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REVIEW

York Region Documents

York Region Pedestrian and Cycling Master Plan 2008

Purpose – The York Region Pedestrian and Cycling Master Plan is a guide for implementing a pedestrian system and on and off road cycling network within the Region over the next 25 years. The Master Plan includes proposed cycling and pedestrian networks for the short, medium and long term.

Relevance – A significant portion of the planned cycling routes for the Region will be located within the City of Vaughan. Further to this, the majority of the planned routes within the City are multi-use trails. Many of the City's current multi-use trails are located within City parks, and future multi-use trails may continue to be built within the park system.

City of Vaughan Documents

2018-2022 Term of Council Service Excellence Strategic Plan

Purpose - The Term of Council Service Excellence Strategic Plan is the road map guiding the City over a four-year period and provides high level direction for the City of Vaughan and its staff that is subsequently implemented through activities identified in departmental business plans. The Strategic Plan is aligned with the budget and financial plan and identifies nine strategic priority areas. These areas include:

- Transportation and mobility
- City building
- Environmental stewardship
- Active, safe and diverse communities
- Economic prosperity, investment and social capital
- Good governance
- Citizen experience
- Operational performance

· Staff engagement

Relevance - The Parkland Dedication Guideline is aligned with Term of Council Service Excellence Strategic Plan and its City Building objective to support "key city-wide developments and initiatives that encompass good urban design and public spaces that foster community well-being."

Green Directions Vaughan: Community Sustainability and Environmental Master Plan

Purpose - The Community Sustainability and Environmental Master Plan is the sustainability master plan for the City of Vaughan, outlining the City's approach to sustainability by defining six goal areas. These goal areas are supported through sustainability objectives and actions, delegated to various City departments for implementation.

Relevance - Objective 2.2 of the Master Plan is "to Develop Vaughan as a complete community with maximum greenspace and urban form that supports our expected population growth." This objective is supported through sustainability action 2.2.2 which is to "develop and implement a land securement strategy for parks, open spaces, trails, woodlands and other natural features, low impact development installations, and community facilities." The Parkland Dedication Guideline will support the achievement of this sustainability action item.

2018 Development Charges Background Study

Purpose – The Development Charges Background Study calculates development charges for the City of Vaughan and identifies the development-related net capital costs which are attributable to development that is forecast to occur in the City. These costs are apportioned to types of development (residential, non-residential) in a manner that reflects the increase in the need for each service attributable to each type of development.

The report notes that for the 2018 – 2027 population growth in new housing units is expected to add 70,000 people over the 2018–2027 period and 104,000 to ultimate development (2031). The City's employment is forecast to grow by approximately 42,000 employees over the next 10 years and

56,000 to ultimate development.

Adjustments to the Development Charge (DC) rates are likely to occur subject to modifications through Bill 197 which received Royal Ascent on July 21st, 2020.

Relevance - Parks funding through Vaughan's DC's is captured under Community Services. Of the \$720.5 million in ten-year net development-related capital costs for general services, \$510.7 million (71%) is related to the provision of Community Services. A variety of playing fields, tennis courts, playground equipment, basketball and other play courts are included in the capital program. This service category also provides for the development of various neighbourhood, district and regional (or City-wide) parks across the City. In addition, the capital program includes Indoor Recreation projects such as the addition of several new community centres and one animal services facility.

The Study identified the combined value of capital assets for Community Services at \$1.21 billion. The ten-year historical average service level is \$4,038.71 per capita, and this, multiplied by the ten-year forecast of net population growth, results in a ten- year maximum allowable funding envelope of \$270.2 million.

Prior to Bill 197, community Services were reduced by 10% under the Development Charges Act. The resulting net maximum allowable funding envelope brought forward to the development charges calculation is reduced to \$243.2 million. This results in an unadjusted development charge of \$3,449.77 per capita. With after cash flow consideration, the residential calculated charge increases to \$3,658.97 per capita.

2020 Land Acquisition Strategy

Purpose - The Land Acquisition Strategy (LAS) is intended to guide and inform future decision-making with various tools, policies and processes relating to land acquisition over the 20-year period to 2041. Its recommendations relate to four municipal land demand segments: parkland, recreational trails, municipal services and natural heritage lands.

Relevance - The LAS provides a series of recommendations that work in concert with the

Active Together Master Plan (ATMP) to direct policy and process improvements to address the overall goal of securing appropriate supplies of parkland to serve current and future residents. It does not identify specific parcels for acquisition, nor does it assess the existing municipal portfolio of land for parkland opportunities.

The LAS projects the City's future parkland requirements based on the ATMP and the projected population increase of 172,600 to 2041. Over the next 22 years the City will require an additional 345.2 Ha of parkland to meet the ATMP target. In doing so, the LAS does not update the City's inventory, but rather relies on the data presented in the 2018 ATMP.

The LAS undertakes a conceptual parkland acquisition cost analysis that illustrates potential impacts to acquire parkland on a fee simple basis and current Cash-in-Lieu (CIL) rates. The report notes an indicative funding gap of 20%-40% exists to acquire Green Spaces to 2041. Further, due to the City's flat rate, it anticipates that developers will continue to be reluctant to convey real property as it's more cost effective to provide CIL parkland dedication.

2019 Pedestrian and Bicycle Master Plan Update

Purpose - The 2019 Pedestrian and Bicycle Master Plan provides the foundation for the planning, design, future implementation and maintenance of the pedestrian, cycling and multi-use recreational trails including the Vaughan Super Trail throughout the City. It is an update to the City's 2007 Pedestrian and Bicycle Master Plan, and also has regard to the York Region's 2008 Pedestrian and Cycling Master Plan.

Relevance - Most of the active transportation infrastructure is recommended to be accommodated within road rights-of-way major utility corridors, as well as through partnerships with the Regional and Provincial Governments and agencies including York Region Transit (YRT), Metrolinx, and the Toronto and Region Conservation Authority (TRCA), as well as the development community. For example, in areas of intensification, the City is working with the development community to implement wider sidewalks, separated cycling facilities and multiuse recreational trails at the on-set of these urban

grown development projects.

2020 Budget and 2021-2022 Financial Plan (Capital Budget and Forecast)

Purpose - The budget — which includes an operating budget and capital investments — outlines a path towards achieving Council's priorities and vision.

Relevance - During 2019, Parks Development was reorganized into Parks Planning and Parks Delivery. The relevant parks-related budgetary items are covered within Council City Building priorities, the Parks Planning budget and within the Vaughan Metropolitan Centre (VMC) budgetary categories.

City Building Budget

The Relevant 'City Building' budget elements identified in the capital plan (majority funded through development charges) include:

- \$66M-70M Carville Community Centre & District Park, 2021
- \$13M Garnet A Williams Community Centre reno, 2021

Parks Planning and Parks Delivery Budget

Several notable commitments within the Parks Planning budget include:

- Parkland Assembly
 - Block 22, Block 47, Block 40N, Block 31, Block 61
- New Park Development
 - Block 31 (Neighbourhood Park) -Preliminary Design Development
 - Block 50 (Neighbourhood Park) -Implementation
 - Block 55E (Neighbourhood Park) Implementation
- Vaughan Super Trail
 - Rutherford Road to McNaughton Road feasibility study

- Recreational trail renewal
 - Parks and trail renewals
 - Special projects and studies

New park development

VMC Budget

Several notable parks related commitments within VMC budget include:

- Environmental Open Space that includes storm water management infrastructure, integrated with passive and active recreational elements (\$20M 2021-2023)
- Commence construction of Phase 1 of the Edgeley Pond and Park
- Advance the detailed design of Central Park / VMC SmartCentres Urban Park Phase 1 (\$3.7M 2020 -2022)
- QuadReal Block 2 Millway Avenue Linear Park (\$1.4M, 2022-2023)
- Commence construction of the Expo City Strata Park (\$3.9M, 2020 - 2021)
- Other smaller park improvements

Parks Delivery budget items include:

Parkland Dedication Guideline

APPENDIX II: REVIEW
OF ACTIVE TOGETHER
MASTER PLAN

2018 Active Together Master Plan Review and Update

Purpose

The 2018 Active Together Master Plan (ATMP) is a long-range planning study (to 2031) for parks, recreation and library facilities. The ATMP identifies current needs and future facility provision strategies, including active parkland and park amenities.

Relevance

The ATMP establishes guiding principles for parkland planning, acquisition, design, development and operations, and identifies policy considerations for the Official Plan Review and guidance for the evaluation of parkland needs and implementation strategies. Along with the Land Acquisition Strategy and Official Plan, the ATMP serves as the Parks Plan for the City.

The ATMP Establishes a City-wide provision target of 2.0 hectares of active parkland per 1,000 residents and identifies future needs supported by an analysis of outdoor amenity needs and gaps. To serve a population of 424,500 in 2031, it was projected that a total of 801.6 hectares of active parkland would be required.

The ATMP identifies challenges affecting Vaughan's municipal parkland supply, and provides recommendations and strategies for addressing these issues. One of the recommendations provided is that the City prepare a Parkland Dedication By-law. The ATMP will be a key support document to the Parkland Dedication and Acquisition Strategy.

Updated Parkland Supply and Needs Figures from the City of Vaughan's 2018 Active Together Master Plan Update - January 2021

A key outcome of the City of Vaughan's 2018 Active Together Master Plan (ATMP) Update was a projection of active parkland needs to 2031. This target was based on a recommended provision target of 2.0 hectares of active parkland per 1,000 population applied to future growth. The target provides the City with an indicator of the land base required to accommodate needed outdoor recreation opportunities and parkland across the City. It is recognized that the land development process (i.e., Planning Act parkland dedication and cash-in-lieu) will not provide sufficient lands to meet this target, and that alternative acquisition strategies will be required.

The ATMP projections were based on population data from 2016 and park inventory data from 2017. To inform the City's Parkland Dedication and Acquisition Strategy, the projection of active parkland needs has been updated using more current data and assumptions.

In updating the projections through this study process, several datasets were reviewed. The City tracks current and anticipated parkland properties for the purposes of capital budgeting (including development charges) and planning purposes. Parkland forecasts are somewhat fluid – while some developments have agreements in place stating the prescribed amount of land, other developments

"Active parkland" refers to all lands owned, leased and/or managed by the City and classified as Regional Parks, District Parks, Neighbourhood Parks, Urban Parks and Public Squares, as well as Greenway. Active parkland typically consists of tableland suitable for the development or installation of built recreational amenities (such as sports fields, playgrounds, courts, etc.) that may be used for both organized and unorganized activities, although these parks may also incorporate natural features. "Open Space" lands are excluded from this definition.

are preliminary and decisions have yet to be made regarding unit/population density, parkland amounts, or cash-in-lieu decisions. The City of Vaughan uses a variety of tools (e.g., secondary/block plans, planning applications, development agreements, etc.) to monitor the parkland potential associated with future developments across a 10 to 20-year horizon. A GIS is used to illustrate current and anticipated parklands and updates are completed annually (but monitored regularly).

Based on updated data current as of December 2020, Vaughan has 633.9 hectares of active parkland within its inventory. This represents an increase of 30.3 hectares since 2017. One-half of this increase is due to North Maple Regional Park moving forward in the park development pipeline, although there have also been several neighbourhood parks that have since been brought on-line. It is recognized that some active parkland properties may contain open space portions or natural features; while common in a municipal park system, should any parks be reclassified as "open space" through further review, the City is encouraged to update its inventory figures and needs analyses.

Assuming a current population of 345,400, the city-wide level of parkland provision is currently estimated at 1.84 hectares per 1,000 residents, a slight decrease to the 2017 ratio of 1.86 ha/1000. The current level of provision is below the recommended target of 2.0 hectares per 1,000 residents, equating to a shortfall of 56.9 hectares at the present time. While this point in time data provides a current snapshot, it is important to note that population and parkland supplies often change at different rates.

Current (2020) Municipal Park Inventory, by Type (developed parks)

Park Type	Area (ha)	Number of Parks	Estimated Parkland per 1000 Persons*
Regional Park	133.0	4	0.39
District Park	105.9	14	0.31
Neighbourhood Park	390.2	199	1.13
Public Square / Urban Park	0.3	2	0.00
Greenway	4.5	8	0.01
Total	633.9	227	1.84

To guide future needs, the 2018 ATMP used a 2031 population projection of 424,500. The Region of York is currently preparing a Municipal Comprehensive Review, which will endorse population forecasts to 2041. The Province of Ontario recently proposed an amendment to the Growth Plan for the Greater Golden Horseshoe, which extends population forecasts to 2051 (at the regional level). Due to these ongoing initiatives, updated approved population forecasts for the City of Vaughan are not currently available. The 2031 projection contained in the 2018 ATMP remains appropriate for planning purposes at this time, although it is noted that some forecasts – such as for Vaughan Metropolitan Centre – have been increased and/or accelerated. These calculations should be updated once new population forecasts are available.

The active parkland inventory includes lands that are developed or under development; it excludes lands that have been transferred (i.e., owned by the City) but not yet available for public use. Figure is based on City of Vaughan population forecasts contained in the 2018 ATMP, using a straight-line interpolation for 2020.

To achieve the recommended provision target of 2.0 hectares of active parkland per 1,000 population (applied to future growth), the acquisition and development of **158.2 additional hectares of active parkland would be required by 2031**, for a total supply of approximately 855.6 hectares.

Forecast of City-wide Active Parkland Needs to 2031

	Population	Parkland Provision	Parkland
	(estimated)	(ha/1000 persons)	(ha)
Current Supply – 2020	345,100	1.84	633.9
Growth/Demand to 2031	79,100	2.0	221.7
(based on 2.0 ha/1000)	(424,500 total)	(target)	(855.6 total)

Some of the necessary parkland has already been secured by the City but remains undeveloped at this time (such as district parks in Blocks 11 and 18), while other active parkland parcels are anticipated to be transferred to the City through the development process. For example, notable future parks include district parks in Blocks 35W, 41 and 59, along with future development phases of North Maple Regional Park. The lag between transfer to the City and construction (park opening) can take many years in some cases, which is why it can be difficult for the City to keep pace with needs, particularly given the high rate of growth in Vaughan.

