Appendix II

Glendale Secondary Plan

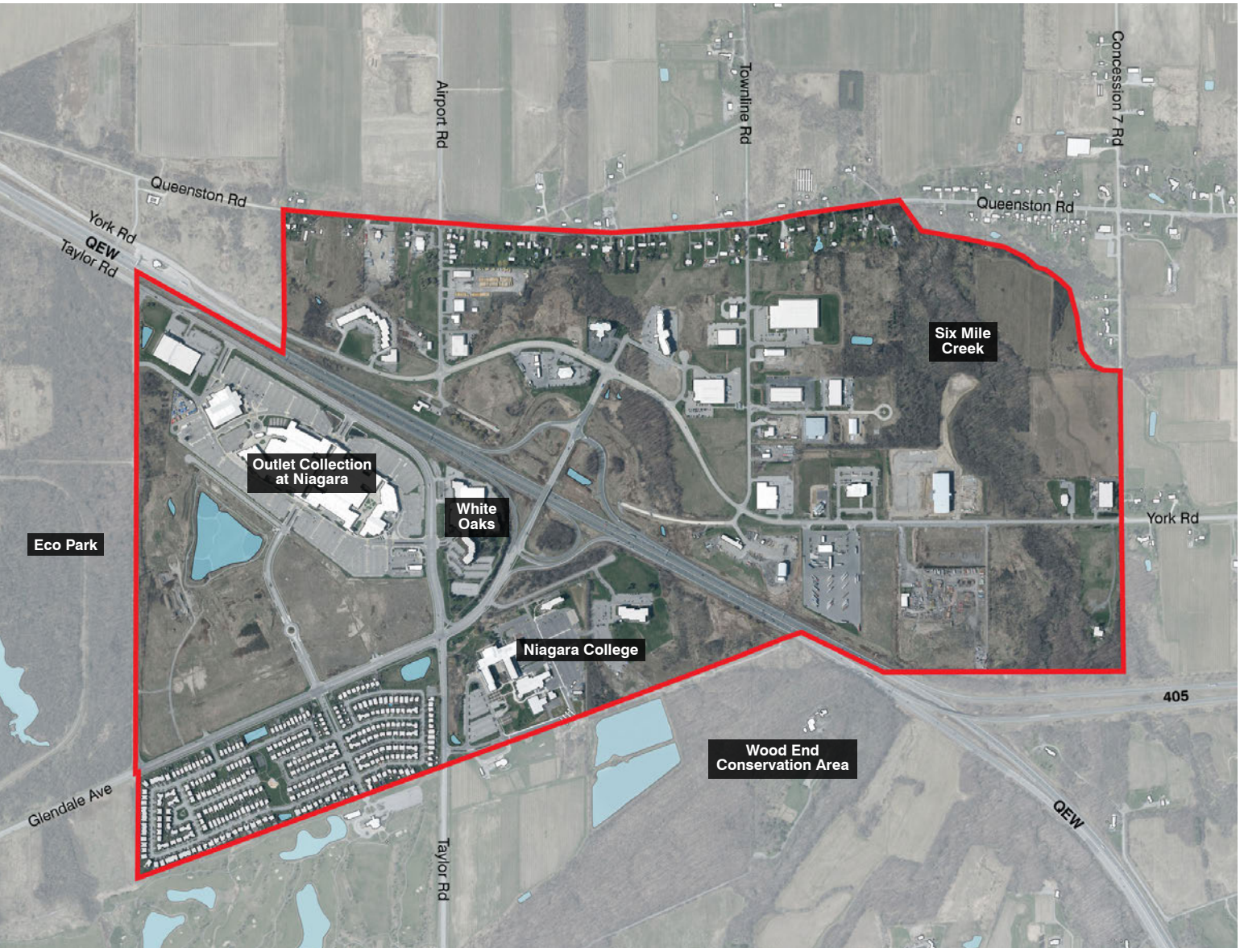
Appendix B
Urban Design Guidelines

Final Draft

March 28, 2024

Cover image: Belmar Shopping District, Lakewood, CO (Source: Continuum Partners)

Contents



Map of the Glendale Secondary Plan area

1 Introduction

Context & Purpose of the Urban Design Guidelines

Context

The planning and design intent for the Glendale District is to provide a well connected beautiful and diverse urban community with residential neighbourhoods, mixed-use areas distributed across the District and industrial/business park lands on the north side of the QEW. The campus of Niagara College anchors the south east precinct. Green space along the Six Mile Creek valleys together with the Wood End Conservation Area, Welland Canal Heritage Park and Eco Park frames the area and provides edges for some of the uses. Development in the Glendale District is envisioned to contribute to protecting, integrating and celebrating the natural and rural surroundings reflecting the distinct character of the area. Development in Glendale will put mobility first with a robust transit system, cycling trails and pedestrian routes seamlessly connecting areas north and south of the QEW.

The QEW and Glendale Avenue divide the area into four quadrants. The southwest quadrant is the location of the Outlet Collection at Niagara. The Regional Commercial land use designation in the Secondary Plan enables infilling and intensification of the existing land uses. The Regional Commercial Mixed-Use Overlay recognizes the long-term potential of these lands to intensify with new buildings, streets, parkland, public service facilities and parking. Lands south of the current Outlet Collection will be an extension of the residential neighbourhood that exists south of Glendale Avenue. A newly created street and block network will enable mixed use development along Niagara-on-the Green Boulevard conceived as a main street providing a link to the Outlet Collection. Commercial and retail uses are planned for the ground floor with residential uses above. Niagara-on-the Green Boulevard is envisioned as tree lined street, with seating, decorative lighting and other streetscape elements to create an appealing urban place. A range of housing up to 5 storeys in the form of single detached, semi detached, duplex, townhouses, stacked or back to back townhouses or small apartment buildings are planned in the area west of Taylor Road. Higher density mixed uses are planned around the existing White Oaks Conference Resort and Spa and on the lands adjacent to Glendale Avenue on both sides of Taylor Road. Parks and open spaces around storm water management facilities provide a link to the Eco Park that forms the west boundary of the District. The streetscape design of Homer Road will provide a transition to the Eco Park.

The southeast quadrant is the location of Niagara College. The College recently completed a Master Plan that is expected to guide its evolution. The Master Plan identifies four new buildings, trail connections, vehicle routes and surface parking, and key outdoor nodes and green corridors.

The northwest quadrant includes existing highway oriented commercial uses and hotels close to the York Road/Glendale Avenue intersection. Mixed-use is planned along York Road with a transition to residential on Airport Road. The Niagara Regional Native Centre is located on the west side of Airport Road. The new residential uses transition to existing residential uses on Queenston Road.

The northeast quadrant extends a mixed use node north of York Road with a transition to industrial and business park uses that extend along the south side of York Road. This area recognizes the existing cluster of industrial businesses. This area is well positioned with easy access to the QEW and to the Niagara District Airport. The east edge of the District is a new residential neighbourhood with mixed use focused at the corner of York Road and Concession 7 where it abuts agricultural lands.

Purpose

The purpose of the Glendale Secondary Plan Urban Design Guidelines is to support the principles and policies of the Official Plan and the Glendale Secondary Plan to guide development within the Glendale area, as it is implemented through subdivision, zoning, and site plan control. The guidelines encourage the design of a complete, effective, and sustainable built environment consistent with the Town of Niagara-on-the-Lake's character and vision for the future. The guidelines provide guidance on design matters that are directly related to ensuring that development projects are of high quality, pedestrian-oriented, interconnected, sensitive to the natural and built environment, and provide adequate public facilities and infrastructure.

The guidelines will provide predictability for applicants, the Town, Region, and stakeholders by offering design direction in Glendale.

The provisions and examples in the guidelines should be used as a starting point of design for all development projects in Glendale and will be used in the assessment of development proposals. While some developments may not be able to meet some of the guidelines, the design should still reflect the intent of the guidelines and demonstrate why the alternative solution is an optimal one.

Interpretation & Implementation of the Guidelines

What Are Urban Design Guidelines?

Urban design is the process of giving form, shape, and character to the physical elements that comprise an urban community or district. Good urban design promotes the vitality and health of a community by applying a higher standard of aesthetics, architecture, and compatibility, and by promoting vibrant and successful public spaces. Good urban design also plays a valuable role in improving the function of development sites, and by extension, to the community at large by emphasizing safety, comfort, and livability. Urban design guidelines are intended to guide site development to achieve a desired level of prescribed quality in both the public and private realms.

Urban design guidelines provide a starting point by translating design policies and standards that demonstrates the planning intent and configuration of communities, streets, sites, and buildings. Guidelines typically address the design of sites and buildings and their organization within a defined area, as well as their relationship to their surroundings - built and natural.

How Will the Guidelines be Used?

The Glendale Secondary Plan Urban Design Guidelines are to be read in conjunction with, and complement the objectives and policies of the Secondary Plan, Official Plan, the Town of Niagara-on-the-Lake Zoning By-law, and other guidelines or standards, such as the Engineering Design Criteria.

The guidelines, in concert with the Secondary Plan policies, will be used to evaluate development applications in order to ensure that the vision and design principles are achieved throughout the urban design elements of the Glendale community. The development and transformation of the private and public realms will be evaluated to ensure that a high quality of urban design achieves the intended level of sustainability and resiliency.

The guidelines is to be applied as an evaluation tool for development applications and used by:

- Town Council and Committees when evaluating whether an application meets the Town's vision for development in Glendale;
- Town staff and external agencies when reviewing development applications and as a reference for design decisions for proposed studies and projects;
- The development industry including but not limited to developers, consultants, and property owners to demonstrate how their proposals align with the Town vision; and,
- The public for use of greater awareness of the benefits of urban design in their community.

Structure of the Urban Design Guidelines

Development in Glendale will reference all sections of the guidelines to ensure that the design of the public realm, buildings, and sites are informed by the comprehensive vision and design goals of the Secondary Plan. The guidelines are organized under three main sections:

Public Realm

Public Realm guidelines are related to the design of elements within the public realm, including the design of streets, parks, trails, gateways, streetscape design elements, street trees and landscaping, and stormwater management facilities. Guidance is also provided for the interface with natural heritage features and their role as defining character elements in Glendale.

Private Realm

Private Realm guidelines are related to built form, building design and site organization and design within the private realm. They provide guidance on the design of specific residential, commercial and mixed use, employment, and institutional building types.

Sustainable Buildings & Infrastructure

Sustainable Buildings and Infrastructure guidelines apply to both the private and public realm and are related to energy and water conservation, waste management, green infrastructure and building practices, and urban agriculture.

Implementation Tools

Zoning by-laws address matters such as lot coverage, parking, setbacks, and height - many quantitative aspects of development's physical form. While zoning regulates how buildings sit within a lot or block, it represents only one of the planning tools that may be used to guide and shape development. Zoning is best used in conjunction with draft plan of subdivision or condominium design, or site plan control, all of which would consider the guidelines to create development that promotes design excellence, and is compatible with, and fits within, its surrounding context.

The guidelines describe the relative height, massing, and articulation of buildings and landscapes, and their relationship to one another and to their surroundings. These qualitative aspects of physical form work in combination with zoning parameters to lend shape and character to a community

The Town will utilize the guidelines to guide development and redevelopment to be more sustainable and resilient to climate change. The Town may consider the use of other tools such as the Community Benefits By-law, Community Improvement Plans, and associated incentive programs to assist with the implementation of sustainable development design standards.

Applicability

These Urban Design Guidelines apply to all projects in the Glendale Secondary Plan area subject to review and Planning approval by the Town through subdivisions, condominiums, and site plan control applications as permitted under the Planning Act and By-law No. XX-2023

Following the provisions of the guidelines does not preclude compliance with other development regulations associated with an application as required by the Town, Region of Niagara or other applicable jurisdiction. Where provisions of the guidelines may conflict due to the characteristics of a proposal, the more restrictive would apply and/or an alternative design solution(s) may be required that meets the intent of the guidelines.

