteristics, and uses:

Natural: Areas of ecological or environmental importance that are identified for resource conservation, protection, education, or aesthetic value. These may include natural features (i.e., wetlands, forests, rivers, etc.) that provide diverse and significant ecosystem services such as breathable air, livable climate, and erosion control that should be protected for the long term.

Examples: Land adjacent to Atim Creek, part of Willow Park, and the heavily vegetated portions of Rotary Park



Recreational: Areas that enable passive or active recreation uses. These may include gathering spaces, school yards, playgrounds, sports fields, and other unique features like spray parks, the BMX park, and the Skateboard Park. These areas also commonly include pedestrian connections, which contain a large portion of the Town's multi-use trail network.

Examples: Skateboard Park, Stony Plain Golf Course, Outdoor Wellness Park





Utility Service: Areas that provide services or utilities that are required for day-to-day living. These may include stormwater management facilities and land required for underground utilities.

Examples: South Creek Stormwater Pond,
Whispering Waters Creek



Each greenspace type fosters different uses and has different values to residents. Together, these types comprise Stony Plain's greenspace network. Details on the methodology used to define greenspace types is included in Appendix A.

 Stony Plain Boundary

 Property Lot Line

Green Space Type

 Natural

 Recreational

 Utility Service

 Multi-Use Trail

 Sidewalk

 Railway Track

 School

 Skatepark/BMX Track

 Sport Field/Court



Greenspace Context

Evaluation & Analysis

To understand the structure and spatial distribution of the greenspace network, greenspace types were mapped using a Geographic Information System (GIS). This mapping provided the basis for the greenspace inventory, which was used to generate statistics and conduct spatial analyses to analyze the composition and accessibility of the network.

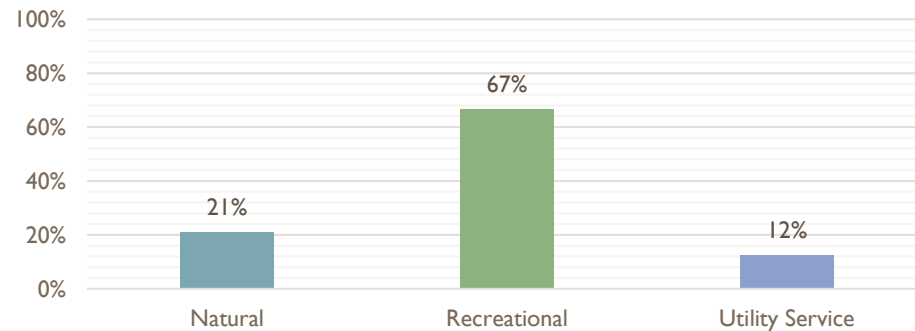
Composition

Composition measures the amount of each greenspace type and how it contributes to the greenspace network.

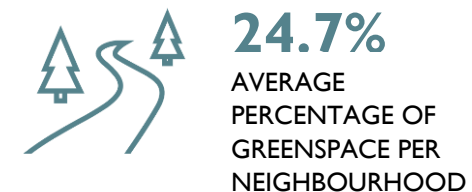
Question: How much greenspace does the Town have and where is it located?