By 2031, the City's long-term capital plan anticipates 207.4 hectares of active parkland to be conveyed, with development likely spanning a 15 to 20-year timeframe. This figure is an estimate and is subject to change based on several factors related to approvals, development activity, staff resources, and funding availability. Of this 207.4 hectares, 125.0 hectares are currently forecasted to be developed by 2031 based on projected funding sources, leaving 82.3 hectares to be developed post-2031.

With a need for 221.7 hectares of active parkland by 2031, and an estimated 207.4 hectares to be conveyed to the City during this timeframe, this leaves a shortfall of 14.3 hectares by 2031. This suggests that active parkland available through the development process will be insufficient to meet current needs. While this shortfall is relatively minor, past experiences suggest that delays in the parkland transfer/construction process could exacerbate this deficit.

Looking beyond 2031, the City's parkland forecasting model anticipates lower amounts of parkland dedication. A total of 27.3 hectares of active parkland is currently forecasted to be transferred through the development process post-2031. While it is possible that additional parkland opportunities may be added to the list due to future growth that is not currently within the development pipeline, a greater reliance on alternative parkland acquisition tools is expected.

Future development phases of North Maple Regional Park account for 61.8 hectares which are not currently included in the inventory figures.

Forecast of City-wide Active Parkland Supplies

	Parkland Supply (ha)	Parkland Needs (ha/1000 persons)	Parkland Deficit (ha)
Current Supply – 2020	633.9	690.8	56.9
Conveyances – 2020 to 2031 (projected)	207.4	221.7	14.3
Conveyances – 2032+ (projected)	27.3+	to be determined	to be determined

Parkland Dedication Guideline

APPENDIX III: THE NEED
FOR AN URBAN PARKLAND
HIERARCHY

The Need For An Urban Parkland Hierarchy

Introduction

The City of Vaughan is rapidly evolving from its suburban proliferation during the 60's through the 80's, to a more diverse urban community structured around its defined Strategic Growth Areas. Historically, the City has done an excellent job providing, designing and maintaining its current park system - a system meant to provide parks and recreational opportunities to relatively low-density residential neighbourhoods. The purpose of this Report is to focus on the City's emerging Strategic Growth Areas to ensure that the urban parkland system is successfully achieved in these more urban environments.

Vaughan's Strategic Growth Areas

Vaughan's Strategic Growth Areas are expected to become/include:

- Centres of commerce and business:
- The highest order of amenities shopping, dining and nightlife, recreation, culture and arts facilities, health care and educational opportunities;
- A broad spectrum of housing forms and tenures, including everything from townhouses to apartments;
- Opportunities for residents to work close to where they live;
- A high level of accessibility by multiple modes of transportation, with cycling, walking and transit as viable options; and,
- Diversity and inclusivity to accommodate the broadest range of people, without regard to cultural or socio-economic status, or lifestyle choice.

The Urban/Suburban Trade-Off

Suburban Park Space is characterized as public, big, green and programmed - In a suburban neighbourhood there is substantial private outdoor space in the back or front yard that significantly supplements the park space system. Park spaces include parkettes, neighbourhood parks and community parks which are generally green, with the larger parks including sports fields and sometimes other major recreational facilities. In many cases, the suburban park space system incorporates school sites. For the most part, the suburban park space system is owned, designed and maintained by the City.

An urban parkland system is characterized as diverse, flexible, small and connected - There is very little private outdoor recreation space in higher density communities. Park spaces will therefore play a critical role in providing outdoor space in Vaughan's Strategic Growth Areas. Urban park spaces have both green and hard design components, and are inherently connected to the abutting public sidewalk system. The parks and the broader urban parkland system are primarily public spaces, but can include semi-public spaces and private components that work together to form a diverse, robust and highly interconnected network. Typically, urban park spaces and the broader urban parkland system are fundamentally different from their suburban counterparts because they are:

- Animated by the people who walk from place to place and interact with the uses in the adjacent buildings;
- More heavily used and more diverse in their component parts and, as such, require a higher cost of design and development, and an enhanced maintenance protocol;
- Integrated as part of the pedestrian circulation network within an Urban Growth Area: and.
- Are flexible to accommodate different users and events, and will respond to use patterns that may be dramatically different at different times of the day.

The Trade-Off - It is understood that the higher density context of Vaughan's Strategic Growth Areas is a fundamental requirement to achieve the intensity of use necessary to support high order cultural, health, shopping and educational amenities, transit investment, housing options and places to work that urban residents enjoy. In contrast, the nature of the urban environment means that it is more challenging to accommodate park spaces consistent with the scale and function of the suburban park space system.

There is a trade-off between the nature, scale and function of the suburban park space system versus the broader Urban Pedestrian Realm Network, including its associated urban park spaces. People choosing to live in a suburban neighbourhood, trade off the benefits of proximity to cultural, shopping, health, education and workplace amenities. They have to travel outside of their neighbourhood to access these opportunities.

On the other hand, people choosing to live in a Strategic Growth Area, while enjoying the benefits of proximity to a host of amenities, have to travel outside of their Area for organized recreation that requires large sports fields in larger parks and open spaces.

Municipalities across the Greater Golden Horseshoe are grappling with the higher cost of acquiring the urban parkland system within the Strategic Growth Areas

This is a complex issue. Research has revealed a number of findings:

- Public park systems in suburban neighbourhoods are well planned and maintained;
- There is a perception that more parkland is always required, so the maximum amount of parkland should always be achieved;
- Securing and maintaining a parks hierarchy in an urban context requires a different approach than a parks hierarchy in suburban neighbourhoods. Parks in an urban context require:
 - A context specific parkland hierarchy, policies and procedures that are different

- from those found in the suburban parkland approach; and,
- Alternative ownership and maintenance opportunities that are part of the municipal tool-box, including a mix of fee simple public ownership, Strata ownership and POPS (Privately Owned Public Spaces);
- A new and more robust urban parks hierarchy needs to be established. Park design and maintenance protocols are different for urban parks vs. suburban parks. Urban parks cost more and may need funding from a variety of sources:
- There are significant costs of maintaining urban parkland over time. The cost of building and maintaining an urban park is estimated to be 10x more expensive than a more traditional suburban park, and its life-cycle is typically much shorter;
- There is no consistently applied approach to acquiring parkland among municipalities in the Greater Golden Horseshoe. There is a different set of regulations and procedures for virtually every municipality, and there may be a unique or negotiated approach applied on a sitespecific basis within each municipality; and,
- Applying suburban parkland standards in an urban context has a significant financial impact on higher density residential development projects - even in locations where denser, more urban forms of development is required, and is appropriate.

It is important to look at parkland provision in Vaughan's Strategic Growth Areas

There is no question that parks contribute to creating a memorable sense of place, but they do not occur naturally in urban environments and result from a combination of policy and investment decisions. Research has found that urban beauty is a powerful tool for economic growth and a magnet to attract people to the more urban elements of Vaughan's evolving community structure.

Thinking about a robust and diverse urban parkland system in Vaughan's Strategic Growth

Areas requires an understanding of the trends towards urbanization including a recognition that more people will be living and working in the defined Strategic Growth Areas in the future, where parkland is increasingly difficult to acquire due to high land values and low availability. Further, with more intensification and denser developments, there will be less available private outdoor space, requiring the urban parkland system to augment this role and, importantly, there is a stronger recognition of the role parkland can play in environmental stewardship, flood mitigation and heat island reduction in more highly urban environments.

A Made-in-Vaughan approach to an urban parkland system

Vaughan needs an approach to planning for, and achieving an urban parkland system with clear acquisition procedures, design parameters and maintenance protocols, that is:

- Context Appropriate delivers great urban parks that are integrated, connected and successful, meeting the needs of Vaughan's existing and future urban population and business community;
- Consistent is applied equally and fairly to all applicants without the need for individual dealmaking, or site-specific adjustments;
- Equitable is fair and consistently applied to all stakeholders, including the City, the existing and future residents of the City, the business community and the development industry; and,
- Long-Lasting will serve the City well for 10 to 15 years without the need for constant amendments.

The Need for an Urban Park Hierarchy within Vaughan's Strategic Growth Areas

There is a tremendous opportunity for Vaughan to develop an urban parkland system that enables it to provide a broad spectrum of beautiful urban parks for socializing, programming and recreation, focused on those residents and businesses that choose to live/work in the Strategic Growth Areas. Achieving an urban park hierarchy, as a critical element of creating great communities within the Strategic Growth Areas, requires a different approach to acquisition, design and maintenance than what Vaughan has traditionally used in its more traditional, lower intensity neighbourhoods.

Parkland Dedication Guideline

APPENDIX IV:
POPS AND STRATA
OWNERSHIP

Strata parks and Privately Owned Public Spaces (POPS) are part of an evolving conversation about the provision of public space in rapidly urbanizing environments. Strata Parks and POPS are site and scenario specific, likely only to be considered appropriate when land for parks is needed and, where available land is scarce or unaffordable for municipalities to purchase. In no circumstance would these spaces become the standard for all types of parkland within the City's parkland hierarchy, however the City may consider these ownership alternatives to assist in achieving smaller and diverse urban spaces.

Strata Parks and POPS have unique characteristics and have the potential to play a unique role in achieving a diverse and robust urban parkland system. However, they can also add complexity and financial risk compared to traditional fee simple parkland dedication and cash-in-lieu models. These park ownership models are tools that the City can add to their park system toolbox to employ when required to address a complex development scenario.

It is the intention of this paper to ensure that the City is adapting to the evolving urban development realities with the full suite of available park provision options and with eyes wide open to the benefits and risks associated with alternative park conveyance tools in order to make the most informed decisions regarding what is best for the City today and into the future.

Strata Parks

What is a Strata Park?

A Strata Park is a public park developed above infrastructure, typically subways, parking garages, or storm water management facilities (public or private). The park space is deeded to the municipality by the property developer, and is thus publicly owned (and typically publicly operated), whereas the underlying infrastructure may be maintained within private ownership. This is not a new innovation or phenomenon, however there is a rise in the frequency that this arrangement is being requested by developers and accepted by municipalities in the Greater Golden Horseshoe (GGH), reflecting the need for land efficiencies in higher density urban contexts, where land values

are elevated and available land supplies are constrained.

Strata parks are only being discussed and planned in municipalities that are experiencing a particular type of development scenario - high density development that requires underground parking, where development sites are not large enough to dedicate a portion of land for an unencumbered tableland park. Strata parks can be useful tools in this scenario, particularly where a municipality has determined that obtaining publicly owned urban park space on-site is a high priority.

What is a Strata Title?

Stratified ownership of land, often simply called "strata title", refers to fee simple ownership of land divided not just two dimensionally (parcels that are next to one another), but three dimensionally as well (parcels that are above and below one another). Normally, an owner of land conceptually owns all the land below the surface of the ground and all the air above it, often referred to as "heaven to the centre-of-the-earth" ownership. Strata title allows one owner to own above a certain height, while another owner owns below that height. Strata title is most often used, for example, in the creation of condominiums where fee simple ownership of a parcel of land is essentially divided into boxes in the air, to secure "air rights" above a certain height for a different owner than the owner of the land at ground level, or to create underground structures owned by one owner while the surface and above is owned by someone else, often the case for a parking garage or subway.

"Air rights" are perhaps the best known application of strata title and the legal framework applicable to strata parks is identical. The only differences between strata parkland and "air rights" are practical ones: strata parkland is generally at or near grade level and "air rights" typically exist at some significant level above grade. Similar easements (in particular rights of support and servicing) are necessary to make effective use of any strata arrangement.

Strata parcels of land are created through the same Planning Act mechanisms (i.e. Plan of Subdivision, Consent) that implement any other subdivision of land, usually with the assistance of a strata reference plan that uses a two dimensional reference plan to depict three dimensional parcels.

Appurtenant easements are not automatically created when a strata parcel is created. Therefore, for example, there may be no realistic way to access or use a strata parcel for "air rights" if that parcel exists above a height of 50 metres without easements or the voluntary cooperation of the owner of the parcel below 50 metres. That is why it is common for easements to be created simultaneously with strata parcels (and for Committees of Adjustment and other Consent approval authorities to insist on it), to allow the strata parcel(s) to be effectively used in perpetuity, regardless of what happens with the parcels above or below it, as the case may be. The same logic applies to strata parkland. If for example, an above-grade strata parcel exists for parkland without rights of support from the belowgrade strata parcel directly beneath, the parkland parcel might be susceptible to being unusable if, for instance, the water holding tank below it wasn't being properly maintained. The park use might be interrupted every time the water tank requires servicing or replacement. Well written and thoughtful easements for rights of support ensure that the parkland use above-grade can continue even if major maintenance or reconstruction of the below-grade infrastructure is taking place every 20 years.

A typical example of a strata park arrangement is the creation of two strata parcels, one beginning 1.5 metres below ground level and extending "to heaven" (the "parkland parcel"), and the other beginning 1.5 metres below ground level and extending "to the centre-of-the-Earth" (the "parking garage parcel"). The parkland parcel would extend below the ground level far enough to allow for tree planting, soil, water lines, and other associated infrastructure to service the parkland. The parking garage parcel would be subject to a support easement, meaning that even if the garage were demolished, support for the park above would have to be maintained. The parkland parcel might also be subject to easements for services (i.e. utilities) to travel through the below-grade portion of the parkland parcel to reach the parking garage parcel and all infrastructure underlaying the parkland parcel. A reciprocal agreement between the two parcel owners that sets out how and when work that intrudes on the other parcel can be done, including provisions for emergency repairs, cost sharing, etc.

A reciprocal agreement may establish dispute

resolution mechanisms, such as arbitration or mediation, but the enforcement of easement terms could also be pursued in the normal manner through the Superior Court of Justice. Unlike other real estate law concepts, the common law does not form the legal basis of strata title. A large volume of case law does exist in Ontario concerning strata title disputes between adjacent parcel owners, but most is very site specific and typically relates to business disputes, or oversights in the creation of the parcels, or their appurtenant easements. The concept and application of strata title is well established and is generally not controversial.