Submissions

To assist decision makers, stakeholders, and community members in understanding proposals for new development or redevelopment, the Town may request that applicants prepare an Urban Design Brief to describe the project and demonstrate to the Town how their proposal meets the guidelines, including any additional written materials, graphic illustrations, and diagrams necessary to demonstrate compliance with the guidelines. A Terms of Reference is for the Urban Design Brief is provided in Appendix A.

2 Public Realm

The design and organization of the public realm will contribute to the place-making of Glendale and to the framework and setting for development.

Guidelines for the public realm will address matters such as the arrangement of streets and blocks, circulation, streetscapes, parks and open spaces, views, natural heritage features, and stormwater management facilities. The successful design of the public realm includes creating diverse, comfortable, welcoming, safe, and accessible spaces.

The guidelines will be considered when municipal initiatives or private development applications impact elements of the public realm.

This chapter includes the following topics:

- Universal Design
- Community Design
- Streetscape Elements
- Streets
- Natural Heritage System, Parks & Open Spaces
- Active transportation
- Stormwater Management Facilities

The Region's *Complete Streets Design Manual (January 2023)* was used as reference for these guidelines.

Universal Design

Universal Design seeks to ensure that urban environments and spaces open to the public are accessible and usable by people regardless of age or ability.

Guidelines

a) Design of public spaces and elements should incorporate the key principles of Universal Design, including:

- Equitable use (does not disadvantage, stigmatize or privilege any group of user);
- Flexibility in use (accommodates a wide range of individual preferences and abilities);
- Simple and intuitive (easy to understand regardless of user's experience, knowledge, or language skills);
- Low physical effort (can be used efficiently, comfortably and with minimal fatigue);
- Perceptible information (communicates all necessary information to all users regardless of ambient conditions or the users' abilities);
- Tolerance for error (minimizes hazards and adverse consequences of accidental or unintended actions);
- Size and space for approach and use (provides appropriate size and space for approach and use regardless of body size, posture or functional ability).

b) Streets, parks and other spaces open to the public must meet the accessibility requirements of the *Accessibility for Ontarians with Disabilities Act* (AODA), the *Planning Act*, the *Integrated Accessibility Standards Regulation*, any applicable *Zoning By-law(s)* and the *Ontario Building Code* (OBC).

Ensure public spaces are accessible

Provide appropriate infrastructure to support accessibility

Community Design

Community design is defined by the structuring framework of the natural heritage and open space systems, the road network, and the various permitted land uses. Community design plays an important role in the overall quality and function of Glendale.

Guidelines

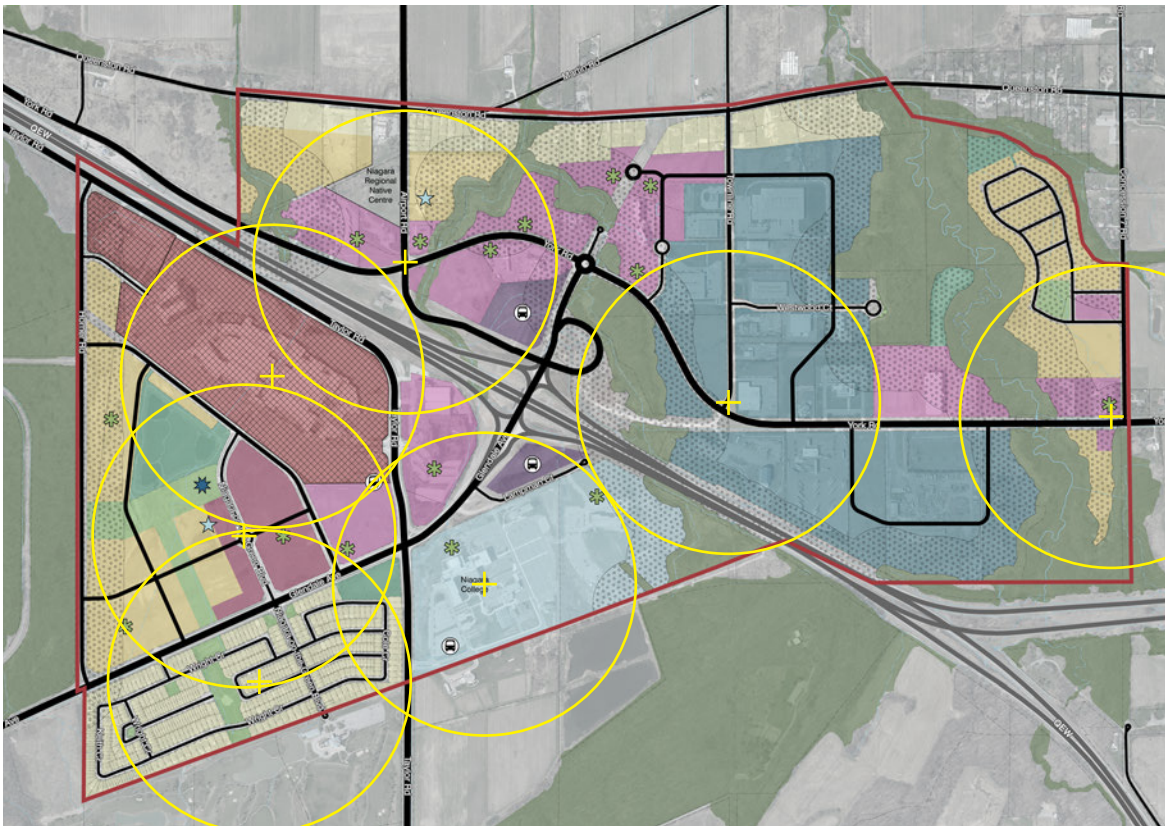
a) The street network should provide a high level of connectivity, taking into account the existing and proposed urban structure of adjacent and adjoining areas, such as by extending adjoining streets into or through new developments and subdivisions.

b) Design the street and block pattern to emphasize connections, both internally and with surrounding neighbourhoods, through a grid or modified grid pattern.

c) Gaps in the existing street grid should be completed by providing connecting streets through developments to ensure the effective continuity of the street pattern.

d) Avoid use of cul-de-sacs, p-loops, and crescents, except where necessary due to grading, topography, environmental features, or existing development that prohibits a connection.

e) Avoid back-lotting or reverse lot frontages.



Schedule 1 - Land Use Designations of the Glendale Secondary Plan with 400m walking radii overlaid

f) Terminate streets at public facilities or landmark buildings, parks, open spaces, or views or vistas of rural or natural areas.

g) Encourage the layout of streets to relate to and maintain views of natural areas, water courses, parks, and rural edges, such as by using single-loaded window streets along such features.

h) Daily activities, such as transit (local bus routes), elementary schools, parks, and modest services should generally be within a typical walking distance of 400 metres (5 minute walk) of residential units.

i) Blocks should generally be no more than 200 metres in length to provide neighbourhood permeability, promote active transportation, discourage excessive driver speed, and disperse traffic movements.

j) An interconnected network of sidewalks, bicycle routes, transit, and multi-use trails should provide for continuous movement throughout the community, ensuring integration with surrounding neighbourhoods and a variety of destinations.

k) Create a network of green spaces open to the public that provides a variety of amenities and activities that complement those of the existing parks and open spaces in Glendale.

l) Implement traffic calming measures such as on-street parking, reduced lane widths, public laneways, raised intersections, curb bulb-outs, and/or traffic circles to reduce vehicular traffic speeds and to ensure safe walking and cycling environments.

Community structure of a new development in Markham

Streetscape Elements

Sidewalk Clearway

Sidewalks are an essential element of the street allowing for the safe, accessible, and efficient movement of pedestrians. The sidewalk clearway should remain free and clear of obstacles at all times so that pedestrians can travel in a direct, continuous path.

Guidelines

a) Ensure sidewalks are continuous throughout the community and constitute an integral part of the pedestrian system to promote active transportation. Sidewalk clearway widths are context-specific and depend upon expected pedestrian volumes:

   – Minimum of 1.8 metres on Local Streets;

   – 1.8 to 2.1 metres on Collector and Arterial Streets; and,

   – 2.1 to 3.0 metres or higher in high pedestrian areas along commercial or mixed-use frontages, particularly where retail is provided along the street.

b) Sufficient space for street furnishings, public utilities, lighting, tree plantings, and transit shelters should be provided in addition to the sidewalk clearway in an adjacent furnishing zone.

c) On Arterials and some Collector types multi-use trails may be substituted for sidewalks on one side of the street based on location and as approved by the Town.

An enhanced public realm with wider sidewalks and plantings

Special paving and wider sidewalk in high pedestrian area

Street Trees and Planting

Street trees contribute to the urban tree canopy, act as a buffer to separate the pedestrian from moving vehicles, and create a canopy and shade over sidewalks to enhance pedestrian comfort. For more detailed guidelines on tree planting, see **Section 5 Green Buildings & Infrastructure**.

Guidelines

a) Plant street trees along all streets and consider a diversity of native tree species to avoid a mono-culture.

b) Tree spacing is recommended at 8 to 10 metres on centre, depending on species growth rate expectations.

c) Encourage the delivery of alternative planting strategies along high-pedestrian areas such as soil cells, sufficient soil medium, continuous planting trenches, etc., to sustain long-term growth and healthier tree life.

d) Utilize a comprehensive planting and soils strategy based upon species diversity, resiliency, and urban tolerance.

e) Where appropriate, use low maintenance, drought resistant, and salt tolerant landscaping within medians and roundabouts.

f) Plant a double row of trees in key areas, such as adjacent to parks and where a wider boulevard exists.

Tree-lined commercial street in Kansas City

Trees in open planting beds that also function for stormwater management

Sidewalks with street trees to provide shade and increase tree canopy

Street Furniture

Street furniture is an essential component of comfortable, pedestrian supportive streetscapes. Street furniture includes seating, benches, bicycle racks, bollards, and raised planters, among others.

Guidelines

a) Concentrate street furniture in areas with the highest pedestrian traffic, such as along retail and commercial areas, at transit stops, gateways and at key intersections (such as signalized intersections).

b) Provide a coordinated and consistent family of street furnishings, with standardized types and styles.

c) Locate the majority of seating in shaded areas.

d) Ensure that street furniture does not obstruct pedestrian, cyclist, or vehicular circulation.

e) Where raised planters are used in the boulevard, they should be designed to function as alternative seating along the sidewalk edge.

f) Ensure the placement of bicycle racks within the pedestrian realm does not impede pedestrian movement.

Coordinated streetscape elements, West Don Lands, Toronto

Coordinated and grouped streetscape elements

Bicycle racks designed as an interesting design feature along the street

Street Lighting

Street lighting is important for the safety and comfort of pedestrians and the safe operation of traffic on Town streets.

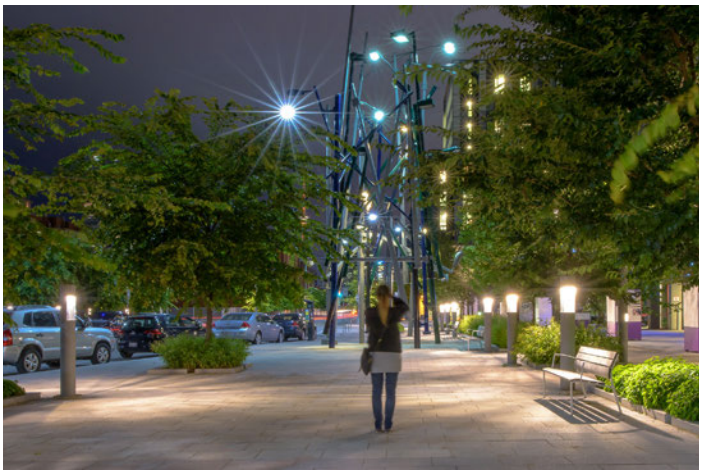
Guidelines

a) On streets with higher pedestrian traffic (eg. on Main Streets) provide pedestrian-scaled street lighting to enhance safety and visibility.

b) Consider sustainability and the impacts of light pollution in the design and location of lighting.

c) Group street lighting with street furniture, waste receptacles, and landscaping elements to minimize disruptions to pedestrian circulation.

d) Create a standardized palette of types, styles and varieties of decorative lighting that coordinates with the streetscape furnishings palette, takes into account maintenance requirements, and minimizes the total number of types used.