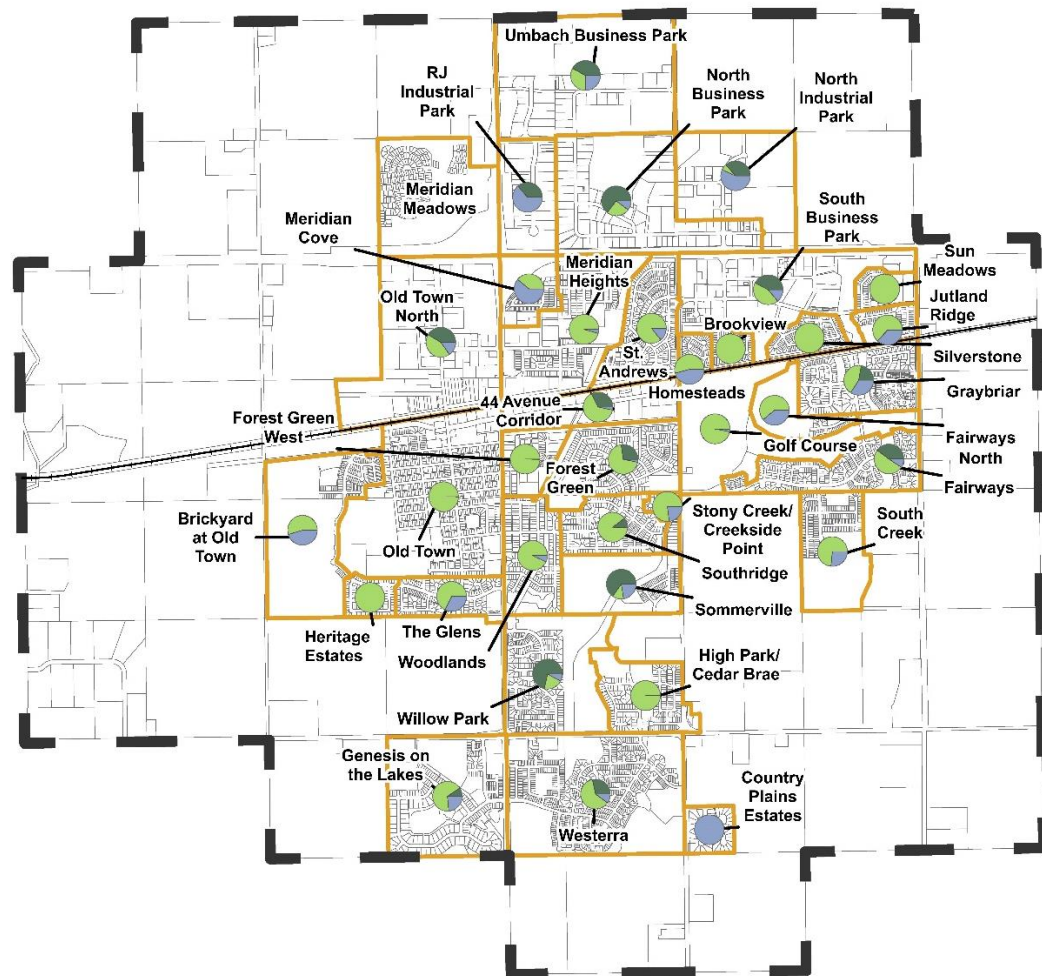
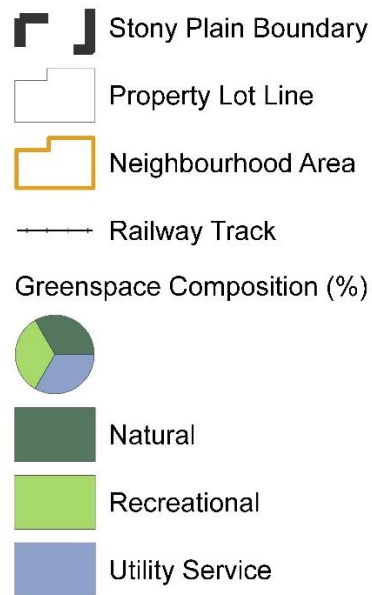
Town Administration calculated composition for the town as a whole, as well as for individual neighbourhood areas. This section presents a summary of the major findings, with the detailed statistics shown in Appendix B.

Town of Stony Plain



Neighbourhood Areas





Greenspace Composition

0 1 2 km





Accessibility

Accessibility measures the ability to reach greenspaces within a set time or distance.

Question: Are residents able to access recreational greenspaces within a reasonable time/distance?

Utilizing the Town's road network, Town Administration calculated accessibility of recreational greenspaces by identifying the percentage of residential dwelling units that were located within a five-minute walk and drive time from the entrance of park spaces.