There is no limitation on what other entity may own the strata parcel beneath a strata park parcel. The below grade strata parcel may therefore include common elements of a condominium corporation, and often does. Technically, land that forms part of the common elements is owned by the condominium owners, not the condominium corporation, who typically only manage the common elements. The condominium common elements can be subject to the same easements necessary to protect and make the strata park work operationally that any other land beneath a strata park can be subject to:

- Maintenance and other reciprocal agreements entered into between the City and developer should always include clear clauses that will bind subsequent owners, including any future condominium owners. The City may insist on easements that make disturbance of the above-grade strata park unlawful;
- Rights of support are commonly written in a manner that does not make exception for reconstruction or renovation of the belowgrade parcel. In those circumstances the above-grade strata park would not need to be disturbed even if the below-grade portion were renovated. Whether the below-grade owner wishes to absorb that additional cost and inconvenience would be part of the discussion as to whether a strata park is an appropriate option on a specific site; and,
- The City would deal with the condominium as a neighbour, as it does elsewhere where the City owns land adjacent to a condominium corporation – in this case they would just be a neighbour vertically. As with any other strata

ownership relationship, if the appropriate easements were not in place, it would be problematic. As with any easement or agreement, they will only be as effective as the City's willingness to enforce their legal rights pursuant to them.

Many other GGH municipalities request and accept strata parks. The methods by which it is secured varies. Many have used Site Plan Agreements to secure strata parks, while other municipalities rely on Section 37 Agreements (pre-Bill 197), even if only as a legal convenience. Most agreements appear to be generally well done. However, additional useful provisions are sometimes negotiated with developers and incorporated into implementing agreements that would be useful, for example: the strategic use of restrictions pursuant to Section 118 of the Land Titles Act, additional certifications from structural engineers, and better protection for the City in circumstances in which the use of the strata park may be interfered with.

Can Strata Parks be eligible for a Parkland Dedication Credit?

Section 42 of the Planning Act permits the municipality to pass a bylaw requiring the conveyance of parkland, or cash payment-in-lieu thereof, as a condition of development or redevelopment of land. There is no legal impediment to the City's implementing a parkland by-law allowing for the acceptance of strata parkland in satisfaction of that requirement.

The Planning Act parkland dedication rates refer to fee simple "heaven to centre-of-the-Earth" ownership. Therefore, if the parkland dedication requirement for a proposed development is 5%, strata parkland that covered 5% of the surface area of the development would not fully satisfy the parkland dedication requirement. In that case the applicant would either be required to provide additional cash-in-lieu equivalent to the value of the strata parcels below the strata parkland to make up the difference, or to convey additional abovegrade strata parkland of that value to make up the difference (as described in Figure 2).

Some municipalities have, to-date, provided parkland dedication credits to developers for strata parks, however they have done so on an ad hoc basis and typically do not have specific policies in place to determine appropriate credits. Both

Richmond Hill and Mississauga all recognize that strata parks are a new urban reality where parkland is required in high density developments. Mississauga and Guelph are actively studying how to respond to strata park requests.

Privately Owned Public Spaces

What is a Privately Owned Public Space (POPS)?

POPS are privately owned spaces that are publicly accessible via legal agreements between the property owner and the municipality, and are privately operated and maintained. Municipal programming and overall control of these spaces is more limited than traditional fee-simple parks or strata parks. In essence a POPS is an extended component of the City's open space network, but is not a public park space.

POPS are more common than strata parks across the GGH. They are generally seen as a good deal for municipalities as the park augments the existing park system at no cost to the municipality. The land is held in private ownership The park is held within private ownership, is maintained privately, and all risk and liability lie with the property owner.

It is the City's lack of ownership and control of the POPS that are the primary reasons for POPS to not be counted as equal to fee simple parkland, or even to Strata Ownership arrangements. Fully public parkland elements are under the complete control of the City - they are able to be retrofitted through time to accommodate park facilities that are in line with trends of active and passive recreation as needed. Further, fully public parkland elements are open to hold civic and public programs and events that are meaningful to a larger population.

It is also important to identify that while POPS are considered an important part of a diverse and robust urban parkland system, The City has no legislative authority to compel a developer to provide them within any development project. One way to incentivize their provision is to provide some level of parkland dedication credit, albeit potentially at a discounted rate.

What are some of the legal instruments to achieve POPS?

Leases, licenses and easements are other options that many GGH municipalities have utilized to create parks where fee simple ownership of new parkland is not desired or possible. These legal agreements are the basis for establishing POPS, and include:

- Leases and licenses are essentially timelimited permissions to use a portion of the subject lands (usually, in the case of parkland, the above-grade portion only) for certain specific parks purposes only. Licenses can typically be revoked at the will of the owner, whereas leases can provide a greater level of security for a specified time frame. When parks licenses or leases expire, there is generally no obligation for the owner to renew the lease or license. Even if expropriation is then considered, the costs to the municipality to do so can be prohibitive; and/or,
- An easement is another mechanism that can be used to secure parkland in some circumstances, in particular if the parkland in question is a trail or path. An easement can be created in perpetuity but is limited to the uses described in the easement. In this context the terms of the easement would have to be worded in a careful and flexible manner to ensure that the fee simple owner could not object to increased or changing use of the parkland over time.

Can POPS be eligible for a parkland dedication credit?

Until recently, POPS had been typically secured through Section 37 bonusing agreements (pre Bill 197), or informally by agreement between the municipality and the developer. In addition to Oakville, only Kitchener and Guelph have provided parkland dedication credit for the development of a POPS, however no one municipality has a standard policy to credit POPS. Richmond Hill noted that, although they have not provided dedication credits for POPS to-date, some credit may be appropriate. Kitchener noted that fiscal transparency with parkland funds is important, and that they would prefer to pursue a normal parkland dedication and then pay the developer to construct a POPS or for a lease/easement for public access through cashin-lieu funds.

If some form of POPS is the site-specific parkland preference, Section 42 of the Planning Act would allow the conveyance of the lease, easement or license that creates the POPS to be conveyed as "payment in lieu" of the conveyance of fee simple land. The appropriate value of the POPS (likely considerably less than the fee simple value of the same amount of land) would have to be determined at that time. It appears that only a small number of municipalities in Southern Ontario provide parkland credits for POPS and often purchase or acquire public access to the space through Section 37 (pre Bill 197). In the case of Kitchener, they would consider using cash-in-lieu of parkland to then pay the developer for the lease/license of the POPS as opposed to accepting it directly as the payment-in-lieu in order to maintain fiscal transparency.

It is important to note that recent changes to the Planning Act have changed the Section 37 provisions to a Community Benefit Charge. POPS are specifically identified as being something that may be included in a municipal Community Benefit By-law.

Key Considerations for Privately Owned Public Spaces and Strata Parks

Quality of Engineering and Construction

Poor engineering and/or poor quality construction affect all aspects of a park's function and lifecycle, and they are both fundamental considerations in this discussion. For the most part, the lifecycle terms that are discussed in this report will be dramatically reduced where engineering and construction is of a sub-standard quality. There are best practices and higher quality materials available to ensure maximum longevity. The key is to find or develop appropriate municipal standards from an engineering, design, construction and installation perspective, and require the use of high quality materials.

Waterproofing Membrane

Good quality membranes now claim a 30 to 40 year lifecycle. Experience has shown that membranes used in the past last approximately 20 years. The quality of the installation of the membrane, the quality of the membrane itself, the design of the park space, the maintenance protocols and the characteristics of the underlying infrastructure will all have an impact on how long a membrane will and should last. In a general sense, it is expected that a modern urban park built over structures/infrastructure will last as long as the membrane beneath it – about 30 years. At which point maintenance on specific sections of the membrane

or complete replacement of the membrane will be required.

Cost of Park Development

A typical suburban park space, with landscape planting, trees, grass, sports fields and play structures can cost up to \$95.00/per square metre, with an average cost of about \$55.00/square metre. In comparison, a typical urban park, although usually much smaller, that includes hard surfaces, trees, landscape plantings and seating can cost up to \$1,500.00/square metre, with an average of approximately \$545.00/square metre.

Maintenance Protocols

Consider implementing standardized land value rates for different areas, as it can provided certainty for the development community; and, Park maintenance protocols that utilize salt, or other corrosive chemicals will affect (shorten) the lifecycle of the waterproofing membrane. Further, and in a general sense, urban park spaces require a much more robust maintenance protocol than a typical suburban park space, regardless of whether or not it is built over top of a structure/infrastructure.

Suburban parks need to be maintained between once or twice a week, depending on the level of use. Busy urban parks need to be maintained every day, and sometimes more than once per day, depending upon use. With respect to ongoing maintenance, there is a substantial difference between a typical suburban park and a typical urban park. The difference between a typical urban park and an urban park built over a structure/infrastructure is not significant, and varies depending upon the level of park use, although care must be taken to ensure the lifecycle of the membrane (See Figure 1).

Non-legal and site-specific considerations will usually dictate which of the above alternatives is the best approach in any particular circumstance. Considerations may include: the City's desire to acquire parkland onsite or offsite, the City's interest in acquiring payment in- lieu or parkland, whether the City desires full ownership of the parkland versus private ownership, maintenance considerations, the size of the parkland or public space, or the desired programming, among others. These scenarios are described in Figure 2.

Overall, the following conclusions are drawn:

- A strata parkland conveyance can be the best alternative to fee simple parkland for both the developer and the City when the City insists on owning that parkland, but the developer also needs the space to provide parking and can do so below-grade.
- Easements are often appropriate when the proposed parkland area is for a specific purpose that is suitable for an easement, such as a pathway that connects two public spaces where the intended use is primarily pedestrian ingress and egress, and the area will still be considered to be and maintained as if it is part of the park.
- Licenses and leases can be the most appropriate if, for example, the proposed park includes special decorative elements, such as paving or a fountain, and the City wishes to ensure that the full obligation and costs to maintain those elements are with the developer, rather than the City who may not prefer to take on the additional cost or responsibility for maintenance.
- The value of POPS can qualify as "payment in lieu" of fee simple parkland conveyance, as set out in Section 42 of the Planning Act. The value of these tools would be assessed on a case by case basis, but would normally be a fraction of the fee simple value of the same area of land. A value of any obligations of the developer for ongoing maintenance to specified standards would also be quantified, if applicable.

Conclusions

recently The ultimate decision regarding which tools to include in a parkland acquisition toolbox lies with the City, however the contemporary urban realities facing most of the GGH (Growth Plan targets driving intensification, increased land values, reduced land supply in areas of intensification) will continue to progress in Vaughan and ought to consider all available tools in order to ensure that the park system continues to flourish and serve the City's existing and future residents. Future development in the City will require new approaches to providing a diverse and flexible parks system to accommodate the new densities of urban dwellers.

Part of this equation is the consideration of the value of attaining parkland in dense areas versus

the cost of purchasing other land near to densifying areas that require parkland. Strata parks and POPS are two potential options to address this, and they carry additional benefits as well as risks and costs to the City. These two parks securement tools should be considered as alternatives to acquiring fee simple table land parks, not as a new baseline. Strata parks and POPS will provide a different type of urban park, and contribute to a varied urban park system. In contrast, and as discussed throughout this memorandum, there are a number of other considerations regarding strata parks and POPS, including:

- Strata parks require sound legal agreements that delineate ownership between to the two vertical parcels of land. These agreements need to balance the risks of City ownership of the park above private infrastructure and recognize that the park will require public investment to maintain. The City must also be prepared to enforce the contract should the eventual condo corporation be unwilling or unable to conduct repairs and maintenance on their infrastructure without ensuring the park is unaffected or compensating the City for disturbances and loss of service due to their infrastructure failures.
- Strata parkland is inherently encumbered, thus an appropriate parkland conveyance credit that is less than 100% is required to be established. This extends to both strata parks located above private infrastructure (e.g. parking garage), and layered infrastructure that is assumed by the City as a utility (e.g. park above an underground storm water management facility). A fixed number for every scenario of a strata park may not be most appropriate, as the City may want flexibility to negotiate these agreements based on the value of the public space that is proposed and the balance of other City initiatives.
- The adoption of design standards for strata parks and POPS would provide the City with minimum enforceable requirements for these park types ensuring high quality product, materials and construction that will serve to extend the life of the park and the waterproofing liner by reducing the opportunity for failures.
- Strata parks ensure that the City is in full

- ownership of the park in perpetuity. This enables the City to design and program the park, however on-going maintenance and long-term large-scale maintenance are both the responsibility of the City. Strata parks often require a more sophisticated maintenance program than typical terra ferma parks and require higher frequency and types of maintenance. The park will also require substantial replanting and reconstruction once the waterproofing layer requires replacement (every 30 years or so). A large scale reconstruction will require the loss of service for approximately a season, however if the park is available for 30 years, then this trade off may seem reasonable.
- e POPS and strata will sometimes be located adjacent to private residential condos and in the long term, there is concern that the residents may consider the public park a nuisance. In this regard, the legal agreement may be required to be enforced to either ensure the park remains publicly accessible (or within public ownership in the case of strata) or that the owner be required to compensate the City for the loss of the park (potentially through repayment of the parkland conveyance credit or other credit type provided by the City to the original developer).
- A POPS removes public ownership from the equation, which is beneficial to the City as they do not have to assume legal risks or financial obligations of on-going and long-term maintenance of the park. The trade-off is that the park is not truly public. It is publicly accessible and the terms of public access will be established in the contract, however there is a limit to the power the City will have regarding design, maintenance standards, programming, long-term public access, and public expression within the park.
- In order to ensure that the use of these alternative parkland acquisition tools are fair, consistent and appropriately contribute to the overall system, a number of considerations must be taken into account moving forward, including:
 - Determination of which parkland acquisition tool is appropriate for specific

scenarios;

- Assessment of risks and determination of mechanisms to mitigate risks;
- Responsibility for the cost and quality of initial engineering, park design and construction:
- Responsibility to ensure that the City has the necessary expertise to establish appropriate design and development standards and inspection requirements;
- Responsibility for ongoing maintenance of the park itself, to an appropriate urban standard, with a particular concern where the park is connected with a residential condominium;
- Ensuring ongoing and unencumbered public access to the space, particularly where the park is connected to a residential condominium;
- Recognition that the park space will need to be replaced about every 30 years;
- Determination if/when urban strata parkland and POPS will count toward parkland dedication requirements, and whether the value of the parkland is prorated versus a typical urban park space; and
- Ensuring that a legal framework and reciprocal agreements and liabilities are in place that satisfy all party's needs.