Pedestrian scale lighting adds character to street

Dark sky compliant light fixtures

Pedestrian Crossings

Strongly identified pedestrian crossings are an essential part of providing a safe and comfortable pedestrian experience. When clearly defined, pedestrian crosswalks will help to minimize conflicts between vehicles and pedestrians.

Guidelines

a) Provide formal pedestrian crossings at every four-way intersection in high pedestrian areas in order to promote walkability and a pedestrian-focused environment.

b) Provide signalized pedestrian crosswalks at locations where important destinations or significant walking traffic is anticipated, such as near retail shops and schools.

c) Ensure pedestrian crossings have a minimum width of 3.0 metres, are continuous, and connect to adjacent sidewalks.

d) In key areas, such as on Main Streets and at gateways, use feature paving such as alternative paving markings or materials, or distinctive painted lines to minimize the conflict between vehicles and pedestrians and to enhance the visibility and quality of pedestrian crossings.

e) Define and enhance safe routes to schools to create a link along a route to a school. Provide pedestrian crossings, signage, and other pedestrian safety features and amenities as determined appropriate and effective by the Town.

f) Minimize the height of curb cuts to facilitate wheel-chair and stroller usage in high pedestrian areas.

g) Consider providing additional protections for pedestrians crossings such as refuges at very high volume intersections such as at Glendale Avenue and Taylor Road.

Decorative paving, wider sidewalk and clearly demarcated pedestrian crosswalks

Pedestrian crosswalk defined by special paving and a refuge

Community Mailboxes

Community mailboxes consist of a piece of street furniture containing multiple mailboxes and parcel compartments that can be locked individually, providing secure, convenient, 24/7 access to mail and parcels.

Guidelines

a) Mailboxes should be located either at parks or stormwater management facilities along the street edge, or along side yards between the sidewalk and the corner lot line.

b) Ensure community mailbox locations preserve the privacy of adjacent residences or provide appropriate screening.

c) Where appropriate, coordinate the location of community mailboxes, newspaper boxes, seating, and waste receptacles.

Utilities

Utilities such as electricity, telecommunications, water and gas supply, sewage and stormwater, are essential to the functioning and servicing of an urban area, but care must be taken to minimize the impacts of utilities on the use and appearance of the right-of-way.

Guidelines

a) Wherever possible, utilities should be buried below grade. The use of a joint utility trench is encouraged for access and maintenance benefits to maximize available space for street trees.

b) Where below-grade utility design is not feasible, group at grade utilities in single locations to minimize their aesthetic and access impacts on the public realm.

c) Encourage utility design that minimizes street clutter. Utilize products that incorporate street lighting and telecommunications facilities within the same utility pole.

d) Locate above-grade utility poles to allow street trees to be included in the right-of-way. Consider rearranging sidewalk location and boulevard widths to provide separation between utility poles and tree planting locations.

Traffic Calming

Traffic calming measures reduce vehicular traffic speeds and contribute to a safer walking and cycling environment.

Guidelines

a) Traffic calming designs should correspond to the appropriate engineering standards and must be approved by the Town. Additional traffic calming designs to reduce vehicular traffic speeds and to ensure safe walking and cycling environments may include:

   – Pedestrian-priority streets, woonerfs or home-zones (i.e., the speed limit is under 15km/hr. and vehicles must yield to pedestrians and cyclists);

   – Street design that discourages vehicle speeding through right-of-way curvature, raised intersections, curb bump-outs, minimizing curb radii, medians and/or roundabouts, building proximity to the street, and boulevard street tree planting; and/or,

   – Minimize the number of traffic lanes in the roadway.

b) Consider curb extensions (bump-outs) on streets to provide improved pedestrian safety. These should be designed to:

   – Reduce crossing distances and provide safe refuge for pedestrians waiting to cross the street;

   – Reduce vehicle speeds; and,

   – Include a combination of landscape and hard surface elements to improve aesthetics.

c) Consider providing traffic calming measures on all Town-owned streets, including Collector Streets.

Planting at bump outs help to calm traffic

Flat mountable curb for bump out on a truck route (image: NACTO, CC BY-NC 2.0, Flickr)

Curb extensions provide improved public safety

Gateways

Gateways play an important role in a community's structure and design by providing visual landmarks that enhance the sense of arrival and place, promote community character and assist with wayfinding. Community Gateways occur at major entry points to neighbourhoods.

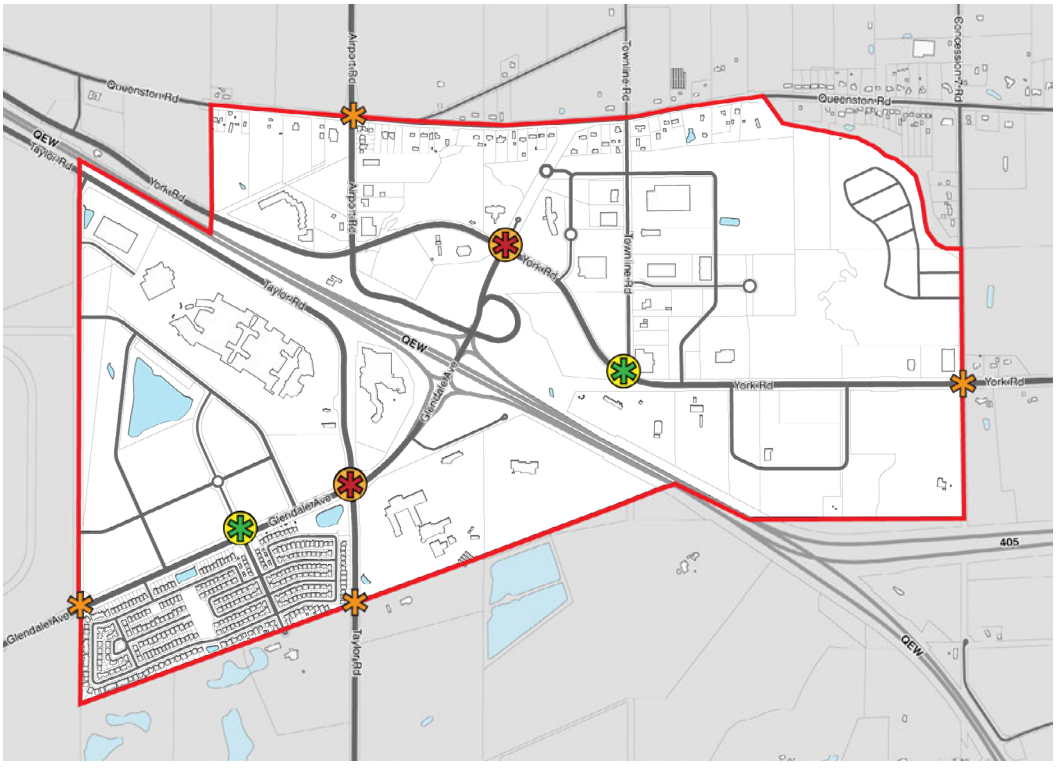
Guidelines

a) Minor gateways are located at main road entrances into Glendale and should include welcome signage in a landscaped feature area that may include low walls, fencing or enhanced landscape treatment.

b) Major gateways are located at key intersections in the heart of Glendale and should include elements such as public art, signage, a pedestrian-oriented landscaped feature area, shade structures, and distinctive surface treatment for pedestrian crossings. Where there is a median, consider enhanced median plantings or banners or hanging baskets leading towards the gateway.

A gateway feature in the Village of Maple (image: York Region, CC BY-NC-ND 2.0, Flickr)

A gateway feature in King City (image: York Region, CC BY-NC-ND 2.0, Flickr)



Legend

- Minor Gateway
- Major Gateway
- Character Gateway

Map of gateway types and locations in Glendale

c) Character gateways are located at key entrances to important areas such as the Main Street area along Niagara-on-the-Green Boulevard. Character gateways should include elements such as signage, a pedestrian-oriented landscaped feature area, shade structures, and distinctive surface treatment for pedestrian crossings.

A gateway feature in King City (image: York Region, CC BY-NC-ND 2.0, Flickr)

Transit-Supportive Systems

Transit-supportive systems require densities and development patterns that connect people of all ages to homes, jobs, school, and other places linked to their lifestyles.

Guidelines

a) Complement and support the transit system through a network of on-street and off-street active transportation facilities, such as bicycle lanes, multi-use trails, and sidewalks to further promote inter-modal and first-mile and last mile connections (walking, cycling, transit).

b) Support bike use through the provision of bike racks and bike storage at transit stops and stations.

Bicycle racks at a transit stop supports active transportation (image: Tom Flemming, CC BY-NC 2.0, Flickr)

Signage and Wayfinding

Wayfinding helps to orient people to key destinations, such as parks, and the location of parking and amenities, such as washrooms. Maps, directional signs, identifier signs and interpretive panels are all components of wayfinding and signage that contribute to enjoyable visitor experiences in which people are comfortable to explore all that Glendale has to offer whether walking, driving, or cycling.

Guidelines

a) Enhance wayfinding by using buildings as gateways and landmarks, public spaces as focal points, and streetscapes to frame significant views.

b) Wayfinding signage should identify local attractions, enhance awareness of key destinations and facilitate clarity and ease of movement between key destinations.

c) Signage and wayfinding should be designed and positioned for clarity and visibility (not blocked by vegetation) and where possible, information should be consolidated on one panel or post.

d) Signage should be simple, coordinated across the site, and be designed and located to reduce visual clutter. Image-based/graphical signage should be used wherever possible to improve universal understanding.

e) A hierarchy of coordinated directional signage should be provided to improve wayfinding for residents and visitors:

- Consolidate the direction to multiple destinations in directional signs for motorists and pedestrians.
- Provide a collection of information such as a map showing parking, key destinations and walking radius in an information kiosk or on a pedestal.
- Provide information on historic, cultural or environmental features on interpretive signs at key destinations.
- Identify key destinations such as parks, public docks, municipal buildings in a destination sign.