Town of Stony Plain



5,336

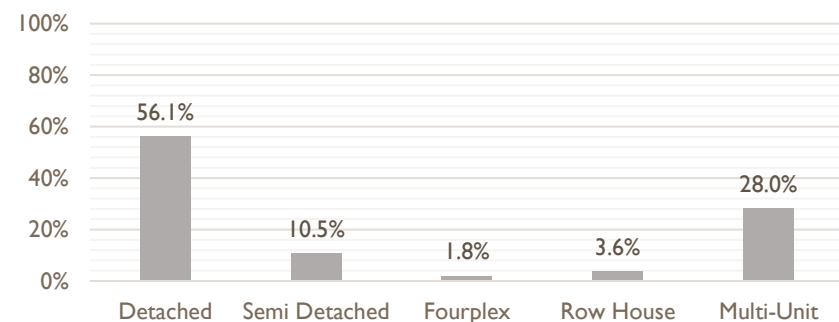
RESIDENTIAL
BUILDINGS IN
STONY PLAIN



8,445

RESIDENTIAL
DWELLING UNITS
IN STONY PLAIN

Total Residential Dwelling Units by Structural Type



Walking Time



93.3%

DWELLING UNITS
WITHIN 5-MIN
WALK OF A PARK
SPACE

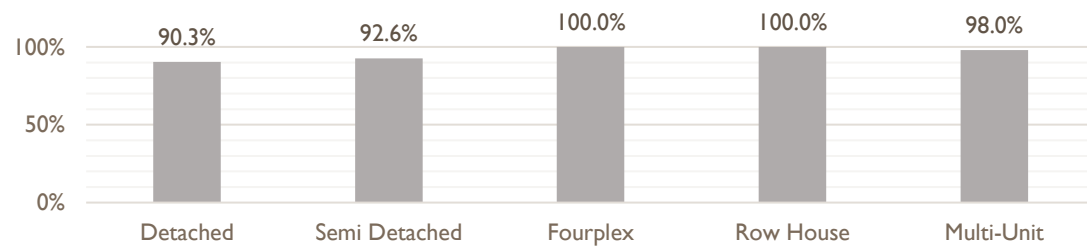
Driving Time



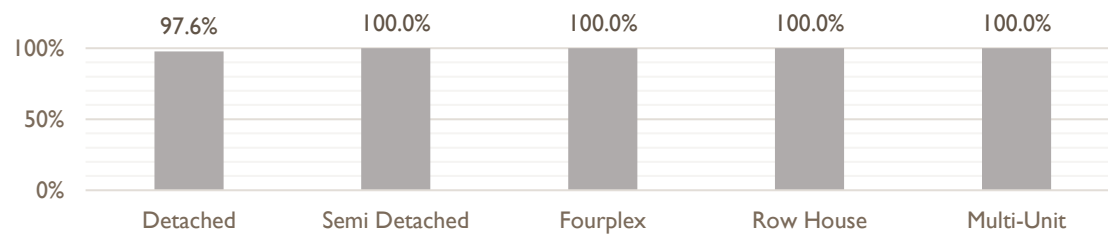
98.7%


DWELLING UNITS
WITHIN 5-MIN
DRIVE OF A PARK
SPACE

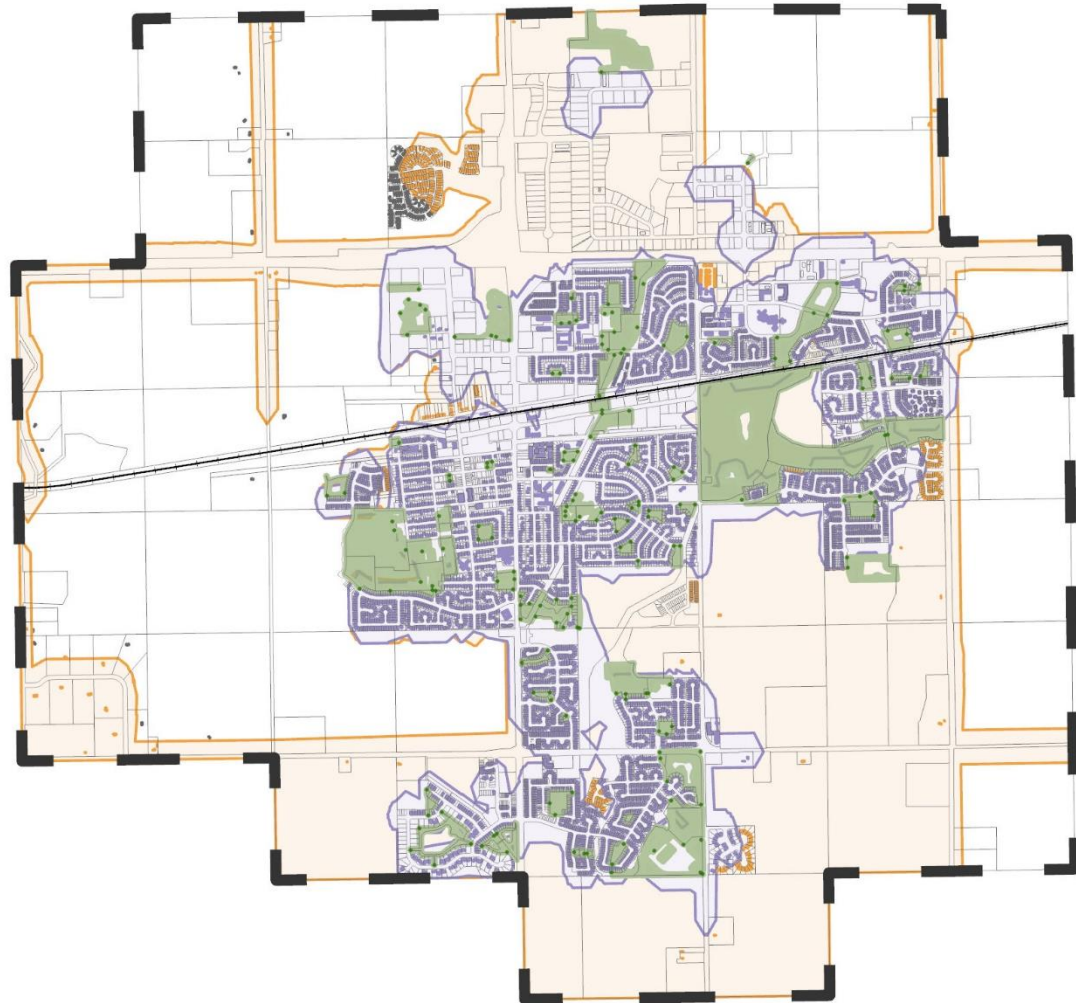
Percentage of Total Dwelling Units within 5min Walk Time of Park Spaces