	Length of Time	Flexibility of Permitted Uses	Park Use Subject to Interruption	Termination	Costs
Non-stratified Fee-Simple Park (typical City Park)	Indefinite	No limitation	None (unless land is subject to easements by adjacent land owners).	N/A	City owned, maintenance of park only.
Stata Park	Indefinite	No limitation	Yes (land is subject to easements and Reciprocal agreement that may interfere with park use).	N/A	City owned, maintenance of park only.
POPS - Lease	Time limited - typically less than 99 years.	Only uses specified in lease.	Specified in lease (sometimes none, sometimes significant).	At end of term or upon occurence of certain events as specified in lease.	Lease payments, typically maintained by owner.
POPS - License	Time limited - typically less than 99 years.	Only uses specified in license.	Yes (at will of owner, or subject to terms of the license).	May be terminated at any time.	License fees, typically maintained by land owner.
POPS - Easement	Time limited or indefinite.	Only uses specified in easement.	Yes (as set out in Easement).	Possibly trigger event or time specified in easement, if any.	Public access secured through easement, maintained by land owner, or as specified in the easement.

Figure 1: Comparison of Various Alternatives to Secure Parkland

	Size of Park Area (or equivalent Payment in Lieu)	Maintenance of Park	Future Increase in Value of the Land
Fee Simple Parkland Conveyance	500 m² (5% of the development land, "heaven to centre of the earth").	All City parks budget, to extent new and ongoing capital and operating funds are available.	Belongs entirely to the City, (however the Planning Act prevents the City from using the dedicated Parkland for any other purpose).
Above- grade Strata Parkland Conveyance Example 1	750 m² (greater than 5% if the development land, above grade only, because the value of the above-grade only does not fully satisfy the 5% parkland dedication requirement).	All City parks budget, to the extent new and ongoing capital and operating funds are available.	Above-grade parcel belongs to City, below-grade to other owner. However, market value depressed because practical usefulness of stata title is less than "heaven to centre of the earth" ownership.
Above- grade Strata Parkland Conveyance Example 2	500 m² (5% of the surface area, but not in full satisfaction of the parkland requirement because it does not include below grade. Additional payment provided by developer to make up the difference).	All City parks budget, to the extent new and ongoing capital and operating funds are available.	Above-grade parcel belongs to City, below-grade to other owner. However, market value depressed because practical usefulness of stata title is less than "heaven to centre of the earth" ownership.
POPS Lease or License	1000 m² (much greater than 5% of the development land because the value of a lease or license is much less than the fee simple value of the same area of land).	High end improvements installed and maintained by the owner entirely to specified City standards and at the owner's sole expense.	Belongs entirely to private owner.

Figure 2: Comparison of Examples for Parkland Dedication Tools

Parkland Dedication Guideline

APPENDIX V: DESIGN
GUIDELINES FOR THE
PARKLAND SYSTEM

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1.0 Key Principles + General Design Considerations

1.1 Convenience and Coherence

Each park space should be considered as a component and expansion of the larger, city-wide and regional parkland network. New parks can provide an amenity and destination in an area of the city where it is presently lacking, introduce links and connections to improve accessibility through a neighbourhood, and improve visual connectivity between parks. With this larger scale in mind, the design of new parks should consider two key principles for situating the site within the overall parkland network – convenience and coherence.

Convenience refers to the level of effort and time required to complete a trip by foot. A key indicator for convenience is trip distance and proximity to amenities. In particular, people are most likely to choose to walk if their destination is within a 2.5 - to 5 - to 10-minute, or 200 to 400 to 800 metres (10-Minute Walk, 2021). For parks within a larger parkland network, the preferred distance is typically no more than a five-minute walk, and for the smaller elements of the network, a 2 minute walk. Furthermore, pairing parks with other public uses, amenities or destinations, such as recreation centres and schools, will improve the convenience of the park space and its resultant volume of visitors.

Trip length is influenced by the street pattern. A fine-grained and gridded street pattern provides a greater level of connectivity or permeability, which can be measured by the intersection density and block size. Greater street connectivity allows for more direct and shorter walking routes. Intersection conditions can also greatly impact the convenience of walking, particularly with regard to signal timing and the physical condition and directness of the crossing.

Coherence refers to how easy it is to understand the layout of the parkland network, and to intuitively navigate from point A to point B. Coherence is influenced by the hierarchy and provision of routes between points of interest and activity, sight lines/view corridors, and wayfinding signage. Major barriers and breaks in the continuity of the pedestrian network (sidewalks and trails) negatively impact coherence, for example, if there is no clear path, then walking becomes a less feasible and attractive option.

1.2 Context, Heritage and Placemaking

The detailed design of parks contributes to the character and attractiveness of the neighbourhood in which they are situated. Attractiveness refers to how inviting and interesting the surroundings are for pedestrians. In particular, well-maintained and well-lit parks are most attractive, as are those that are animated with street-level activity, such as from commercial, civic, or recreational uses (City of Mississauga, 2015).

Placemaking refers to community-based efforts and activities to physically reflect an area's unique character, assets, and history, and to make it livelier and more of a destination. Placemaking should be considered as a site-specific and context-specific pursuit. The park should have an identity of its own, while also respecting, or enhancing, the neighbourhood character, including patterns, materials, and architectural style.

Indigenous and non-indigenous cultural heritage and historical values can be reflected, protected, or enhanced in the park. Where possible, incorporate public art and local artifacts into the space, including opportunities for education and interpretation (San Francisco Planning Department, 2011). Effort should be made to understand and communicate the unique culture, history, or qualities of the community in the design of the park.

1.3 Accessibility

Accessibility refers to the usability of parks for all people, regardless of their age, ability, status in life, or mode of travel. In terms of age and ability, accessibility means planning parks for the young and old, and people with mobility impairments, in recognition that sight lines, walking speed, clearing space, endurance, and agility may vary.

Accessibility also means ensuring that the parkland network can be used by people of all incomes, and all abilities by keeping park spaces free of charge and by ensuring they are equally distributed throughout the city (City of Mississauga, 2015). Parks should avoid designs that appear to privatize the space, or elements within it.

As a reference for detailed design, parks should meet the requirements outlined in the policies of the Accessibilities for Ontarians with Disabilities Act (AODA), as well as the Vaughan Accessibility Plan and Accessibility Policy. Accessible parks should be designed such that they:

- Accommodate a variety of activities within the space;
- Minimize changes in grade between the open space and surrounding public space, including public sidewalks;
- Where changes in grade are not avoidable, provide an accessible route that complies with AODA standards:
- Minimise protrusions into the main path of travel, including vents or grates; and,
- Visually signal the edge of the vehicular zone, or other conflicts or hazards, through pavement treatments, tactile warning indicators, and signage.

1.4 Safety

Safety refers to the risk of harassment, injury or death, and the primary risks for pedestrians are associated with motor vehicle traffic and crime. Key considerations include separation from motor vehicle traffic - taking into consideration the speed and volume of traffic, and the treatment of intersections where pedestrian and motor vehicle traffic must cross. With regard to the design of parks, Crime Prevention Through Environmental Design (CPTED), a pro-activation crime prevention strategy, provides direction for improving the safety of a space through thoughtful design. As a starting point, parks should:

- Be located abutting and visible from public streets;
- Provide clear sightlines through the park space to adjacent streets and buildings to promote informal neighbourhood surveillance;
- Include adequate, consistent, pedestrianscaled lighting;
- Avoid the creation of entrapment spots, blind corners, or areas that are not easily visible,

including through planting design;

- Be bordered by active frontages, with windows and doors that open onto the park; and,
- Be regularly maintained at a high standard, and have considered the long-term maintenance of materials and furnishings.

1.5 Comfort

Pedestrian comfort is critical for the success of parks, and should be considered early in the design of the site. Surrounding building massing and the location of the park in relation to them will have implications on wind, solar exposure, and visual access.

Comfort refers to how pleasant, easy, and free from challenges a pedestrian visit can be. Pedestrian comfort depends on the convenience, coherence, safety, and accessibility of the entire parkland network, and it can be enhanced through construction materials and the provision of pedestrian amenities that serve the unique needs of those travelling by foot. Perceptions of space should also be considered, including providing more intimately scaled "rooms" in larger open spaces. In general, the following practices will contribute to the comfort of the open space:

- Locate the open space such that it maximizes sunlight and views to the sky;
- Provide ample seating throughout the site;
- Provide a range of exposures, including areas with shading, such as through the planting of canopy trees or other structures;
- Consider wind and noise levels throughout the site. Where necessary, use plantings and structures to lower wind and noise levels and create comfortable microclimates, without compromising safety or visibility through the space;
- Consider four-season use when selecting materials and finishes (e.g. – consider materials that retain heat, such as wood, in seating intended for use in cooler seasons); and,

 Provide site amenities that support programming in the space, including drinking fountains, bottle fill stations, washrooms, and waste receptacles.

1.6 Sustainability & Resilience

Sustainability in park design refers to a space's impact on the environment, including the interest in minimizing negative influences which may compromise the future health of the environment, and putting in place measures which may improve the health of the local ecosystem. Resilience goes further to consider the ever changing effects of climate change, and the ability of a space to persist in good health and quality over time, while also mitigating the contributing factors to climate change. When planning and designing a new parks, the needs and challenges facing the broader context, including neighbourhood and city-wide problems, should be assessed and considered. Parks can play a role in solving larger urban and suburban problems outside of the boundary of the park (Cranz & Boland, 2004). As a starting point, sustainability and resilience can be addressed in parks in the following ways:

- Encourage active transportation through circulation design and the provision of supportive facilities (e.g. – provide ample bike racks, connect with public sidewalks, locate a park near a transit stop, etc.);
- Encourage mature tree growth to increase canopy cover, which combats urban heat island effect, improves air quality, and increases stormwater uptake;
- Increase species diversity in planting, and support local pollinator and faunal species;
- · Use native and drought-tolerant plant species;
- Use permeable paving and below-grade infrastructure to harvest stormwater for reuse; and,
- Use recycled materials, or materials with sustainable lifecycles.

2.0 Eco Parks

2.1 Eco Park Typology

Eco Park

>3 ha

Eco Park spaces support environmental education, interpretation and nature-related recreation. Eco Park spaces include opportunities for linear and passive recreation and provide an ecological relief from the more urban environments in Vaughan. Eco Park spaces may accommodate specialized events and amenities and will attract users from across the City.

Eco-Park Capital Cost Estimate - \$50.00 to \$75.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Eco Parks are large areas of unstructured parkland, situated outside of the urban area of a municipality and that may include elements of the Natural Heritage System. The Eco Park Typology may include Conservation Authority lands, or even Provincial or National Parks. Eco Parks are an amenity to local communities and to the broader region, often attracting visitors from neighbouring municipalities eager for some unstructured outdoor time, or an opportunity to enjoy the natural landscape. In general Eco Parks should be developed with the following criteria in mind:

- Located outside of the urban area of the municipality, and may include rural/agricultural lands, lands within the Natural Heritage System or lands within the Greenbelt or Oak Ridges Moraine;
- Accessible via the existing public road network;
- Comprise primarily undisturbed, native softscaping, elements of the trails network and opportunities for manicured softscaping areas to support programming (e.g. – picnic area); and,
- Include a parking area for guests.



Rouge National Urban Park, Toronto, ON



Heart Lake Conservation Area, Brampton, ON

2.2 Eco Park Design Considerations

Site Design

When siting a new Eco Park, care should be given to selecting an area that is ecologically diverse, healthy, and sustainable, for the purpose of protecting and preserving those features. Furthermore, identifying areas with unique and captivating topographical, geologic, or hydrologic features, such as cliffs or ponds, will contribute to the success of the park as an amenity for residents and visitors.

As conservation and preservation are primary objectives in the establishment of a new Eco Park, the design of new programming elements is critical to the success of this space. In general, most new facilities introduced into an Eco Park should be clustered together, and ideally located close to the entrance to the park, on lands outside of the Natural Heritage System, so as to minimise fragmentation of the protected environmental features. Programming elements that would support or elevate an Eco Park include an information centre and picnic areas. Opportunities to introduce interpretive or educational elements, including signage and play activities, should be explored.

For the remainder of the park, minimally invasive programming elements, such as walking and cycling trails, can be introduced. The design of these trails should limit impact on local ecological communities, including through the layout of the system, and the construction of the trail.

Programming

Given the sensitivity of these lands, programming is typically limited to ensure the preservation and protection of the Natural Heritage System. A well-established trail network can support walking, hiking, running, and cycling throughout the year, and snowshoeing and cross-country skiing in the winter. Where space and public interest permits, separate mountain biking trails can be introduced.

Though amenities provided are typically limited to trails, small areas of concentrated programming elements, including picnic areas and interpretive centres, can also be incorporated (Town of East Gwillimbury, 2009). When designing an Eco Park, consider the following:

- Facilitate passive and active recreation;
- Ensure that the layout of new elements does not conflict with, or encroach on, sensitive natural areas, including habitats;
- Provide amenities to support gathering and events, including picnic areas and space for temporary structures;
- Tie new trails into the broader city-wide trail network;
- Provide interpretive signage along trails to act as an engagement and education element; and,
- Identify unique views and stopping points to structure new trails around.