Wayfinding signage points out key destinations (image: City of Sydney)

Wayfinding map and directional sign pedestal

Directional signage to assist in pedestrian wayfinding

Interpretive sign, Tasmania, Australia

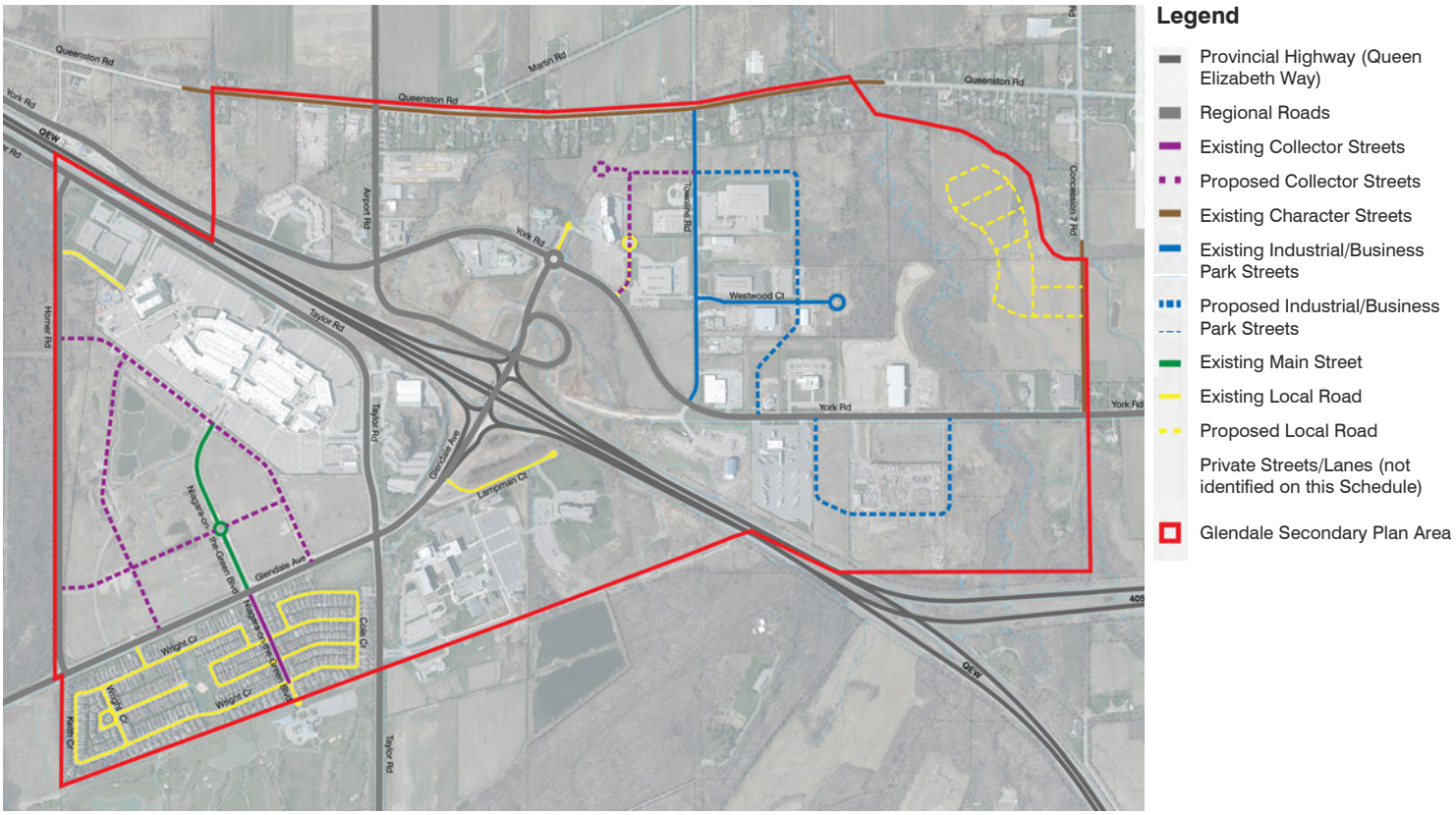
Streets

The street should be understood as the physical configuration and visual appearance of everything within the public right-of-way. The street can be broken down into two primary parts:

Boulevard: the part of the streetscape dedicated primarily to pedestrian use. The boulevard includes the sidewalks, planting, furnishing and market zones (where applicable), as well as multi-use paths and off-street bicycle facilities. The boulevard is also where the street interfaces and connects with adjoining buildings and uses.

Roadway: the part of the streetscape dedicated to the movement of vehicles. The roadway includes vehicular travel lanes, dedicated or shared bicycle lanes and lanes for on-street parking, loading, drop-off and bus lay-bys.

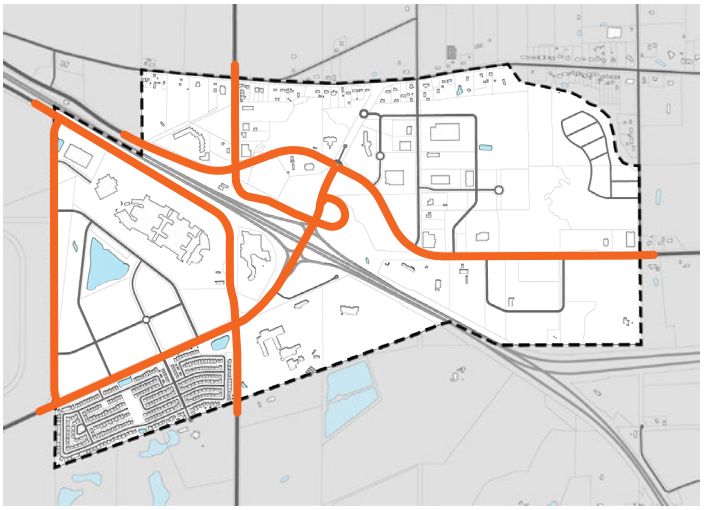
The specific technical details of the street cross-sections that follow (i.e., engineering standards) will be determined through the appropriate design review process. Refer to the Town of Niagara-on-the-Lake *Engineering Design Criteria* for typical street cross sections and the draft *Transportation Master Plan.*



Schedule 5 - Roads Network of the Glendale Secondary Plan

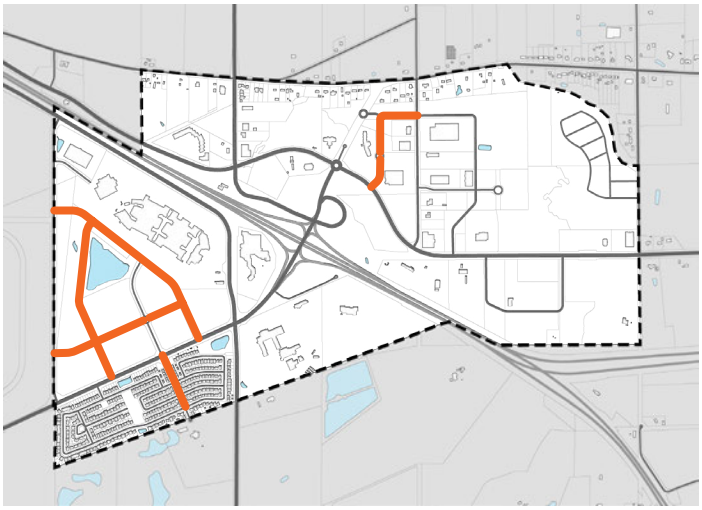
Regional Roads

Regional Roads are under the jurisdiction of Niagara Region and therefore and not included in these guidelines. Regional Roads in Glendale include Glendale Avenue, Taylor Road, Airport Road, York Road and Homer Road. Regional Roads will be designed according to the Region's *Official Plan*, their engineering standards and their *Complete Streets Design Manual (January 2023).*



Collector Streets

Collector Streets connect to Arterial Streets and provide primary connections to Local Streets.



Guidelines

General

a) Collector Streets generally have a right-of-way width of 26 metres.

Roadway

b) The street surface includes a single 3.3 metre wide travel lane in each direction. Higher volume streets may have 2 travel lanes in each direction.

c) Collector Streets may include 2.2 to 2.4 metre on-street parking on one side of the street in appropriate locations that do not interfere with transit operations.

d) Transit facilities may be accommodated on all Collector Streets.

e) Provide protected bike lanes or cycle tracks on both sides of the street.