Percentage of Total Dwelling Units within 5min Drive Time of Park Spaces



-  Stony Plain Boundary
-  Property Lot Line
-  Park Space
-  Drive Time Boundary (5min)
-  Dwelling Unit - 5min Drive Time
-  Walk Time Boundary (5min)
-  Dwelling Unit - 5min Walk Time
-  Dwelling Unit - Outside 5min Walk & Drive Time
-  Railway Track
-  Park Space Access



**All dwelling units within the 5min walk time (purple) are within the 5min drive time (orange)*

Park Space Accessibility

0 1 2 km



FUTURE CONSIDERATIONS

There are several future considerations that could supplement, inform, and improve the Town's greenspace network for the future. Considerations are presented in the form of key performance indicators (KPI), meaning a set of quantifiable measurements used to gauge performance (progress), as well as future projects, datasets, and considerations that would support the greenspace network and ensure it is enhanced and maintained for the long-term.

Key Performance Indicators

The following key performance indicators have been identified as potential metrics for Town Administration to consider developing and tracking:

Indicator	Metric	Source	Frequency
Net change in greenspace	Amount of greenspace dedicated or repurposed	Off-site levy review	Bi-Annually
Net change in trees	Number of trees planted/removed	Arbour Day, development permits, Horticulture workplan	Annually
Accessibility of recreational greenspaces	Percentage of residential dwelling units within 400 metres (5-minute walk) of a recreational greenspace	Subdivision Evaluation Matrix (Parks and Open Space Guidelines)	Annually when there is a net change in greenspace
Tree canopy cover	Percentage of tree canopy cover	LiDAR data, aerial imagery	Bi-Annually

Future Projects

The following projects have been identified as options for the Town to develop additional policies, strategies, and recommendations to inform future land use decisions:

- Urban Forest Strategy
- Environmentally Significant Areas Study

Datasets

The following datasets have been identified as options for the Town to gather and develop additional information to incorporate a finer level of detail into the greenspace inventory:

- Environmentally significant areas
- Impervious and pervious surfaces
- Trees
- Tree canopy cover

NEXT STEPS

The Town will integrate the information presented in the Greenspace Analysis and Inventory into the municipal planning process to inform land use and development decisions. In some cases, it will be incorporated into existing processes, such as reviews and updates to statutory and non-statutory plans. It will also support the creation of new projects and processes, which may be incorporated into the Environmental Portfolio or recommended as Corporate Plan Initiatives.

Additionally, the Town will monitor greenspace changes as the community continues to grow and will update this information, as appropriate, based on data availability.

CONCLUSION

Overall, the Town has an extensive greenspace network that provides numerous benefits, advantages, and opportunities for residents and visitors. The Greenspace Analysis and Inventory provides a snapshot of the status of greenspace in the Town to form a baseline to compare against future improvements. It provides a detailed understanding of composition and accessibility of the greenspace network, as well as knowing where greenspaces are located and how they are being used; this helps the Town identify areas of improvement, set appropriate targets, and track future changes.