2.3 Eco Park Landscape Elements

Hardscaping

Critical to the design of hardscaping elements will be restricting their extent so as to minimize disturbance to the Natural Heritage System. Unique to the design of Eco Parks is the use of natural, biodegradable materials as a trail surface. In general, hardscaping in Eco Parks should meet the following criteria:

- Be designed to have minimize impact to natural lands:
- Provide a variety of trails types to accommodate a range of ages and abilities;
- Be granular or wood chip surfacing for primary walking trails, and compacted earth trails for hiking routes;
- Provide boardwalks over sensitive ecological communities and areas of water;
- Provide outlooks and viewing platforms at significant geological or topographical features;

- Provide interpretive signage along walking routes;
- Establish trailheads with signage or information kiosks; and,
- Where regular gathering is anticipated, provide a durable surface material, such as concrete.

Softscaping

One of the key objectives to the design of Eco Parks is the preservation of existing vegetation. Where new softscaping elements are introduced, their extent should be limited in size, and designed such that they will not have a negative impact on the surrounding Natural Heritage System. Softscaping design in Eco Park should consider the following:

- Maximize the area of preserved existing natural vegetation;
- Minimize the impact of new construction on existing vegetation communities;
- Where manicured landscape areas are desired, such as areas of sod or planting beds, minimize their footprint;
- Ensure that all new planting is locally native, and non-invasive (Cranz & Boland 2004); and,
- Undertake regular assessment and maintenance of trees along trail routes.
 Remove hazard trees to ensure safety.

Lighting

Lighting in Eco Parks should be designed with great care to avoid impacting the Natural Heritage System, and the flora and fauna communities located within it. Lighting is not recommended for Eco Parks, but where it is included it should be associated with major programming elements, such as an information centre, parking area, or event space. In general, lighting in Eco Parks should:

- Be excluded from any lands within the Natural Heritage System;
- Be limited to major programming areas; and,
- Be dark sky compliant.

Other Features

Eco Parks should also consider including a number of other facilities that support a variety of active and passive programming amenities, including:

- Seating:
- Shade Structures;
- Parking;
- Picnic Areas;
- Interpretive Centre; and,
- Public Art can be used as an education element.

3.0 Suburban Parks

3.1 The Suburban Park Hierarchy

Regional Parks

Regional Parks

>15 ha

Eco Regional Park spaces support larger cultural, recreational and entertainment events, such as festivals and tournaments, as well as uses listed for District Park spaces. Regional Park spaces should accommodate specialized events and amenities and are expected to attract users from across the City.

Capital Cost Estimate - \$50.00 to \$200.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Regional parks are larger destination spaces that attract and cater to both the local community, and visitors from surrounding and adjoining municipalities. They accommodate larger cultural, recreational, and entertainment events, including festivals and tournaments. They should have a distinct, recognizable identity and character that makes them memorable and worth travelling to. The following criteria should be considered when designing a Regional Park:

- Be greater than 15 ha in size;
- Have frontage on at least 1 public street, but may be surrounded by public streets where the scale of the park is appropriate;
- May be located adjacent to natural areas, including the Natural Heritage System;
- Be primarily soft surfaced and green, but may include hardscape elements;
- Include seating and a full furniture program, such as lighting, facilities for dogs, facilities for seniors, children and youth, water features and public art;
- Designed to support temporary events including festivals and markets; and,
- Provide sheltered areas and comfortable microclimates for comfortable spaces within larger site.



Hyde Park, London, UK



Josey Lake Park, Cypress, TX



Hyde Park, London, UK

District Parks

District Parks

>5 ha

District Park spaces support a variety of recreational and athletic interests with amenities, such as sports fields and courts, large skateboard parks, outdoor skating facilities, field houses, picnic shelters, offleash dog areas and water play facilities. District Park spaces are typically co-located with Community Centres, where possible. District Park spaces may accommodate specialized events and amenities may attract users from across the City or District.

Capital Cost Estimate - \$100.00 to \$300.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

District Parks serve the residents of the City, accommodating a range of passive and active recreation uses. District Parks typically include one or more major recreational facility, such as sports fields, games courts, skateboard parks, offleash dog areas, picnic areas, and field houses. District Parks are commonly associated with other community amenities, such as community centres and schools, and can attract users from across the city. In general, District Parks should:

- Be greater that 5 ha in size;
- Have frontage on at least 1 public street, but may be surrounded by public streets where the scale of the park is appropriate;
- Include substantial programmable spaces such as sports fields and performance venues, as well as play elements for children; and,
- Combine multiple sports facilities, including, for example, baseball, soccer, lacrosse, tennis courts, etc. (East Gwillimbury).



Cully Park, Portland, OR



Cully Park, Portland, OR

Neighbourhood Parks

Neighbourhood Parks

.75 to 5 ha

Neighbourhood Park spaces support a balance of active and passive uses, such as playgrounds, skate zones, play courts, unlit sports fields and social gathering spaces. Neighbourhood Park spaces may be coordinated with school sites, where possible. Neighbourhood Park spaces serve a local community located within a 10-minute walk of the park space.

Capital Cost Estimate - \$150.00 to \$500.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

District Parks serve the residents of the City, accommodating a range of passive and active recreation uses. District Parks typically include one or more major recreational facility, such as sports fields, games courts, skateboard parks, offleash dog areas, picnic areas, and field houses. District Parks are commonly associated with other community amenities, such as community centres and schools, and can attract users from across the city. In general, District Parks should:

- Be greater that 5 ha in size;
- Have frontage on at least 1 public street, but may be surrounded by public streets where the scale of the park is appropriate;
- Include substantial programmable spaces such as sports fields and performance venues, as well as play elements for children; and,
- Combine multiple sports facilities, including, for example, baseball, soccer, lacrosse, tennis courts, etc. (East Gwillimbury).



Joel Weeks Park, Toronto, ON



Mary Elizabeth Branch Park, Austin, TX

Parkettes

Parkettes

.20 to .75 ha

Parkette spaces are recommended for instances where a Neighbourhood Park space is not necessary, but local-level facilities (e.g., playground, waterplay, seating) are required to serve a nearby development. These spaces are not suitable for large features such as sports fields. Parkettes support the social and cultural fabric of the community located within a 5-minute walk of the park space.

Capital Cost Estimate - \$150.00 to \$300.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Parkettes provide valuable neighbourhood amenities where the scale of a larger suburban open space is not required. These spaces are not suitable for large features such as sports fields. but are appropriate for local-level facilities (e.g., playground, waterplay, seating) are may be required to serve a nearby development. Parkettes support the cultural and social needs of the community, and are developed with the following criteria in mind:

- Be between .20 and .75 ha in size, and support the needs of the community located within a 5-minute walk of the park space;
- Have frontage on at least 1 public street, but may be surrounded by public streets where the scale permits;
- · Include areas for seating; and,
- Can include hardscape or softscape elements.



49th Street Park, Los Angeles, CA



49th Street Park, Los Angeles, CA

3.2 Suburban Park Design Considerations

Site Design

In designing a new suburban open space the layout of the whole community needs to be taken into consideration. Given that these parks are public amenities which serve a user group that is spread over a larger area, the location of suburban parks should be such that walk time to the park for residents is minimized. Ideally, all suburban residents should be within a five-minute walking distance (approximately 500 metres) from a park (West Whitby Landowners Group, 2016).

Suburban parks should be located centrally, and street frontages should be provided wherever possible to reinforce their presence within the community, and improve access for residents and visitors. Suburban parks can be located adjacent to natural features, including existing woodlots, provided that they are designed to ensure the safety of the visitors. Additionally, linkages, in the form of sidewalks, trails, and linear open spaces, should be provided between parks wherever possible, to establish a city-wide parkland network, encourage walking and cycling, and improve access to these spaces (Kent Design Initiative, 2006). Facilities should be provided to accommodate different modes of travel, including bike parking areas, and in the case of larger Regional and District Parks, vehicular parking areas.

Opportunities to complement, support, or coordinate with other proposed land uses with parks, including institutional uses such as schools or recreation centers, or facilities such as parking areas, should be explored. Where neighbouring land uses conflict with the park use, or where a park shares a border with private property, provide setbacks and perimeter fencing (City of Hamilton, 2020).

Programming

For parks serving suburban communities, a range of visitors should be anticipated when establishing a programming strategy. Programming and amenities should be provided for adults, families with children, including children of varied ages, and seniors.

Where space permits, a variety of active and passive programming amenities should be provided in the park. The Project for Public Spaces recommends envisioning a park as a series of "places", each supporting a variety of activities. As a general guide, ten activities should be accommodated within each "place" (Project for Public Spaces, 2021).

Larger parks, including Regional, District, and Neighbourhood Parks, should also provide amenities that support gathering, and, where possible, events. Accommodating a range of people with different backgrounds and abilities will be central to the success of the park. In general, suburban parks should:

- Facilitate passive recreation, including sitting, walking, and socializing;
- Promote active recreation, including cycling and sports;
- Provide opportunities for individual and group recreation, both passive and active;
- Be flexible to support temporary programming, including events, festivals, and markets; and,
- Be designed with four-season programming in mind. Providing for winter programming, such as temporary skating facilities or tree lighting, will encourage use through the colder months of the year.

3.3 Suburban Park Landscape Elements

Hardscaping

Hardscaping in suburban parks plays a critical role in supporting the programming of the space. Hardscaping is associated with walking and cycling paths, plazas and pavilions with seating and gathering areas, and sport and games facilities, including courts and skate parks. Care should be given to selecting appropriate paving materials to support the intended use. Smooth, flexible surfaces, such as asphalt, are best suited for cycling routes, whereas higher quality finishes, such as unit paving and concrete, can be employed along walking routes and in gathering areas to establish a unique character for the park. In general, the selection and

design of hardscaping should:

- Establish a space hierarchy within the park and support programming. Use high quality materials for feature and formal areas (e.g. – unit paving for plaza), medium quality materials for primary walking routes (e.g. – cast-in-place concrete), and cost effective, flexible materials for secondary walking routes, cycle routes, and scenic walking trails (e.g. – asphalt, granular, wood chip);
- Provide generous circulation routes to facilitate walking, running, and cycling. Consider providing separated cycling and pedestrian paths;
- Provide a continuous pedestrian route or loop to encourage walking;
- Primary walking routes should be a minimum 3 metres wide, to support accessibility needs, and groups (City of Hamilton, 2020); and,
- Hard landscape elements should highlight park entrances and to emphasize focal elements such as shade structures.

Softscaping

Softscaping, including lawn areas and planting beds, is the primary surface treatment in suburban parks, and should be designed with aesthetics, programming, and resilience at the forefront. Open lawn areas provide areas for gathering, passive recreation, and play. Gardens can be a feature element of the space, or used as a wayfinding element, such as to highlight entrances.

Suburban parks, with their abundant access to soil volume, have the capacity to support the growth of large trees, which can be incorporated as a design element, and to provide shade and visual interest throughout the year. Plant material provides numerous green infrastructure benefits, including facilitating stormwater infiltration, supporting pollinators, and providing habitat for local fauna. When designing softscaping for suburban parks, consider the following:

 Provide large areas of open lawn for passive and active recreation;

- Plant large canopy tree species, with access to a minimum of 30 cubic metres of soil per tree;
- Consider preserving existing trees and natural areas in the park;
- Tree plantings will largely reflect an informal or naturalized layout, and may include clustered groupings or trees in lawn areas;
- Include coniferous trees for winter interest;
- Select predominantly native, and where possible drought tolerant, plant species;
- Provide community gardens or opportunities for urban agriculture, such as planting fruiting trees and shrubs;
- Incorporate undulating topography in the lawn areas to facilitate passive and active recreation, such as tobogganing in the winter;
- Where a stormwater management feature is located within or adjacent to a park, treat it is as a naturalized design feature. Ensure safety hazards are mitigated; and,
- Accent planting should be focused at entrances and around primary seating areas and play areas (West Whitby Landowners Group, 2016).

Active Recreation Amenities

Suburban parks are critical programming nodes in the community. They have the capacity to support active recreation through the provision of one or more sports facility, games court, or play structure. Larger suburban open spaces, including Regional and District Parks, can include multiple, or combined, recreation facilities. Active recreation programming should be determined through discussion with the community. Active recreation facilities can include, but are not limited to:

- Junior and senior play structures;
- Splash pads;
- Multi-purpose play courts (e.g. tennis and basketball):
- Games courts (e.g. chess and shuffle board);

and,

- Sports fields (e.g. soccer and baseball).
- When designing active recreation facilities, consider the following:
- Playgrounds and structures should create a unique character or play experience through the provision of a variety of play equipment types;
- Locate sports and games facilities in their most favourable orientation, and on relatively level grading;
- Minimize noise disturbance to adjacent land uses. Ensure adequate setbacks to account for errant balls, and provide fencing where necessary (Town of East Gwillimbury, 2009);
- Locate children's play areas set back 20 metres at their perimeter from any residential property lines or street:
- Locate children's play areas to allow for visual surveillance into the play area from the road and surroundings. Ensure that no plantings or structures are providing near the play areas that would obstruct or obscure visual access;
- Playgrounds must conform to the latest Canadian Standards Association (CSA) standards for play spaces and equipment. At least one light standard must be provided at playgrounds for security (City of Hamilton, 2020);
- Ensure play area surfacing meets any relevant safety requirements, including shock absorbency. Provide non-slip concrete or rubber surfacing for splash pad areas;
- Provide play structures for various age groups. Locate junior and senior play structures such that they can both be monitored by a guardian simultaneously in the event that the guardian should have children on each structure (Kent Design Initiative, 2006); and,
- Provide barrier-free play options at all play facilities.

Seating

Seating is a primary design element that supports the programming of the park. Seating can be provided as a standalone amenity, or as a supportive element to another park facility, such as a play area. A variety of seating types can be introduced into suburban open spaces, including:

- Benches;
- Picnic tables;
- Seat walls;
- Moveable seating; and,
- Temporary or permanent sports facility stands.
- In general, the following design guidelines should be considered:
- Provide seating at active recreation and sports facilities (e.g. – at playgrounds for guardians);
- Provide shading by way of trees or overhead structures (e.g. - pergolas, gazebos);
- Optimize views when siting seating elements, including views to natural elements, planting elements, or public art;
- Provide space for accessibility aids (e.g.
 wheelchair, walker) alongside seating elements;
- Provide flexible seating for plaza areas; and,
- Provide dining table sets and picnic tables to accommodate small groups.