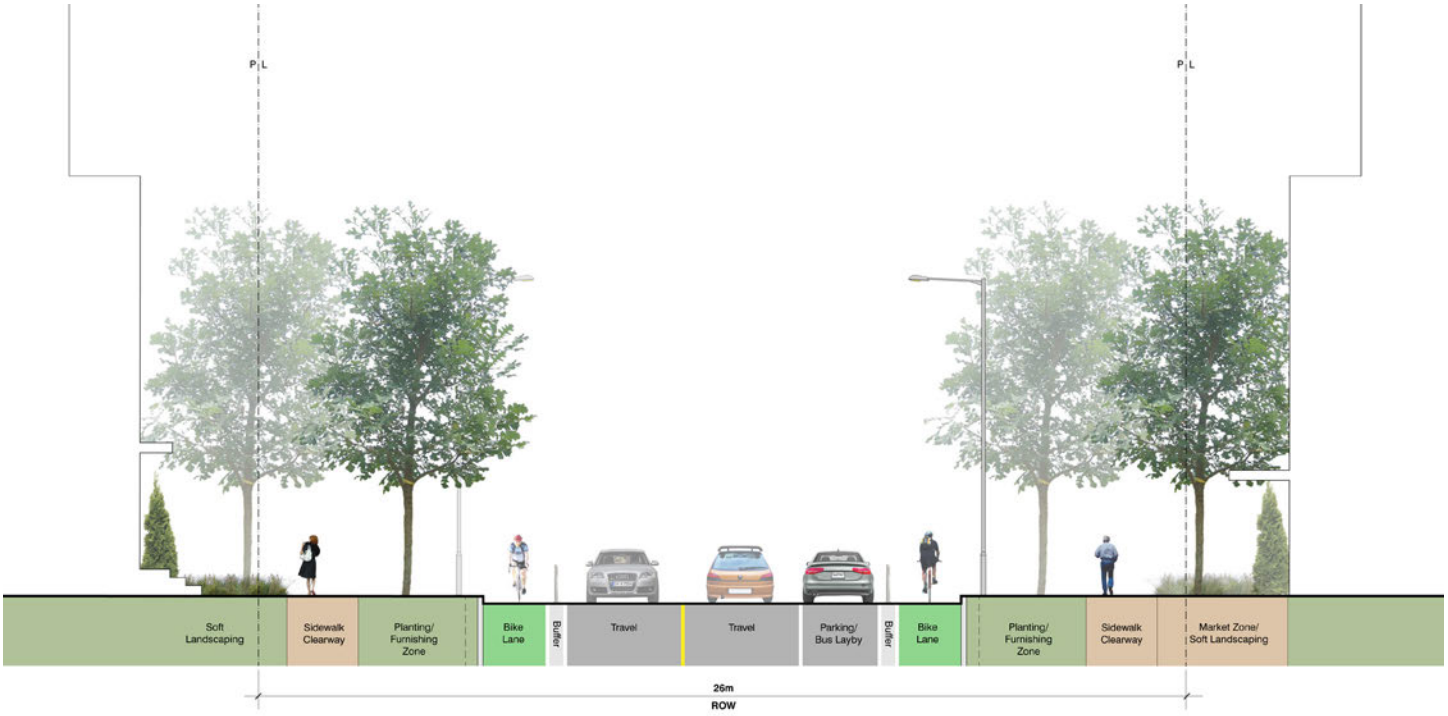
Boulevard

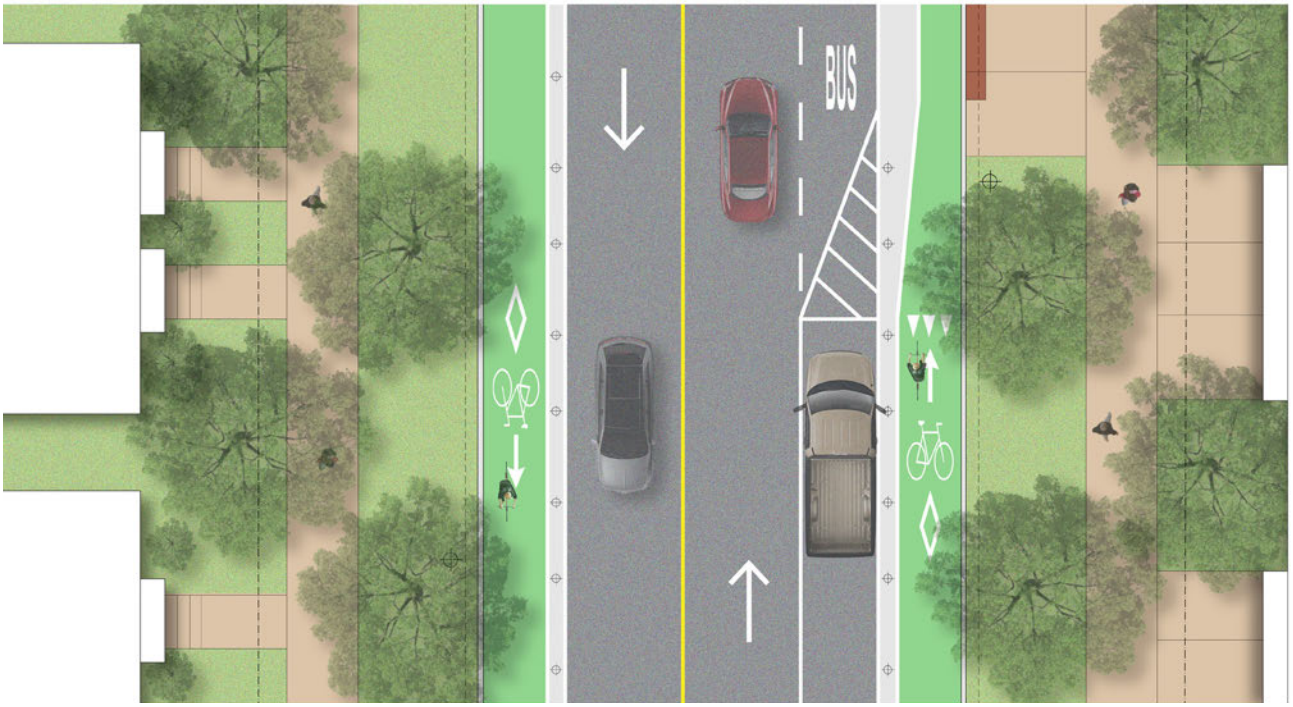
f) Collector Streets have boulevards on both sides of the pavement and accommodate a grass verge with street trees and minimum 2.0 metre sidewalks on both sides.

g) Street trees and landscaping should be located continuously along Collector Streets. Include a second row of trees where space allows.

h) Direct driveway access to development should be discouraged.

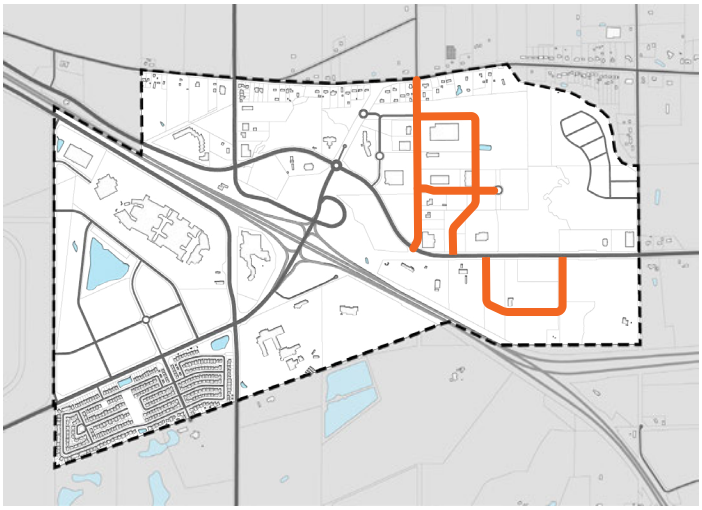
Typical Collector Street Cross Section





Industrial/Business Park Streets

Industrial/Business Park Streets are a type of Collector Street that provide direct access to industrial and commercial/employment areas. Examples of existing Industrial/Business Park Streets in Glendale include Townline Road and Westwood Court.



Guidelines

General

a) Industrial/Business Park Streets generally have a right-of-way width of 26 or 26.2 metres.

Roadway

b) The street surface includes a single 3.5 metre wide travel lane in each direction.

c) Transit facilities may be accommodated on all Industrial/Business Park Streets.

d) Provide cycle tracks on both sides of the street, or a 4.0 metre multi-use path on one or both sides of the street.

Boulevard

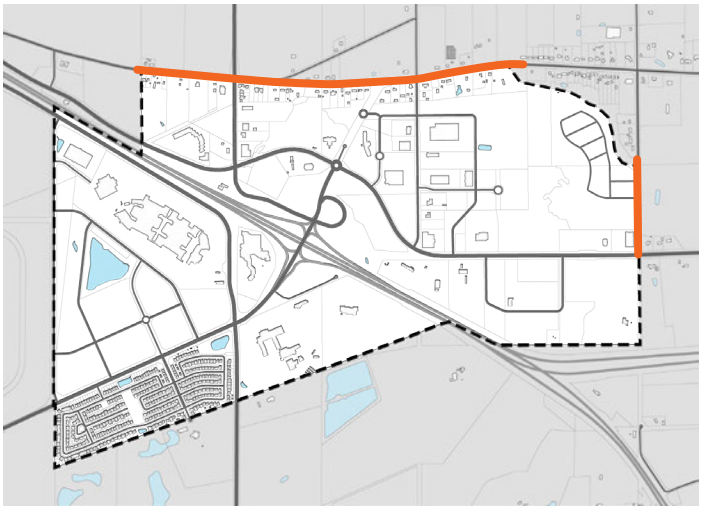
e) Industrial/Business Park Streets have boulevards on both sides of the pavement that accommodate a bioswale for drainage.

f) Street trees and minimum 1.8 metre sidewalks on both sides, or a 4.0 metre multi-use path.

g) Street trees and landscaping should be located continuously along Industrial/Employment Streets.

h) Direct driveway access to any development site is permitted.

Typical Industrial/Business Park Street Cross Section



Character Streets

Character Streets are a type of Collector Street that perform a transition between urban and rural land uses through a modified rural cross section. They are primarily located along the edges of Glendale. Character Streets in Glendale include Queenston Road and Concession 7 Road. Queenston Road currently has a rural cross-section that includes paved shoulders designated as bike lanes. Homer Road (a Regional Road) should be considered by the Region for treatment as a Character Street.

Guidelines

General

a) Character Streets generally have a right-of-way width of 26 or 26.2 metres.

Roadway

b) The street surface includes a single 3.5 metre wide travel lane in each direction.

Boulevard

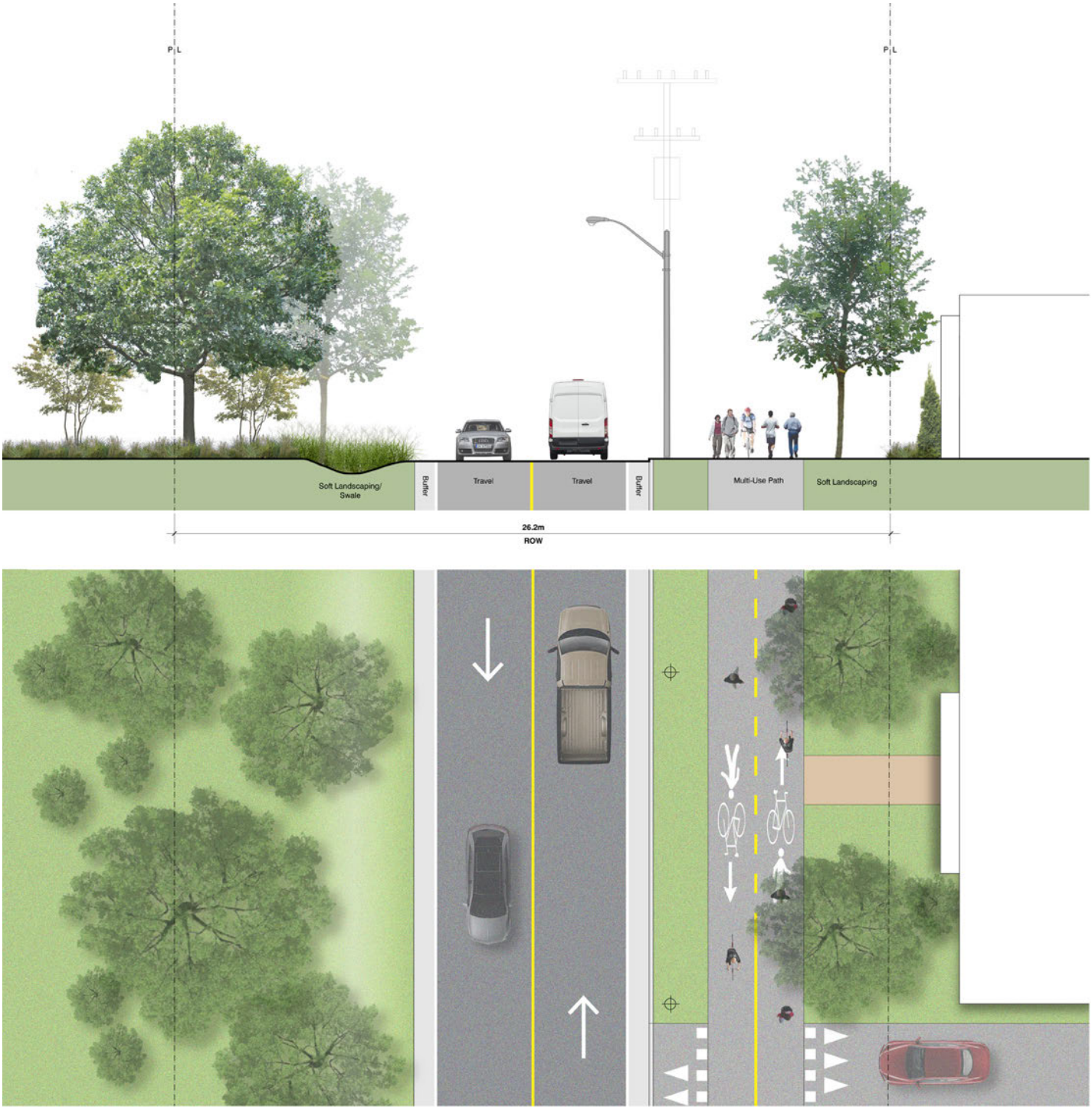
c) Character Streets have boulevards on one side of the pavement that accommodate a bioswale for drainage, with an urban curb and gutter on the other side.

d) Character Streets should have street trees and a 3.5 metre multi-use path on the urban/developed side, and more naturalized planting on the rural/natural/undeveloped side.

e) Street trees and landscaping should be located continuously along Character Streets.

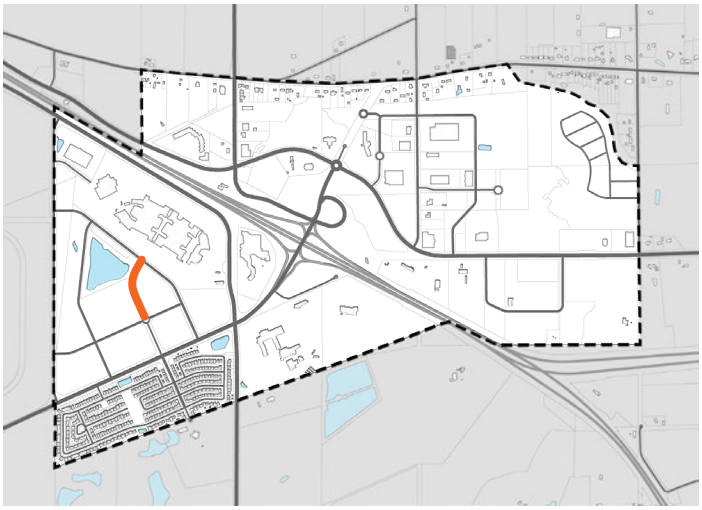
f) Direct driveway access to any development site is permitted.