APPENDIX A: METHODOLOGY FOR GREENSPACE TYPES & USES

Greenspace Types	Greenspace Uses	Methodology
Natural	Environment	<ul style="list-style-type: none"> • Environmental areas • Natural tree stands • Watercourses and features that are not dredged or maintained
Recreational	Connector	<ul style="list-style-type: none"> • Areas that include sidewalks or multi-use trails, including along roads • Linear areas that are \leq to 10 metres in width and are longer/narrower than they are wide that provide connections to services, amenities, other linear spaces, or park spaces
	Park Space	<ul style="list-style-type: none"> • Larger greenspaces (generally >10 metres wide) that can be used for active or passive recreation purposes
Utility Service	Utility	<ul style="list-style-type: none"> • Stormwater management facilities • Dry ponds • Creeks and drainage channels that are dredged or maintained • Major drainage ditches • Linear areas with underground utilities that do not have a trail or sidewalk overtop, including areas that are used to access/maintain other areas • Open areas with a utility box/service

**The methodology noted above includes publicly accessible land (which is typically land that is owned by the Town), portions of road right-of-way that facilitate pedestrian travel and recreational uses, and reserve land and public utility lots. In the event where a greenspace included multiple uses, its primary or most evident use determined its greenspace type. Buildings and areas restricted to private access were excluded from this analysis.*

APPENDIX B: GREENSPACE STATISTICS BY NEIGHBOURHOOD

Neighbourhood Area Name	Net Neighbourhood Area (ha)	Gross Neighbourhood Area (minus non-green-space right of way)	Total amount of greenspace			Amount of Natural		Amount of Recreational		Amount of Utility Service	
			Area (Ha)	% Of gross neighbourhood area that's greenspace	% Of town's greenspace network	Area (Ha)	Area (% of neighbourhood greenspace)	Area (Ha)	Area (% of neighbourhood greenspace)	Area (Ha)	Area (% of neighbourhood greenspace)
Stony Plain	3685.91	3388.43	362.40	10.70%	100.00%	76.30	21.05%	241.20	66.56%	44.90	12.39%
44 Avenue Corridor	28.24	25.18	6.30	25.02%	1.74%	2.04	32.38%	4.06	64.44%	0.20	3.17%
Brickyard at Old Town	63.14	59.83	3.10	5.18%	0.86%	0.01	0.19%	1.68	54.19%	1.40	45.16%
Brookview	7.59	6.39	1.07	16.74%	0.30%	0.00	0.00%	1.07	100.00%	0.00	0.00%
Country Plains Estates	10.69	7.33	0.06	0.80%	0.02%	0.00	0.00%	0.00	0.00%	0.06	100.00%
Fairways	34.83	28.11	7.60	27.04%	2.10%	3.04	40.00%	3.85	50.66%	0.72	9.47%
Fairways North	17.55	17.05	1.26	7.39%	0.35%	0.00	0.00%	0.77	61.11%	0.49	38.95%
Forest Green	42.86	37.05	13.90	37.52%	0.38%	3.80	27.34%	9.70	69.78%	0.44	3.17%
Forest Green West	16.43	13.16	2.05	15.58%	0.57%	0.00	0.00%	2.04	99.51%	0.01	0.46%
Genesis on the Lakes	65.96	59.15	17.00	28.74%	4.69%	1.58	9.31%	11.40	67.06%	4.00	23.53%
Golf Course	59.75	58.08	56.10	96.59%	15.48%	0.00	0.00%	54.40	96.97%	1.70	3.03%
Graybriar	36.67	31.31	8.50	27.15%	2.35%	1.90	22.35%	3.70	43.53%	2.90	34.12%
Heritage Estates	9.44	7.81	0.79	10.12%	0.22%	0.00	0.00%	0.79	100.00%	0.00	0.00%
High Park/Cedar Brae	29.19	23.59	7.00	29.68%	1.93%	0.05	0.77%	7.00	100.00%	0.00	0.00%
Homesteads	6.01	5.01	1.30	25.97%	0.36%	0.00	0.00%	1.30	100.00%	1.10	84.62%
Jutland Ridge	9.63	8.26	2.97	35.95%	0.82%	0.00	0.00%	1.88	63.30%	1.10	37.04%
Meridian Cove	17.55	9.72	2.56	26.35%	0.71%	0.00	0.00%	1.00	39.06%	1.56	60.94%
Meridian Heights	59.75	48.48	18.00	37.13%	4.97%	0.07	0.42%	17.10	95.00%	0.80	4.44%
Meridian Meadows	61.56	46.97	0.00	0.00%	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%
North Business Park	78.72	65.80	3.76	5.71%	1.04%	2.40	63.83%	0.93	24.73%	0.39	10.27%
North Industrial Park	53.03	49.56	8.00	16.14%	2.21%	2.90	36.25%	0.53	6.63%	4.50	56.25%
Old Town	105.99	87.36	34.40	39.38%	9.49%	0.01	0.03%	34.40	100.00%	0.03	0.07%
Old Town North	96.82	82.08	16.90	20.59%	4.66%	7.00	41.42%	7.30	43.20%	2.56	15.15%
Other*	N/A	N/A	2.40	0.00%	0.66%	0.00	0.00%	2.40	100.00%	0.00	0.00%
RJ Industrial Park	30.63	24.02	3.40	14.15%	0.94%	1.24	36.37%	0.00	0.00%	2.17	63.82%
Silverstone	12.25	11.08	2.30	20.76%	0.63%	0.00	0.00%	2.30	100.00%	0.00	0.00%
Sommerville	32.40	30.45	4.40	14.45%	1.21%	2.85	64.72%	0.53	12.05%	0.98	22.27%
South Business Park	70.59	57.32	19.20	33.49%	5.30%	8.20	42.71%	8.40	43.75%	2.70	14.06%
South Creek	35.00	33.10	7.60	22.96%	2.10%	0.00	0.00%	5.60	73.68%	2.03	26.65%
Southridge	25.45	21.24	5.60	26.36%	1.55%	0.58	10.36%	5.00	89.29%	0.05	0.90%
St. Andrews	34.02	27.24	6.40	23.49%	1.77%	0.00	0.00%	5.50	85.94%	0.90	14.06%
Stony Creek/Creekside Point	6.03	4.91	1.70	34.65%	0.47%	0.00	0.00%	1.30	76.47%	0.39	22.94%
Sun Meadows	9.97	8.81	1.55	17.59%	0.43%	0.00	0.00%	1.55	100.00%	0.00	0.00%
The Glens	19.89	15.74	2.80	17.79%	0.77%	0.00	0.00%	1.90	67.86%	0.91	32.50%
Umbach Business Park	97.88	90.81	22.40	24.67%	6.18%	9.40	41.96%	7.30	32.59%	5.60	25.00%
Westerra	98.36	85.79	33.90	39.51%	9.35%	9.60	28.32%	20.90	61.65%	3.40	10.03%
Willow Park	54.35	48.88	27.30	55.85%	7.53%	19.60	71.79%	5.60	20.51%	2.17	7.95%
Woodlands	30.44	25.78	8.60	33.36%	2.37%	0.00	0.00%	8.00	93.02%	0.63	7.33%
TOTAL	1468.65	1262.45									