Lighting

Lighting can be used to develop the character of a suburban park, improve wayfinding, expand the hours of use, and improve safety. When designing lighting for suburban parks, consider the following:

- Lighting should be provided for larger Regional and District Parks. Lighting is generally not recommended for Neighbourhood Parks or Parkettes (City of Hamilton, 2020);
- Where lighting is used, ensure adequate,

consistent lighting along pathways, per CPTED guidelines;

- Provide lighting at park structures for security (Town of East Gwillimbury, 2009);
- Where lighting is provided, a timed shutoff should also be provided (City of Hamilton, 2020);
- Use fixtures that are energy efficient and that are dark sky compliant, which reduce glare, light trees pass, and light pollution; and,
- Use a variety of lighting scales and types, including lighting bollard and pedestrian lights.

Other Features

Suburban parks should also consider including a number of other facilities that support a variety of active and passive programming amenities, including:

- Public Art;
- Dog run areas consider providing purposedesigned dog waste receptacles;
- BBQs;
- Washrooms;
- Water Features;
- Bike Racks:
- Park identification signs and signs for information and regulations (East Gwillimbury); and,
- · Waste receptacles.

4.0 Urban Parks

4.1 The Urban Park Hierarchy

Public Commons

Public Commons

.75 to 2 ha

Public Common spaces are the social and recreational focal points of a neighbourhood. They typically meet the needs of the local community, and in some instances, accommodate City-wide facilities. Public Common spaces support a balance of active and passive uses. P u b I i c Common spaces should be coordinated with school sites, where possible.

Public Common spaces should accommodate special features that add visual interest and contribute to placemaking, including locations for public art. Public Common spaces are intended to serve community users who are generally within a 10-minute walking distance (approximately 800 metres).

Capital Cost Estimate - \$500.00 to \$1,000.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Public Commons are the largesturban parktypology, and are intended to be social and recreational focal points of an urban neighbourhood. They typically meet the needs of the local community, and in some instances, accommodate City-wide 'destination' facilities. Public Commons support a balance of active and passive uses and should also accommodate special features that add visual interest and contribute to placemaking, including locations for public art. Public Commons may be coordinated with school sites, where possible. Public Commons are to be developed with the following criteria in mind:

 Be .75 to 2 ha, and support the needs of the community located within a 10-minute walk of the park space;

- Have frontage on at least 2 public streets, but may be surrounded by public streets where the scale of the park is appropriate;
- Be designed such that they provide a minimum of 40.0% of the area of the park in tree canopy cover by the end of the 10th year after its opening;
- Be primarily soft surfaced and green, but may include hardscape elements;
- Include substantial programmable spaces such as small sports fields, games courts, and performance venues, as well as play elements for children;
- Include seating and a full furniture program, such as lighting, facilities for dogs, facilities for seniors, children and youth, water features and public art; and,
- Provide sheltered areas/microclimate for comfortable spaces within larger site.



Lake Shore East Park, Chicago, IL



Bryant Park, New York City, NY



Lake Shore East Park, Chicago, IL

Urban Squares

Urban Squares

.25 to 1 ha

Urban Square spaces support neighbourhood-oriented social opportunities, city-wide as well as entertainment events and cultural depending on their size and location. Urban Square spaces may include public art, small outdoor game areas, seating areas and places to eat, as well as streetrelated activities such as vendor and exhibit space. Urban Square spaces are intended to serve community users who are generally within a 5-minute walking distance (approximately 400 metres).

Capital Cost Estimate - \$1,000.00 to \$1,500.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Urban Squares are moderately scaled typology of the urban public park hierarchy commonly associated with commercial and residential land use. Urban Squares support neighbourhood-oriented social opportunities, as well as city-wide entertainment and cultural events depending on their size and location. Urban Squares may include public art, small outdoor game areas, seating areas and places to eat, as well as street-related activities such as vendor and exhibit space. Urban Squares are expected to develop with the following criteria in mind:

- Be between .25 to 1 ha in size, and support the needs of the community located within a 5-minute walk of the park space;
- Have frontage on at least 2 public streets, but may be surrounded by public streets where the scale of the square is appropriate;
- Generally follow a 1:1 proportion of length to width;
- · Require that adjacent built form have primary

and active frontages facing the Square;

- Be designed such that they provide between 25 and 40% of the area of the open space in tree canopy cover by the end of the 10th year after its opening;
- Be primarily hard surfaced, but may include soft surface elements:
- Include community and civic event spaces as well as performance venues and playful elements for children; and,
- Include ample seating and a full furniture program, such as lighting, opportunities for outdoor cafés and restaurants, facilities for seniors, children and youth, water features and public art.



Town Hall Square, Toronto, ON



Place des Festivals, Montreal, QC

Promenades

Promenades

Promenades are substantial linear spaces that are located between adjacent building facades and the adjacent road right-of-way. Promenades are between 5 and 25 metres in width, with an average width along it length of 15 metres. Promenades are typically used to enhance the pedestrian experience along with highly activated at-grade retail spaces. Promenades are typically only located along one side of the street, and are continuous along the length of the block Promenades may include public art, small outdoor game areas, seating areas and places to eat, as well as street- related activities such as vendor and exhibit space.

Capital Cost Estimate - \$500.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Promenades are substantial linear open spaces that are located between adjacent building facades and the adjacent road right-of-way. They are typically only located along one side of the street, and are continuous along the length of the block. Promenades are typically used to enhance the pedestrian experience along with highly activated at-grade retail spaces. Promenades should be developed with the following criteria in mind:

- Are between 6 and 20 metres in width, abutting, and parallel with a public road right-of-way;
- Provide a clear, continuous pedestrian path of travel through the space;
- Include a repetition of elements, such as pavers, lights, seating, planters and trees; and,
- Incorporate public art, small outdoor game areas, seating areas and places to eat, as well as street- related activities such as vendor and exhibit space.



The Boston Children's Museum Plaza, Boston, MA



Front St Promenade, Toronto, ON

Connecting Links

Connecting Links

A Connecting link is an outdoor or indoor walkway that may be lined with small stores, restaurants and cafés. A Connecting Link is a minimum of 4 metres in width, and may be substantially wider. When enclosed, the floor to ceiling height should be a minimum of 7 metres. Although a Connecting Link is intended to enable pedestrians to travel through the community quickly and easily, many are destinations unto themselves with seating, restaurant and retail frontages.

Capital Cost Estimate - \$500.00 per square metre*

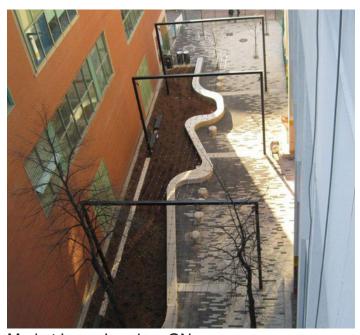
*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Connecting Links enable pedestrians in high pedestrian volume areas to travel through the community quickly and easily. Connecting Links are outdoor or indoor walkways through a development site, connecting two streets together. Many are destinations unto themselves with seating, restaurant and retail frontages. Connecting Links should contribute to the logical wayfinding system and help to establish a well-connected parkland network within a highly urban environment. Connecting Links are expected to develop with the following criteria in mind:

- Be a minimum of 4 metres in width, and may be substantially wider, taking into account scale of adjacent buildings;
- When enclosed, the floor to ceiling height shall be a minimum of 7 metres;
- Be primarily hardscaped, with softscape and seating elements to provide amenity and visual interest;
- Be well lit, promoting pedestrian comfort and safety; and, include signage to identify adjacent buildings.



Parc Hydro, Montreal, QC



Market Lane, London, ON

Pocket Parks

Pocket Parks

.075 to .25 ha

Pocket Park spaces support the social and cultural fabric of Vaughan's Strategic Growth Areas. They are destinations for day-to-day use and are animated by their adjacent uses, such as cafés and shops. They are intended to serve a local community that is generally within a 2.5 to 5-minute walk (approximately 200 to 400 metres) of residents, visitors and businesses.

Pocket Park spaces include primarily hard surface elements, but can also accommodate softer elements. Pocket Park spaces are a maximum of .25 of a hectare, and must be a minimum of 75 square metres in size. Pocket Park spaces must be connected to, and have at least 7.5 metres of direct frontage along the public sidewalk system. Pocket Park spaces are designed to a very high standard to support more intensified use.

Capital Cost Estimate - \$1,000.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.

Pocket Parks are small, pedestrian friendly spaces that accommodate socializing in dense urban areas that are designed to a very high standard to support more intensified use. Pocket Parks are destinations unto themselves that are animated with outdoor seating, restaurant and retail frontages. They include primarily hard surface elements, but can also accommodate softer elements. Pocket Parks are expected to develop with the following criteria in mind:

 Be a minimum of 75 square metres in size, and must, and intended to serve a local community that is generally within a 2.5 to 5-minute walk of residents, visitors and businesses;

- Be connected to, and have at least 7.5 metres of direct frontage along the public sidewalk system;
- Require that adjacent built form have primary and active frontages facing the park;
- Be designed such that they provide up to 50% of the area of the park in tree canopy cover by the end of the 10th year after its opening;
- Be primarily hard surfaced, with limited soft surface elements; and,
- Include seating and a full furniture program, such as lighting, opportunities for outdoor cafés and restaurants, facilities that promote a passive, relaxing atmosphere, water features and public art.



Courthouse Square, Toronto, ON



Mid Main Park, Vancouver, BC

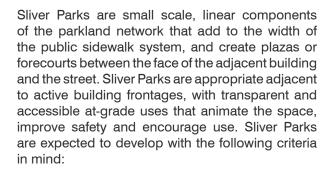
Sliver Parks

Sliver Parks

Sliver Park spaces are narrow linear spaces that often front restaurants, cafés and retail spaces. They create plazas or forecourts between the face of the adjacent building and the street right-of-way. They are effectively small scale extensions of the public sidewalk system. Sliver Park spaces are small and compact spaces that are designed to a very high standard to support more intensified use.

Capital Cost Estimate - \$500.00 per square metre*

*Capital cost estimates are based on a host of assumptions related to the design treatments, level of amenity and the facilities provided within an individual park space.



- Be primarily hard surfaced, with limited planting and soft surface elements; and,
- Be flexible to accommodate spill out retail space, and/or outdoor cafés and restaurants.



825 Church St Park, Toronto, ON



Edible Bus Stop, London, UK

4.2 Urban Park Design Considerations

Site Design

The introduction of new urban parks should be considered in relation to the adjacent land uses and architecture. Where a development is proposed, the relationship between the building massing and articulation, particularly at-grade, should be designed concurrently with the preliminary design of the adjacent park, to the mutual benefit of both. Urban parks should be designed to be flush with the building facades and at-grade uses so that the parks benefit from activation along their edges. Urban parks should all have physical and visual access. Active building frontages, with accessible at-grade uses, such as cafes and shops, are the ideal companion to an urban park. Active building frontages are transparent and incorporate windows, balconies, and entrances adjacent to parks to provide more opportunity for interaction between inside and outside uses (San Francisco Planning Department, 2011). Active edges help to animate the park, improve safety, and encourage

Urban parks should be designed to be flush with the building facades and at-grade uses. Urban parks should all have physical and visual access to the larger pedestrian circulation system, and have significant frontage onto the public sidewalk system. It is crucial that all of the urban park typologies exist and work together to create a robust and comprehensive urban parkland network.

Programming

Great urban open spaces have strong functional assets. With respect to programming urban space, the key is flexibility to recognize the needs of residential users, as well as office users and retail/commercial users. Flexibility and variety is also required to allow the open space to adapt to changing needs over time. Programming opportunities are directly related to the scale, purpose and design of the space. Because they are larger, Public Commons and Urban Squares provide opportunities to accommodate green space, tree cover and softscape areas that may include unprogrammed recreational space and other larger scale park features. In some instances,

these spaces may also accommodate small sports fields, courts, and performance venues, as well as playful elements for children. Smaller open space typologies will not be able to accommodate the same diversity in programming, but still may include children's play areas, seating areas, public art, and planting elements. In general, urban open spaces should:

- · Support active transportation;
- Support adjacent interior uses (e.g. retail, office, residential, dining);
- Promote passive recreation, including sitting, walking, and socializing;
- Provide opportunities for individual and modestly scale group recreational activities; and,
- Be flexible to support temporary programming, including events, festivals and markets.

4.3 Urban Park Landscape Elements

Hardscaping

Hardscaping plays a significant role in the design of urban parks. Given the space constraints that many urban park typologies are subject to, hardscape may make up the majority, if not all, of the ground level surface. The selection and design of the paving material will affect the usability and comfort of the space, as well as its aesthetics and character. Furthermore, the selection of hardscape materials should take into consideration issues of climate change, in particular urban heat island mitigation and stormwater management. The selection and design of hardscaping should:

- Provide a safe walking surface for all users, with special implementation of universal accessibility. Walking surfaces should specify a non-skid material;
- Design hardscaping for passive cooling. Light coloured or high albedo materials, and open grid or porous surfaces help to mitigate urban heat island effect (City of Melbourne, 2012);

- Select high quality materials that contribute to the character of the space and the surrounding area;
- •
- Where unit paving is used, ensure that differential settlement and heaving is mitigated long term. Consider incorporating a concrete base below the unit pavers;
- Select paving materials that have a long lifespan. Prepare a maintenance and repair manual as part of the design deliverables;
- Where built over structure, ensure high quality membrane materials that have a long lifespan.
 Prepare a maintenance and repair manual as part of the design deliverables;
- Employ wayfinding techniques, including emphasizing entrances, patios, edges, and pedestrian pathways; and,
- Provide unobstructed circulation routes through or around the space. Provided a minimum 2.1 metre wide pedestrian clearways.