Typical Character Street Cross Section



Main Street (Shared Street)

Main Streets are designed to support street-related retail development, high levels of pedestrian activity, and accommodate temporary closures for community events, activities and festivals. They should have a special character and be built to a higher design standard than other streets, while utilizing traffic calming techniques to slow vehicular traffic. The sole Main Street in Glendale is Niagara-on-the Green Boulevard, which is identified as an Enhanced Streetscape in the Glendale Secondary Plan.



Guidelines

General

a) Niagara-on-the Green Boulevard has a right-of-way width of 26.0 metres.

b) Locate the main front wall of buildings close to the property line to enclose the street space and promote the visibility of retail to pedestrian and vehicular traffic.

Roadway

c) The roadway includes a single travel lane in each direction to be shared with bike traffic.

d) Use decorative paving and rolled curbs to define the street as a special place and allow for seamless closures to traffic for events.

e) Include 2.2 to 2.4 metre wide flex spaces on both sides of the street that can be used as on-street parking or for patios or events.

f) Use curb bump-outs to narrow intersections and facilitate safer and shorter pedestrian crossings.

g) Use contrasting and clearly visible decorative paving or surface treatments to demarcate pedestrian crossings and/or crosswalks.

Boulevard

h) Use decorative paving for pedestrian surfaces complementary to the roadway paving.

i) Street trees and landscaping should be located continuously along Niagara-on-the Green Boulevard.

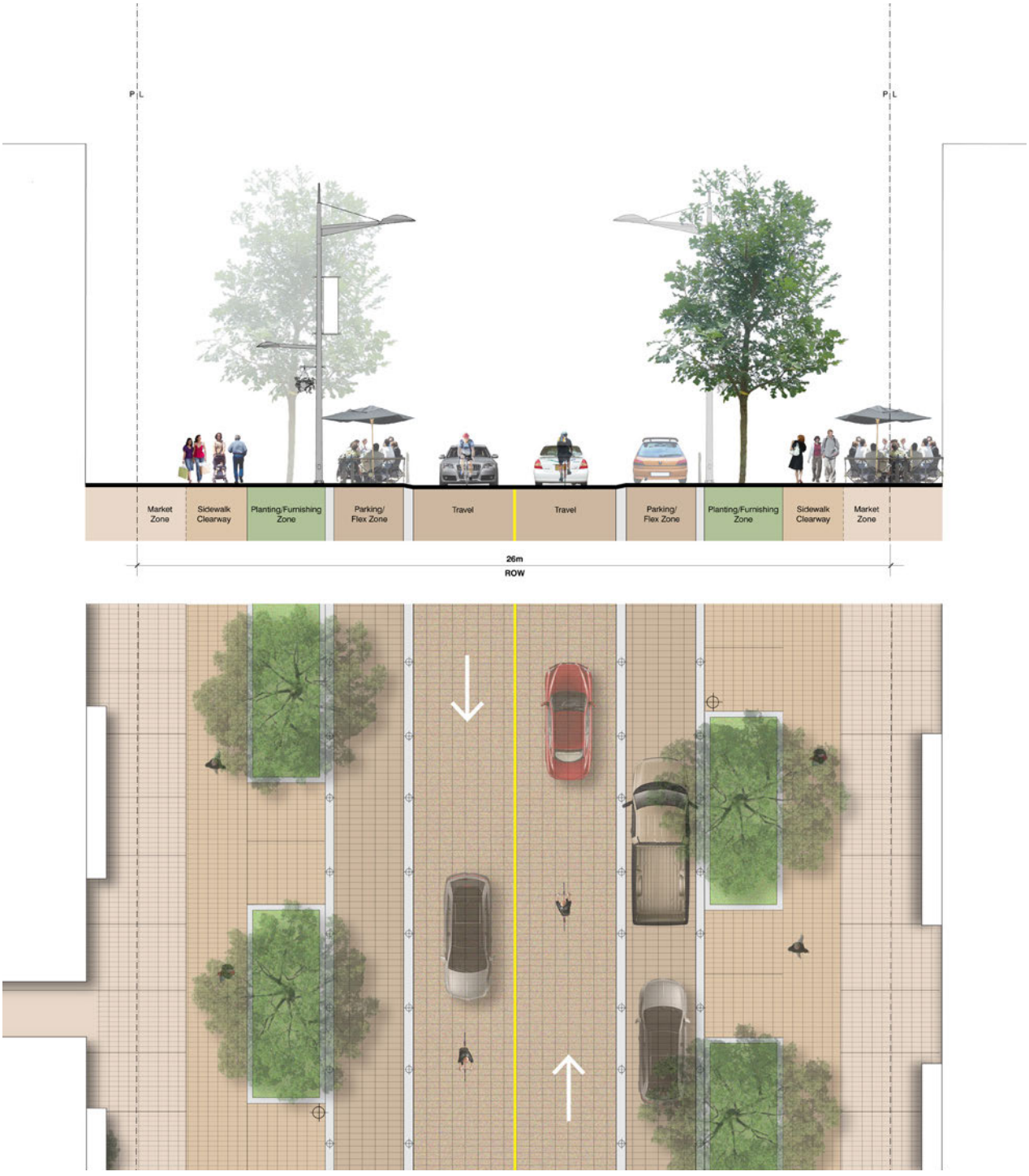
j) Provide a minimum 2.1 metre sidewalk clearway on both sides of the street.

k) Provide paved market zones adjacent to retail frontages.

l) Ensure tree planting areas are protected from foot traffic by raised edges or decorative low barriers and provide the required uncompacted soil volumes. Use soil cells to achieve the required soil volumes wherever necessary.

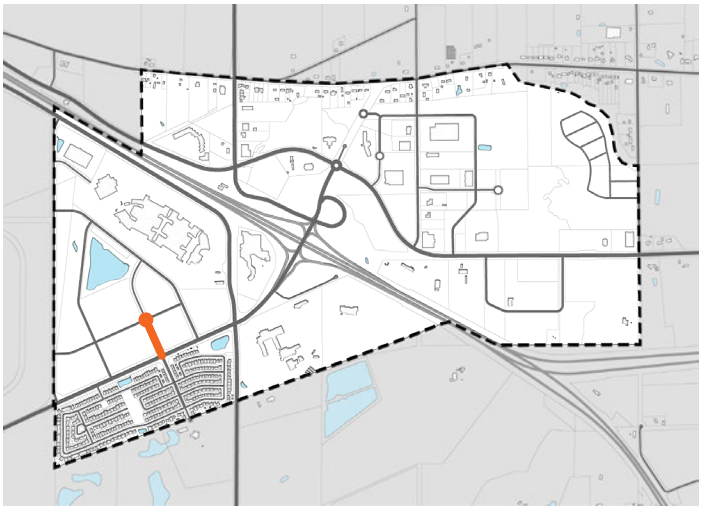
m) Decorative light standards with a pedestrian lighting fixture attachment should be used.

Main Street (Shared Street) Cross Section



Main Street (with Bike Lanes)

Using the same streetscape design language as on the Shared Street Main Streets, integrate bike lanes in both directions to provide a safe cycling connection northwards from the multi-use path along Glendale Avenue. The Main Street (with Bike Lanes) is located on Niagara-on-the Green Boulevard, which is identified as an Enhanced Streetscape in the Glendale Secondary Plan, south from the roundabout to Glendale Avenue.



Guidelines

General

a) Niagara-on-the Green Boulevard has a right-of-way width of 26.0 metres.

b) Locate the main front wall of buildings close to the property line to enclose the street space and promote the visibility of retail to pedestrian and vehicular traffic.

Roadway

c) The roadway includes a single travel lane in each direction.

d) Provide buffered bike lanes in each direction with a minimum width of 1.8 metres.

e) At the Glendale Avenue intersection, provide crossrides to connect to the multi-use path on the south side of Glendale.

f) Use decorative paving to define the street as a special place.

g) Use curb bump-outs to narrow intersections and facilitate safer and shorter pedestrian crossings.

h) Use contrasting and clearly visible decorative paving or surface treatments to demarcate pedestrian crossings and/or crosswalks.

Boulevard

i) Use decorative paving for pedestrian surfaces complementary to the roadway paving.

j) Street trees and landscaping should be located continuously along Niagara-on-the Green Boulevard.

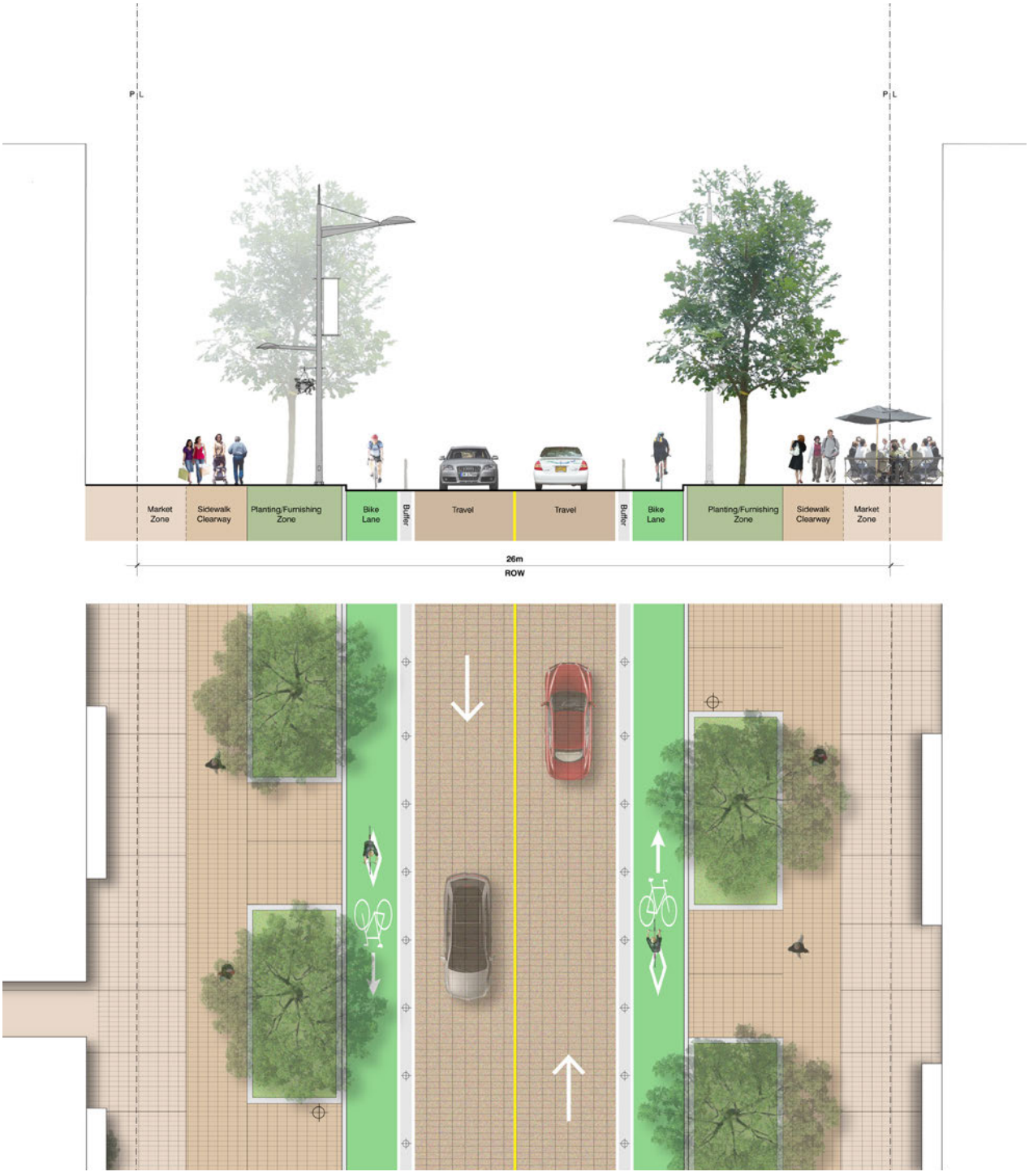
k) Provide a minimum 2.1 metre sidewalk clearway on both sides of the street.

l) Provide paved market zones adjacent to retail frontages.

m) Ensure tree planting areas are protected from foot traffic by raised edges or decorative low barriers and provide the required uncompacted soil volumes. Use soil cells to achieve the required soil volumes wherever necessary.