*Other denotes greenspace that falls outside of an identified neighbourhood area

**All statistics derived from spatial data current as of December 2022

APPENDIX C: PARK SPACE ACCESSIBILITY - WALK TIME & DRIVE TIME

Total Dwellings by Type

Number of Residential Buildings in Stony Plain	Number of Residential Dwelling Units in Stony Plain	Percentage of Total Residential Dwellings Units in the Town	Detached	Semi Detached	Fourplex	Row House	Multi-Unit
5,336	8,445	100.00%	4,734 56.10%	886 10.50%	156 1.85%	304 3.60%	2,365 28.00%

Walk Time

Approximate Walk Time (Minutes)	Number of Residential Buildings within Walk Time	Number of Residential Dwelling Units within Walk Time	Percentage of Total Residential Dwellings Units in the Town	Detached	Semi Detached	Fourplex	Row House	Multi-Unit
5	4,845	7,875	93.25%	4,277	820	156	304	2,318
Percentage of Dwelling Type within Walk Time				54.31%	10.41%	1.98%	3.86%	29.43%
Percentage of Total Dwelling Units within Walk Time				90.35%	92.55%	100.00%	100.00%	98.01%

Drive Time

Approximate Drive Time (Minutes)	Number of Residential Buildings within Drive Time	Number of Dwellings within Drive Time	Percentage of Total Residential Dwellings Units in the Town	Detached	Semi Detached	Fourplex	Row House	Multi-Unit
5	5,224	8,333	98.67%	4,622	886	156	304	2,365
Percentage of Dwelling Type within Drive Time				55.47%	10.63%	1.87%	3.65%	28.38%
Percentage of Total Dwelling Units within Drive Time				97.63%	100.00%	100.00%	100.00%	100.00%

*Park space accessibility measured the distance from the entrance of park spaces to dwelling units travelled via the road network

**All statistics derived from spatial data current as of December 2022