Softscaping

Softscaping, including planting beds and areas of sod, help to establish the identity of the park, support passive and active recreation, and provide a range of ecological benefits. Plant material helps to lower the ambient air temperature, absorb excess stormwater, improve air quality, and support local fauna and pollinators. Perennials and shrubs provide an excellent opportunity to inject vibrant colour and texture into a space, a quality typically lacking in urbanized areas. When designing softscape areas, consider the following:

- Use planting to provide visual interest.
 Consider incorporating a variety of colours, textures, heights, and forms throughout the open space;
- Ensure that planting material does not obstruct visibility through the site. Utilize CPTED principles while developing the planting strategy;
- Use planting material to establish a comfortable microclimate (e.g. – provide wind and noise reduction);

- Plantings, should be low maintenance, drought tolerant, and pest and disease resistant;
- Provide planting beds that are a minimum of 600mm in width; and,
- Where non-drought tolerant species are used, provide automatic irrigation.

Urban Trees

Central to the softscape design in urban parks, and a persistent challenge, is the incorporation of trees. Trees are an invaluable piece of green infrastructure, they are the lungs of the city. The proper selection and detailing of tree plantings will contribute to their long term health and success. Providing for increased soil areas, native and drought tolerant species, and ample space between trees will increase their chances of reaching maturity, and increase their lifespan. Mature trees provide a range of benefits, including providing shade, reducing ambient temperatures, mitigating the urban heat island effect, and contributing to the character of the space and surrounding neighbourhood. To increase the likelihood of success:

- Preserve and incorporate existing trees where possible. Ensure existing trees are of a high quality and healthy;
- Where space is limited, place trees in a hardscape condition to maximize at grade pedestrian space. Provide a flush walking surfaced by employing tree grates or concealed paver grates and soil trenches;
- Maximize the rooting zone. Provide a minimum of 30 cubic metres of soil volume per tree. Tree planting areas should provide a minimum of 1 metre depth. The maximum planting area depth to be considered in the soil volume calculation is 2 metres;
- Where minimum soil volumes cannot be achieved in a planting area, use soil cells or structural soil to increase access to soil;
- Provide species diversity. Do not exceed 10% of the same species, 20% of the same genera, or 30% of the same family;
- Plant large caliper trees to achieve immediate

visual impact, and improve the likelihood of success. New trees to have a minimum caliper of 70mm at the time of planting;

- Ensure the tree planting areas have adequate drainage, such as through the provision of sub-drains;
- Implement a watering program during the establishment period of the tree (approximately 5 years). Provide watering in times of drought;
- Avoid conflicts with underground and above grade infrastructure and utilities;
- Understand and identify capital costs to provide appropriate growing conditions;
- Understand and identify operating/ maintenance costs, including a tree placement program (City of Mississauga, 2015); and,
- Use trees to establish a comfortable microclimate (e.g. – provide wind and noise reduction).

Seating

Seating is a critical amenity in all urban park typologies. Seating should be designed to be accessible, inviting, and comfortable. A variety of seating types can be introduced into urban parks, including:

- · Benches:
- Seat walls;
- Fixed chair, including with a table;
- Movable chairs, including with table; and,
- Informal (e.g. lawn, platforms, steps, etc.).
- In general, seating design should consider the following:
- Provide a variety of seating types. In larger typologies, including Public Commons, Urban Squares, and Promenades, provide at least two seating types. In smaller typologies, including Connecting Links, Pocket Parks, and Sliver Parks, provide at least one type of seating;

- Provide options in both the sun and the shade;
- Provide a variety of configurations to accommodate individual users and groups;
- Where flexibility is required, consider movable chairs and tables;
- Optimize four-season comfort when selecting seating materials and finishes (e.g. – wood is more comfortable during cooler seasons);
- Orient seating to provide engaging views, encourage informal surveillance, and increase comfort;
- Provide a range of backed and backless options to accommodate a variety of users.
 Backed benches should be considered as a preferred accessible option; and,
- Provide spaces in seating areas to accommodate walkers or wheelchairs.

Lighting

Lighting plays a key role in the design, comfort, usability, and safety of an urban park. Lighting can be used to enhance design elements, articulate adjacent facades, facilitate wayfinding, and animate the site. Light also extends the usable hours of the park into the evening and at night. Where designing lighting for urban parks, considering the following:

- Provide adequate lighting to improve safety in the space. Consult CPTED for additional direction;
- Use fixtures that are dark sky compliant, which reduce glare, light trespass, and light pollution;
- Use fixtures that are energy efficient, with automated timers;
- Use a variety of lighting scales and types, including lighting bollard, pedestrian lights, and catenary lighting;
- Where events are anticipated, incorporate electrical hookups and event signage into the light posts; and,

 Use lighting to clearly identify the path of travel through the site.

Public Art

Public art can be used as a placemaking and programming element within an urban park. Public art presents an opportunity to integrate cultural heritage into the fabric of the park, or to establish a new narrative for the community. Well designed, engaging, and thought provoking public art has the potential to be a draw to visitors, and can contribute to the success and vitality of the space. When incorporating public art into an urban park, consider:

- The scale and location of the art. A single public art piece can serve as an organizing element for the open space or identify significant gateways or points of arrival, whereas a series of art pieces can act as wayfinding elements located throughout the site;
- Incorporate cultural heritage elements into the piece; and
- Incorporate public art into a space in the form of paving, seating, lighting, or other functional elements.

Other Features

Urban parks should also consider including a number of other facilities that support a variety of active and passive programming amenities, including:

- Playgrounds, play equipment, outdoor workout equipment
- Drinking fountains, bottle stations;
- · Dog run areas;
- Waste receptacles;
- Water feature; and,
- Amphitheatre/performance stage.

Appendix V: References

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City of Vaughan

Parkland Dedication Guideline

APPENDIX VI:

MAINTAINING THE CITY'S

PARKLAND SYSTEM

Good Maintenance is Crucial

A great parkland network is diverse, well-designed and, importantly, well maintained. A commitment to the highest levels of park maintenance is crucial to the success of the network and to the individual park spaces that comprise it. The City of Vaughan has an excellent track record in maintaining its more traditional suburban parkland network to a very high quality. The results of the public survey clearly show that the public, the users of the existing parkland network, a very satisfied with the design, and maintenance of the parks throughout the City.

As the City intensifies over time it is important to note that urban parks and the broader parkland network within a highly urban context, due to their design complexity and use patterns, are much more expensive to maintain than suburban parks - a typical rule-of-thumb is to assume that urban parks require about 10 times the attention and cost to maintain over a suburban park space. Typically, urban parks include more varied types of park spaces, more structured planting beds (rather than just lawn/fields) and a greater diversity of plant materials to achieve visual and seasonal interest. A diverse range of paving materials and associated park furniture elements are also more complex and require ongoing maintenance.

The importance of both funding and coordinating maintenance efforts of the entire parkland network over time cannot be understated. In addition, there are opportunities to include other partners who can assist the City with both establishing and performing enhanced maintenance protocols. Further, there are opportunities to design for lower maintenance as a sustainable approach to cost savings over time.

Funding + Coordinating Ongoing Maintenance

Property taxes, which are applied City-wide, will be required to ensure the long-term and ongoing maintenance of the City's parkland network. Property taxes will also be utilized to ensure the safety and security of the City's parkland network as it evolves and intensifies. There are a variety of issues that will need to be specifically considered as the City's parkland network is enhanced over time, with particular attention to the more urban

park components:

- With increased growth will come increased taxation potential, but also a requirement that parkland maintenance protocols will need to recognize the demands of the public park spaces based on increased usage, and incremental land additions to the network:
- With the addition of new scales, types and functions of park spaces, maintenance protocols will need to be more diverse and type specific. Different demands for equipment, different planting programs, different programming objectives will make ongoing maintenance far more complex than for a typical suburban parks system; and,
- A more complex and more expensive maintenance protocol will require enhanced coordination among the various City departments involved and, of course, the exploration of new partnership opportunities, that may include BIA's, Neighbourhood Associations, Volunteers and/or Trust Funds.

Ongoing and enhanced maintenance protocols are essential to the long-term quality of the City's parkland network. Field maintenance, snow removal, garbage pick-up, urban planting, plant/ tree watering and maintenance, sidewalk cleaning and street furniture/play structure replacement and maintenance are some of the duties required to ensure a clean and well-functioning parkland network. Without a commitment to ongoing maintenance, there is no point in creating a beautiful parkland network.

In the evolving urban context, there is, in some instances, an information gap between those who are responsible for park design and development and those who will be responsible to maintain those parks once completed. It is understood that the City of Vaughan is primarily responsible for the ongoing maintenance of the existing parkland network, but also in collaboration with other public/non-profit organizations and some of the major landowners, who look after their own properties. Ongoing maintenance will have a tremendous impact on the appearance, and ultimately the property values in proximity.

It is recommended that the City consider clarifying roles, responsibilities and protocols for ongoing

maintenance of the City parkland network. Some of the key elements of a memorandum of understanding may be:

- Include parks maintenance staff in the review of the parks design and development process to ensure that there is a full understanding and, ultimately, a clear commitment to establishing the required maintenance protocols. The intent of a park design, program and facilities need to be clearly identified early in the process by staff to ensure consideration of issues related to their ability to maintain the plant materials, landscape surfaces and features over the longterm. Any special equipment or maintenance expertise should be identified before the park design is built;
- A decision to proceed with a complex (enhanced) design - particularly in an urban context - requiring enhanced maintenance, must include agreement among the design group, the development group and the parks maintenance group that the park and all its component parts can, and will be maintained in accordance with required best practices; and,
- The increase in maintenance budget needs to be understood and agreed to by the City staff and disseminated to the front line staff as an agreed upon direction.

Working with Long-Term Benefitting Partners

Business Improvement Areas

Local BIA's have a secure funding source through a levy on property taxes that is to be used for marketing, events, enhanced maintenance and capital projects. They have a mandate to assist in the maintenance of commercial business areas. Certainly BIA's can work with the City's parks maintenance staff to augment the maintenance protocols of the City. At the very least, BIA's and business owners should be asked to assist in maintaining adjacent urban park components, as part of their overall property maintenance procedures.

The BIA members will be a direct benefactor of an enhanced park network. As benefactors of the anticipated investment in the park spaces and the broader public realm, it is important that the BIA play a partnership role in providing capital funds for physical improvements, as well as providing support for an enhanced maintenance protocol.

Planting programs, streetscape enhancements, including area specific street furniture programs should be at least partially the responsibility of the BIA. Cost sharing programs between the BIA's and the City need to be fully explored.

Neighbourhood Associations

While Neighbourhood Associations are not provided with a stable funding source through municipal taxation, there are jurisdictions in Canada that rely on direct local neighbourhood involvement in the design, development and maintenance of adjacent park spaces and the broader parkland network. The City should consider pursuing a direct form of relationship with Neighbourhood Associations to assist with ongoing maintenance, in collaboration with City maintenance protocols.

Building Owners/Condo Corporations

Where an urban park has been developed as part of a large scale development, and the space remains in private ownership, it shall be a requirement of any legal agreement that ensures public access and assigns maintenance responsibility that the park be maintained to City standards. City standards are likely to be considered the minimum standard. For this approach to park maintenance to be successful, there will need to be a very clear definition of just what "maintained to City standards" means.

For each park space developed in as part of a higher density, mixed-use building or condo corporation context, the City will need to establish a park maintenance protocol that can be measured, and ultimately enforced. The park maintenance protocol may include the following requirements:

- Maintain, in accordance with approved protocols, all plant materials, paving materials, furniture, structures and art installations;
- Expeditiously (within 30 days) replace any dead, dying or damaged plant materials;
- Expeditiously (within 30 days) replace or repair any damaged or uneven paving materials, park furniture and/or art installations;

- Remove graffiti, scratchiti, debris, animal waste and empty garbage containers as necessary, but at least on a daily basis; and,
- Remove snow and properly salt (or other appropriate material) all paved areas as required.

Other Opportunities

Trust Funds

In the United States, many jurisdictions have required that urban parks be maintained by a Trust Fund. Typically, the Trust Fund is established while the park is in the design and development stages. Trust Funds can be funded by the private sector (a tax deduction in the US), by the public sector, or through some combination of both. The Trust Fund Board retains maintenance contractors and takes on the responsibility to maintain the public park to a prescribed level of quality, and the City absolves themselves of further maintenance responsibilities.

Adopt-a-Park Program

It is important to note that an adopt- a-park program is not a replacement for the City's ongoing maintenance of public parks or the public realm network, but an opportunity to augment existing responsibilities.

Local service clubs, school groups, horticultural societies or interested citizens/citizen groups may wish to become involved in specific park maintenance events, and/or for ongoing maintenance responsibilities.

The City should consider expanding the existing adopt-a-park program where individuals or groups can become the guardian of a specific park or some component part thereof.

The City would need to establish an individual protocol, and prepare agreements to facilitate this type of intervention. The program could simply be to raise funds to retain a maintenance team, or there could be a strategy to utilize the sweat equity of these groups. Nonetheless, the City would need to retain management control, while harnessing the tremendous enthusiasm and potential of service clubs, school groups, horticultural societies or interested citizens/citizen groups.

Design for Lower Maintenance - A Philosophy

of Sustainability

The City should promote a more sustainable park space development approach that requires less maintenance over time. Landscape Architects can design with relatively low maintenance paving materials, furniture and plant material. Plant material in an urban setting is crucial and requires special attention for maintenance, for example:

- Selection of plant species that are drought tolerant once their root systems are established is one example of reducing the maintenance requirements for water;
- Understanding the role of soil chemistry, soil volumes and soil types is also important to support lower maintenance plant material and must be specified in tandem with plant material; and,
- Pruning requirements of plant material can also be taken into consideration in the design process, to reduce maintenance.

The maintenance requirement for watering of plant material is important to consider early in the design process. Landscape Architects can work together with Architects and Engineers to identify opportunities for water sources from adjacent buildings, for example, such as recycled rain water from roof tops (which provide the cleanest source of rainwater) that can be stored in cisterns, filtered and reused for irrigation. It is important to note, however, even drought tolerant plant material needs irrigation to become established (the first year or two) and maintenance plans also need to prepare for extended drought periods to keep planted areas healthy and attractive.