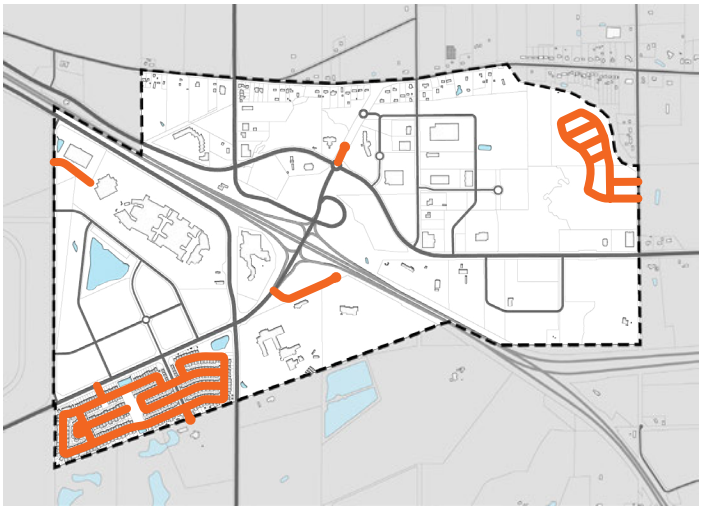
n) Decorative light standards with a pedestrian lighting fixture attachment should be used.

Main Street (with Bike Lanes) Cross Section



Local Streets

Local Streets serve critical social functions as places where kids play, neighbours interact, and where vehicles have the lowest level of priority. Local Streets also provide the fine-grain transportation network for the community, connecting to Collector Streets and linking with public spaces.



Guidelines

General

a) Local Streets have a typical right-of-way width of 18.0 metres, with a maximum of 20.0 metres. A reduced right-of-way width may be permitted where alternative development standards are deemed appropriate by the Town, for example where the development utilizes rear laneways.

Roadway

b) The street surface includes a travel lane in each direction, and may include on-street parking on one side of the street, that could alternate to either side of the street.

c) Consider bicycle movement a normal part of Local Street traffic movement; no dedicated bicycle infrastructure is required unless the street forms part of a key connection of the active transportation network.

d) Consider traffic calming measures such as curb bumpouts at intersections to encourage reduced vehicle speeds.

Boulevard

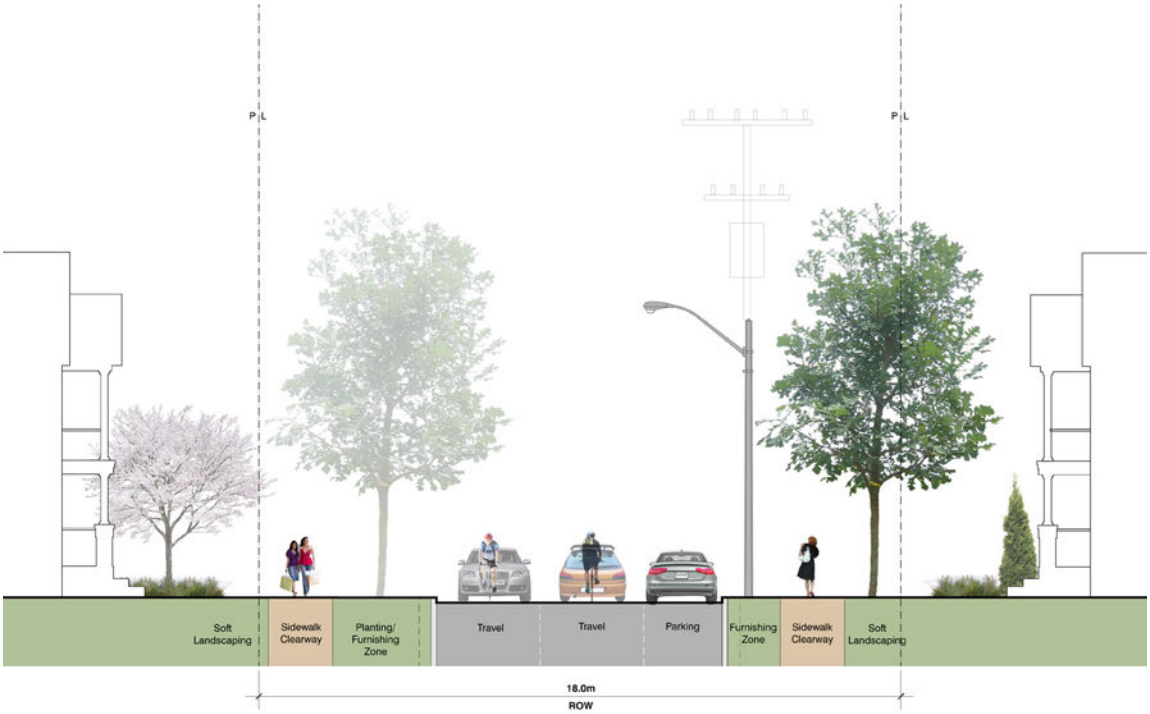
e) Street trees and landscaping should be located continuously along Local Streets.

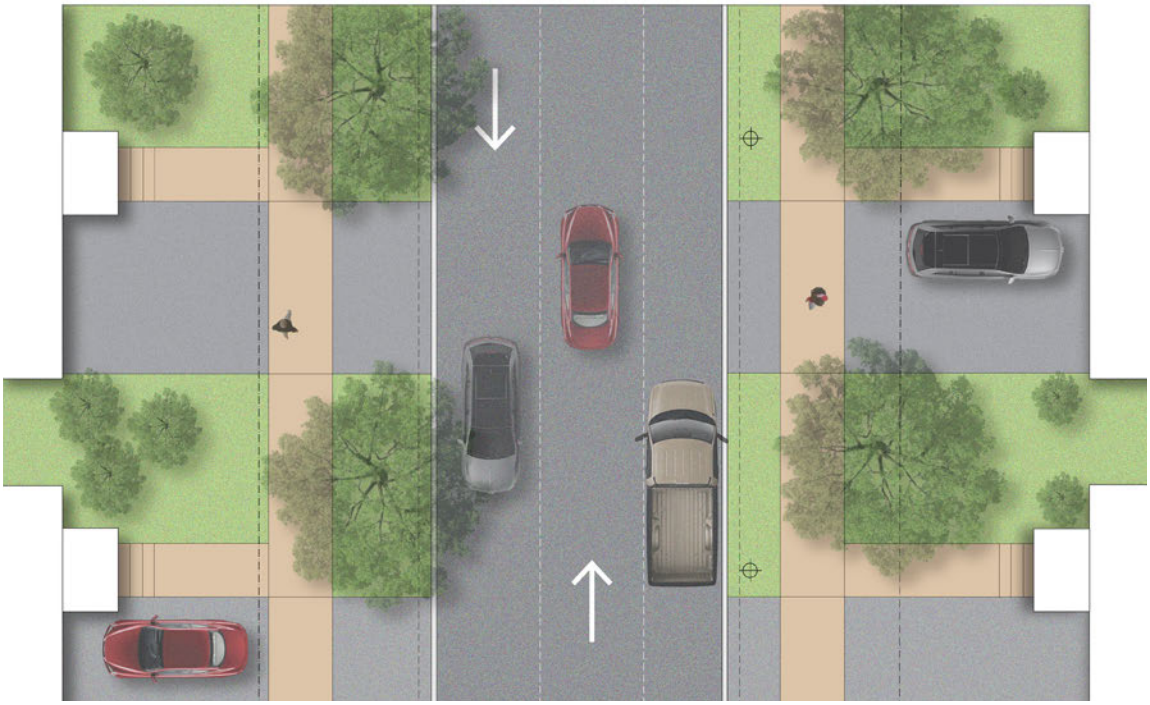
f) Consider additional rows of trees where space allows, including by negotiating locations on the adjacent private property (front yards).

g) Minimum 1.8 metre wide sidewalks on both sides of the street are recommended, particularly near schools and parks to facilitate continuous pedestrian connections.

h) Where the street includes above grade utility lines, consider an asymmetrical alternate boulevard (illustrated) with a narrow edge/ furnishing zone to avoid planting trees directly under the utility lines.

Typical Local Street Cross Section





Rear Laneways

The use of rear laneways provides significant benefits such as enabling continuous street tree planting, improving the visual appearance and social function of residential street facades, creating safer pedestrian environments through the removal of driveways crossing the sidewalks, and simplifying waste storage and collection, while offering the potential for narrower local and collector street rights-of-way. Laneways may be used in key locations to improve the visual quality of a streetscape, allow buildings to front onto open spaces, natural areas, and parks, and to provide access to residential uses and loading and service areas for commercial uses along Arterial Streets.

Guidelines

General

a) Laneways for residential uses should preferably be publicly owned as this guarantees a baseline level of maintenance and service provision.

b) Laneway rights-of-way should be a maximum of 8.5 metres with a paved surface of 6.0 metres.

c) The desirable laneway length is a maximum of 150 metres to be consistent with fire hydrant spacing on street connections.

d) Where laneways include a turn, provide minimum 9.0 metre radius elbows at the turn.

e) Consider the use of porous or permeable materials for the laneway surface and/or utility corridor.

f) Provide a 1.25 metre utility corridor on either side of the laneway.

g) Laneways should be used for waste collection.

h) Identify and set aside snow storage locations when designing new laneways.

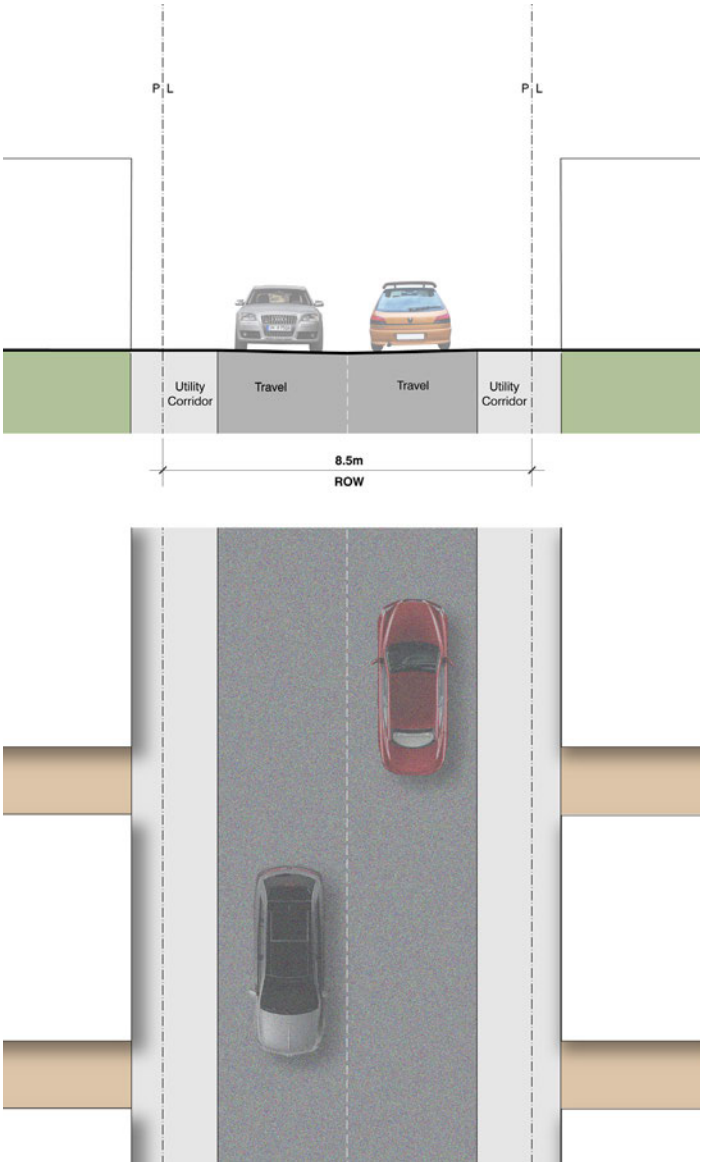
i) Provide a pedestrian connection to the building's front entrance where laneways provide vehicular access for housing fronting Arterial Streets, open spaces, and parks.