City of Vaughan

Parkland Dedication Guideline

APPENDIX VII:
REVIEW OF OTHER
MUNICIPALITIES

Multiple Jurisdictions - Parkland Ded ication By-Law Review

In order to understand current parkland dedication policies and best practices, a review of numerous municipalities parkland dedication by-laws was undertaken. The review focused on municipalities across Ontario who are experiencing comparable growth and funding pressures.

Definitions - All of the municipalities reviewed provide definitions within their Parkland dedication by-law. The number and detail of these definitions vary by municipality, but the definitions generally touch on the following topics:

- Land uses;
- Development and redevelopment;
- · Building types;
- · Gross floor area and total land area; and,
- Municipal tools.

Exemptions - The majority of the by-laws reviewed provide parkland dedication exemptions. Many of the exemptions are similar across all the municipalities but may include slight modifications in order to reflect each municipality's unique circumstance. The following exemptions were found in multiple municipalities' parkland dedication by-laws:

- Land, buildings and structures owned by and used for the city, region, municipality, province and federal government;
- Institutional uses such as schools including post-secondary institutions, hospitals and some health care facilities, libraries;
- Renovations to an existing residential buildings provided it does not increase the number of dwelling units;
- Creation of an additional dwelling unit (previously known as secondary suites);

- Replacement of any building that was destroyed due to accidental causes; and,
- Enlargement of a commercial, industrial or institutional building.

Unacceptable Lands - All of the municipalities surveyed provide a statement within their parkland dedication by-laws that state the location and configuration of land required to be conveyed will be determined by the City and that lands being conveyed will be free of all encumbrances. Generally, municipalities will not accept hazard or environmentally constrained or significant lands. This includes:

- Valleylands or watercourse corridors;
- Woodlands;
- Natural heritage system lands and associated buffers;
- Storm water management ponds;
- Hydro lands and utility corridors;
- Significant cultural heritage features;
- · Significant hydrologic features;
- Easements; and,
- Floodplain lands.

London and Newmarket were the only two jurisdictions surveyed that indicated they would accept constrained lands as part of the parkland conveyance. Newmarket will only accept floodplain lands if written approval is received from Lake Simcoe Region Conservation Authority and the lands are deemed acceptable by the Town.

London has taken this a step further by quantifying credits for hazard lands and other open space or constrained lands (e.g. woodlots or wetlands) throughout the municipality. As per their by-law, London will credit dedicated hazard lands at a ratio of 27 hectares for every 1 hectare of table land required, and will credit open space lands at a ratio of 16 hectares for every 1 hectare of table

land required.

Offsite Conveyance - Accepting offsite parkland conveyance is not common among the municipalities reviewed. The City of Toronto, Kingston and Newmarket were the only jurisdictions that included policies for offsite conveyance. These policies include:

- The value of the off-site dedication is equal to the value of the on-site dedication that would otherwise be required;
- The off-site dedication is a good physical substitute for any on-site dedication; and,
- Newmarket only allows off site dedication in areas within the Urban Centres Secondary Plan.

Parkland Calculation Techniques & Standards - Generally, there are varying dedication rates for residential uses, commercial/industrial uses, mixed uses, and other land uses, as follows:

- Residential As per the Planning Act the conveyance standard for residential development is 5% of the land being developed or the alternative rate of 1 hectare for 300 dwellings units. Some municipalities include sliding scale rates, for example if you have less than 30 dwelling units then a certain rate applies, if you have more than 30 dwellings then a different rate applies.
- Commercial and Industrial As per the Planning Act, 2% of the gross land area is the standard seen across all municipalities surveyed.
- Mixed-use For mixed-use developments, each use within the building or site is subject the parkland provision for that use.
- Other 5% of the land to be developed is standard for all other uses, while the City of Toronto is the only municipality surveyed who uses a 2% standard for other land uses.

Approach to the Determination of Land Value - When a municipality determines that cash-in-lieu will be required, the Planning Act requires that the

value of that payment be equivalent to the value of the land that is otherwise required to be conveyed and the determination of the value is to be based on market rates as of the day before the issuance of the building permit or the day before the approval of the draft plan of subdivision. The question remaining is whether a municipality prefers to require new appraisals for every development and plan of subdivision or whether standard unit rates are used for the development type to determine the overall value of cash dedication required.

The majority of the municipalities reviewed identified that they require appraisals for determining land value. This evaluation is paid for by the owner of the property, and approved by the City. Some municipalities complete these appraisals in house, while others require external professional appraisers to complete the appraisal.

The City of London provides standard unit rates for low, medium and high density residential developments as well as for open space and hazardous lands. Richmond Hill also applies standard unit rates (or expected land conversion rates) for multi residential, stacked and town-house developments. Hamilton also applies standard unit rates for multiple dwelling units and townhouses, with the unit rates varying based on location.

A key consideration in the use of standard unit rates is updating the rates to reflect market fluctuations in land value. In this regard, there is no universally correct frequency for updates, and the timing is likely set to reflect the fluidity of local land markets. London conducts new appraisals every two years, while Hamilton updates their rates annually.

Eligibility for Cash-in-Lieu - Few municipalities provide criteria for when cash-in-lieu is preferred over conveyance. Generally, if the shape, size, location is unsuitable for parks or recreation purposes, if the area in which the proposed development is already well served by parkland, or if the city has identified land in a more appropriate or accessible location and that has been or is to be acquired by the city, then they will accept cash-in-lieu over parkland conveyance.

Locational Rates - Some of the municipalities surveyed provide different conveyance and cashin-lieu requirements for different areas within their

jurisdiction.

There are three different areas within Hamilton that have different cash-in-lieu requirements for residential dwellings. As illustrated in Table 1, Hamilton provides different standard unit rates per location and residential dwelling type. In addition, Hamilton also provides an alternative rate for Brownfield sites located within certain areas of the City, requiring a dedication rate of 5% regardless of the density of the proposed building on that site.

Area	Cap per Townhouse Dwelling Unit	Fixed Rate per multiple dwelling unit
1 (Ancaster, Flamborough, Dundas, Westdale)	\$10,000	\$8,000
2 (Lower Hamilton excluding Downtown CIP Area)	\$9,000	\$7,000
3 (Upper Hamilton, Stoney Creek, Glanbrook) Downtown CIP	\$8,000	\$6,000 2020 - \$2000 2021 - \$3,500 2022 - \$5,000

Table 1: City of Hamilton Cash-in-Lieu Requirement

In Ottawa, certain lands located in Kanata, a large suburb located west of the City's downtown, are not subject to the parkland dedication provisions due to an agreement between the City and developer that 40% of the total land area being developed is open space.

Ottawa also has an alternative rate for lands located within the South Nepean Town Centre Secondary Plan where parkland is dedicated for residential purposes at the rate of 5% of the gross land are being developed.

Newmarket provides different conveyance standards for lands located outside urban centres and lands inside urban centre. Further, lands that are located within the Urban Centres Secondary Plan that include residential uses on sites greater than 1000 square metres in size must provide a physical land contribution of a minimum of 7.5% of the developable site area and/or an Urban Square, Plaza, Pocket Park, Silver Space or Pedestrian Mews.

The City of Toronto provides an alternative rate for land for residential uses in a parkland acquisition priority area. Owners of land within parkland acquisition priority areas shall convey either 5% of the land to be developed or 0.4 hectares per 300 dwellings, whichever is the greater amount provided that:

- Sites that are less than 1 ha in size, parkland dedication will not exceed 10% of the development site;
- Sites that are 1 ha to 5 ha in size, parkland dedication will not exceed 15% of the development site; and,
- Sites that are greater than 5 ha in size, parkland dedication will not exceed 20% of the development site.

Dispute Resolution - Not every municipality surveyed includes dispute resolution policies within their by-laws. Generally, if the city and the owner cannot come to a resolution on the value of land required to be conveyed or the amount of land or payment of money in lieu, then either parties can apply to the LPAT to have the value determined.

Ottawa also includes a dispute resolution policy that if there is a disagreement with the land value used to establish the payment of money in-lieu of parkland conveyance, the owner may request a review of the valuation by an independent appraisal, which must be undertaken at the owners expense and review by the city to determine its acceptability.

Uses	Kingston	Brampton	London	Markham
	Parkland Co	Parkland Conveyance Requirements	ents	
Residential	• 30 Dwelling Units per hectare or less = 5% • Greater than 30 Dwelling Units per hectare, 1.2 hectares per 1000 people not to exceed 1 hectare per 300 Dwelling Units, the conveyance generated shall not exceed a maximum of 10% of the Gross Land Area • For a single residential lot created by consent to sever for the purpose of developing a single residential dwelling, a flat rate shall be applied o Burtal Area \$1,129 per new residential lot o Urban Area \$1,732 per new residential lot o A land conveyance may still be required if it is adjacent to a water body, an existing park or trail plan	• At a rate of 5% of the land being Developed or Redeveloped, or 1 hectare for each 300 Dwelling Units proposed, whichever is greater	• The greater of either 5% of the land within the development application or an amount of land that is in the same proportion to the number of dwelling units proposed as one hectare bears to 300 dwelling units	• The land be conveyed to the Town at the rate of one hectare for each 300 dwellings proposed
Commercial, Industrial or Institutional Use	• 2 % of the Gross Land Area shall be conveyed (commercial & industrial)	• 2% of the land	Commercial purposes, land in the amount of two percent 2% of the land within the development	• Commercial or industrial purposes, 2% of the same land shall be conveyed to the Town
Mixtures of Uses	For mixed uses on a site, the land to be conveyed shall be the sum of the requirements proportionate to the site area allocated to each use For mixed uses within a building, the land to be conveyed shall be the sum of the requirements proportionate to the Gross Floor Area allocated to each use	Each component is subject to the provisions for that use		
Other	• When land is developed for Long Term Care Home use, 2 % of the Gross Land Area shall be conveyed to the City	• All Other uses land in the amount of 5% of the land to be Developed or Redeveloped	 All other land uses in the amount of 5% of the land within the development 	• For purposes other than commercial or industrial, 5% of the said land shall be conveyed to the Town

Hamilton		• less than 20 units per hectare 5% of the Net Land Area • 20 units per hectare to 75 units per hectare 1.0 hectare of the Net Land Area for each 300 dwelling units proposed • 75 units per hectare to 120 units per hectare a rate of 0.6 hectare of the Net Land Area for each 300 dwelling units proposed • Density greater than 120 units per hectare, dedication of land at a rate of 0.5 hectare of the Net Land Area for each 300 dwelling units proposed • Maximum parkland dedication of 5% of the Net Land Area will apply to developments of single and semi-detached lots, duplexes, street townhouses fronting on a public street where such developments are not part of a registered plan of subdivision, and a maximum of six dwelling units above a commercial use in a building that existed as of March 8, 2017.	• In the case of lands proposed for development or redevelopment for commercial purposes, including a golf course or driving range, land in the amount of 2% of the Net Land Area to be developed or redeveloped	In the case of lands proposed for development of more than one use, dwelling type and/or at varying residential densities, a prorating of the dedication rates applicable to the respective use and/or density	Use other than commercial and residential, land in the amount of 5% of the Net Land Area to be developed or redeveloped
Tornto	S	• Land equal to 5 % of the land to be developed			• For non- residential uses, land equal to 2 percent of the land to be developed
Richmond Hill	Parkland Conveyance Requirements	• The greater of: 5% of the land proposed for development or redevelopment or • The lesser of: • The lesser of: • The lesser of: • The lesser of: • The lesser of and for each 300 Dwelling Units proposed or 1 hectare of land for each 730 persons to be housed within the Dwelling Units in the proposed development based on the following rates: (i) 3.51 persons per Dwelling Unit in a Single Detached Building; (ii) 2.88 persons per Dwelling Unit in a Seni-Detached Building; (iii) 2.88 persons per Dwelling Unit in a Townhouse; and Building; (iv) 1.92 persons per Multi-Residential Dwelling Unit.	• 2 % of land proposed for development or redevelopment for Commercial or Industrial Uses	• The owner shall be required to convey land at the rate applicable to the predominant proposed use of the land and all of the land proposed for development or redevelopment shall be included for the purpose of calculating the amount of land required to be conveyed	
Ottawa	Parkland Co	• Less than 18 dwellings per net hectare 5% of the gross land area of the gross land area of the site being developed • Densities of 18 dwellings per net hectare or more 1 hectare for every 300 dwelling units, but for apartments, this parkland conveyance will not exceed a maximum of 10% of the land area of the site being developed	Parkland requirement calculated as 2% of the gross land area of the site being Developed (commercial & industrial)	Where land is developed for a mix of land uses that are located on discrete parts of the site, the parkland will be calculated based upon the proportion of the site devoted to each use Where land is developed for a mix of uses within a building, the parkland requirement for each use will be based upon the rates prorated proportionally to the gross floor area allocated to each use.	All other uses parkland requirement calculated as 5% of the gross land area of the site being developed
Newmarket		1 hectare per 300 dwelling units, or 5% of the land area proposed for development or redevelopment, whichever is greater (outside urban centre) 0.7 hectares per 1000 residentis, or the alternative residentis, or the alternative residential requirement of the Planning Act, whichever is less, up to a maximum of 50% of the developable area of any site; or cash-in-lieu equivalent (inside urban centre).	• 2% of the land area proposed for development or redevelopment (commercial and industrial outside urban centres) • 2% of the land area proposed for development or redevelopment (commercial and industrial inside urban centres)	• The cumulative amount for the various uses proposed at their respective rates (outside urban areas) • The cumulative amount for the various uses proposed, at their respective rates up to a maximum of 50% of the land area proposed for development or redevelopment (inside urban areas)	All other uses 5% of the land area proposed for development or redevelopment
Uses		Residential	Commercial, Industrial or Institutional Use	Mixtures of Uses	Other