Lane with landscaping to enhance the visual appeal

j) Provide landscape areas in laneways where possible to enhance the laneway's aesthetic appeal and promote their use as gathering and playing areas.

k) Provide lighting at laneway entrances to promote vehicular and pedestrian safety.

Laneway Cross Section



Private Streets

The following guidelines apply to new streets which will not be owned or maintained by the Town and which facilitate access to new multi-unit residential, commercial or mixed-use developments on private properties.

Guidelines

General

a) Private Streets have a minimum right-of way width of 10.0 metres.

b) Identify and set aside snow storage locations when designing new Private Streets.

Roadway

c) Private Streets have a minimum paved surface width of 6.0 metres.

Boulevard

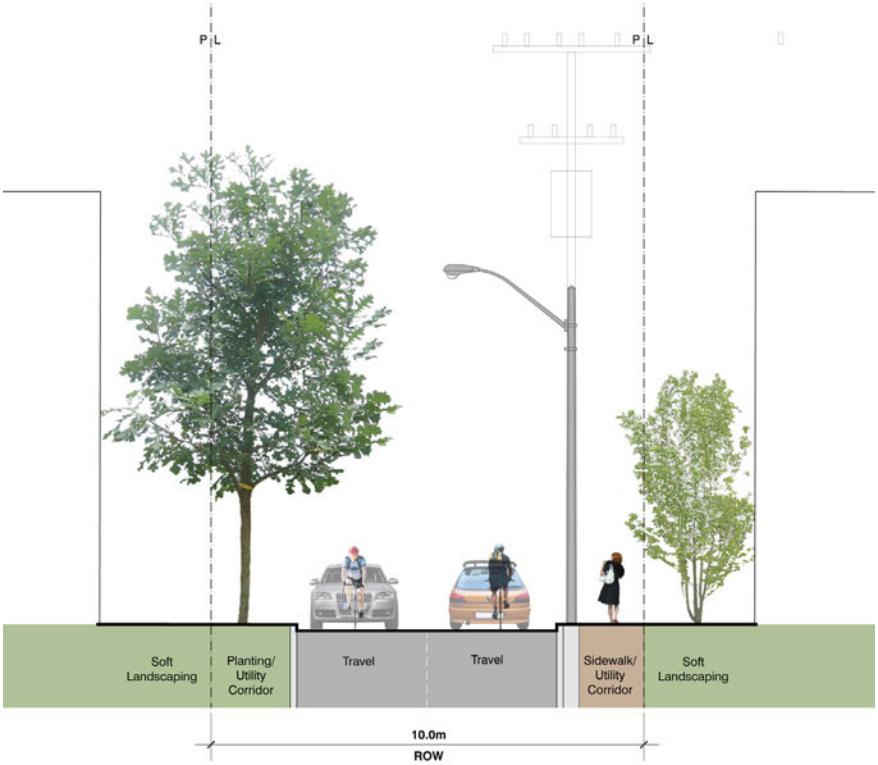
d) Provide a minimum 2.0 metre landscaped utility corridor on either side of the Private Street.

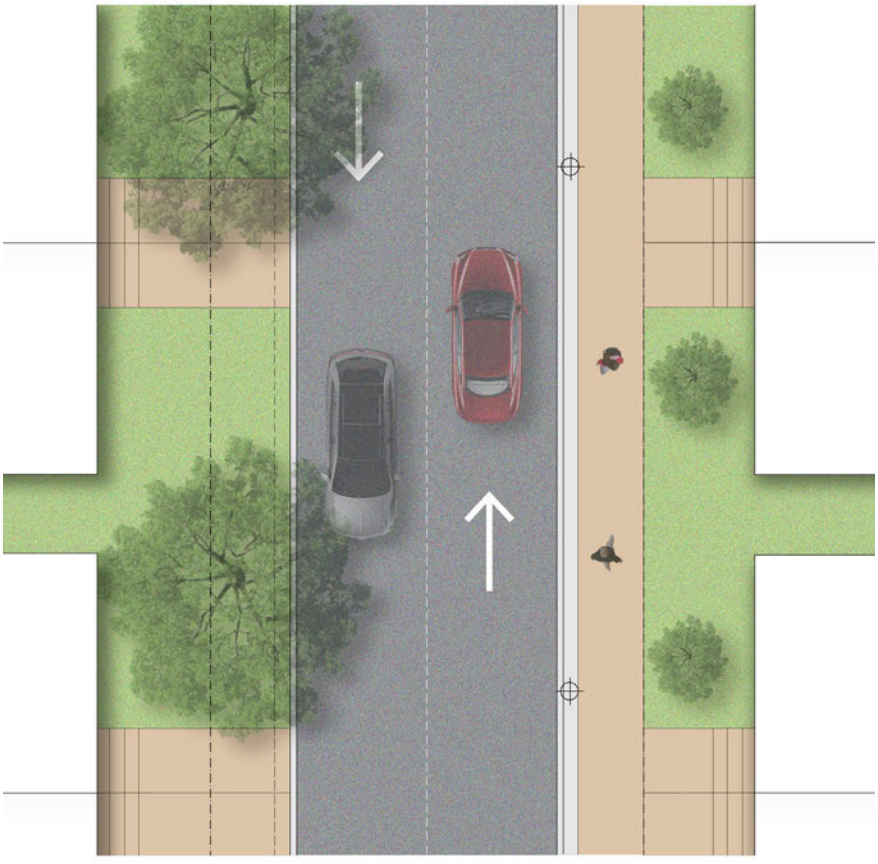
e) Sidewalks are required on at least one side of a Private Street, and may be located within the utility corridor.

f) Consider the use of porous or permeable materials for the roadway surface and/or utility corridor.

Walter Hardwick Avenue, Olympic Village, Vancouver (image: Maysa Phares, CC BY 2.0, Flickr)

Private Street Cross Section





Natural Heritage System, Parks & Open Spaces

The Natural Heritage System, Parks and Open Spaces are a functional, structural, and aesthetic component of Glendale. The natural environment, urban forest, parks, open spaces, and trail systems are essential components of a healthy, sustainable community ensuring residents have convenient access to a connected and diverse range of recreational opportunities.

Natural Heritage System

The Natural Heritage System contributes to the community's character and is a key structural element of Glendale. The following guidelines aim to protect, restore and enhance the Natural Heritage System, while mitigating any existing or potential negative impacts due to development.

General Guidelines

Guidelines

a) As opportunities arise, connect and integrate the Natural Heritage System with Parks and Open Spaces and the local and regional trail systems to buffer and expand natural heritage features and functions, ensuring ecological systems are not interrupted.

b) Integrate the Natural Heritage System as a key structural element in the neighbourhood's design by providing for a range of development interfaces that create opportunities for public vistas and connections to the Natural Heritage System (e.g. terminal views at the end of prominent streets).

c) Incorporate recreational opportunities such as trails within the Natural Heritage System to encourage physical activity, where negative impacts will not occur.

d) Provide frequent access points and significant street frontage along the Natural Heritage System to promote interconnection with the urban canopy and to create or preserve views of natural areas.

e) Provide naturalization planting and restoration to enhance the urban ecology and function of natural heritage features and their adjacent lands.

Integrate the natural heritage system with the community, creating opportunities for access, where appropriate

Woodlands

Woodlands provide benefits such as carbon storage, wildlife habitat, and regulating air, soil, and water quality, while also providing opportunities for residents to be able to directly experience naturalized environments.

Guidelines

a) Preserve and expand existing tree cover to connect and buffer protected woodlands and other natural areas and to mitigate heat island impacts.

b) Provide opportunities for naturalized plantings and landscape restoration to enhance and help to establish local ecological features.

c) Prevent direct access from private properties backing onto woodlands.

d) Ensure the location of trail heads will have no long term impact to the existing vegetation and wildlife communities.

Urban Forest

Trees provide ecological services that benefit human and environmental health, such as reducing heat island effect, sequestering greenhouse gases, providing shade in the summer, separating pedestrians from vehicular traffic, and contributing to more appealing sidewalks and streets.

Guidelines

a) Provide robust species selection to anticipate climate change conditions and operational constraints.

b) Provide street trees on both sides of the street in the public right-of-way.

c) Encourage a diversity of tree species along each street, native to the Town and Region, non-invasive, drought and salt tolerant, and low maintenance.

d) Plant a double row of trees in key areas, such as adjacent to parks and where a wider boulevard exists.

e) Encourage the delivery of alternative planting strategies along high-pedestrian areas such as soil cells, sufficient soil medium, continuous planting trenches, etc., to sustain long-term growth and healthier tree life.

Watercourses

Preserving and enhancing watercourses is important for providing wildlife and aquatic habitats and helping to preserve water quality and providing groundwater recharge.

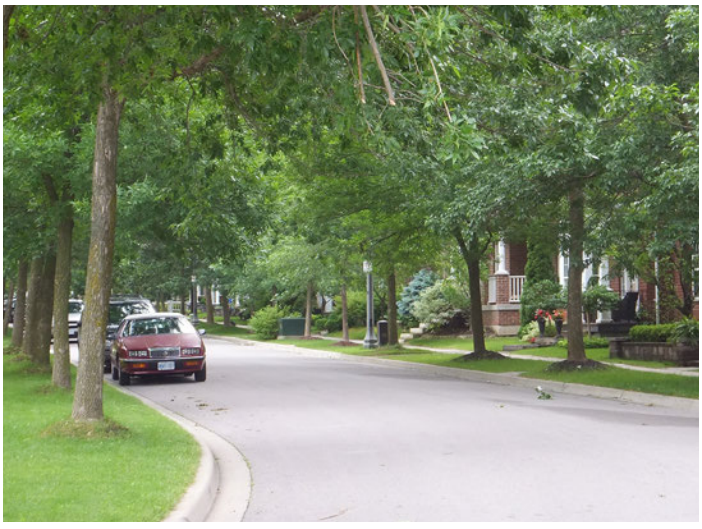
Guidelines

a) Preserve and enhance watercourses and maintain the habitat value and charm that the natural environment brings to residents and visitors by ensuring that all streams, creeks and rivers remain open and uncovered.

b) Covered or buried natural water courses should be daylighted as part of new developments or redevelopments where practical. This involves uncovering and appropriately rehabilitating the watercourses.

c) Introduce and maintain natural vegetation and other suitable erosion control methods on the banks of watercourses.

d) Plant trees or install other buffer measures where appropriate to protect watercourse banks and enhance the ecological corridor role of watercourses.



Street tree canopy contributes to the urban forest

Trail crossing a watercourse

Views

Enhancing the views of important natural heritage elements can play an important role in the creation of a sense of place. The best way to preserve or achieve those views is through the orientation of streets and buildings.

Guidelines

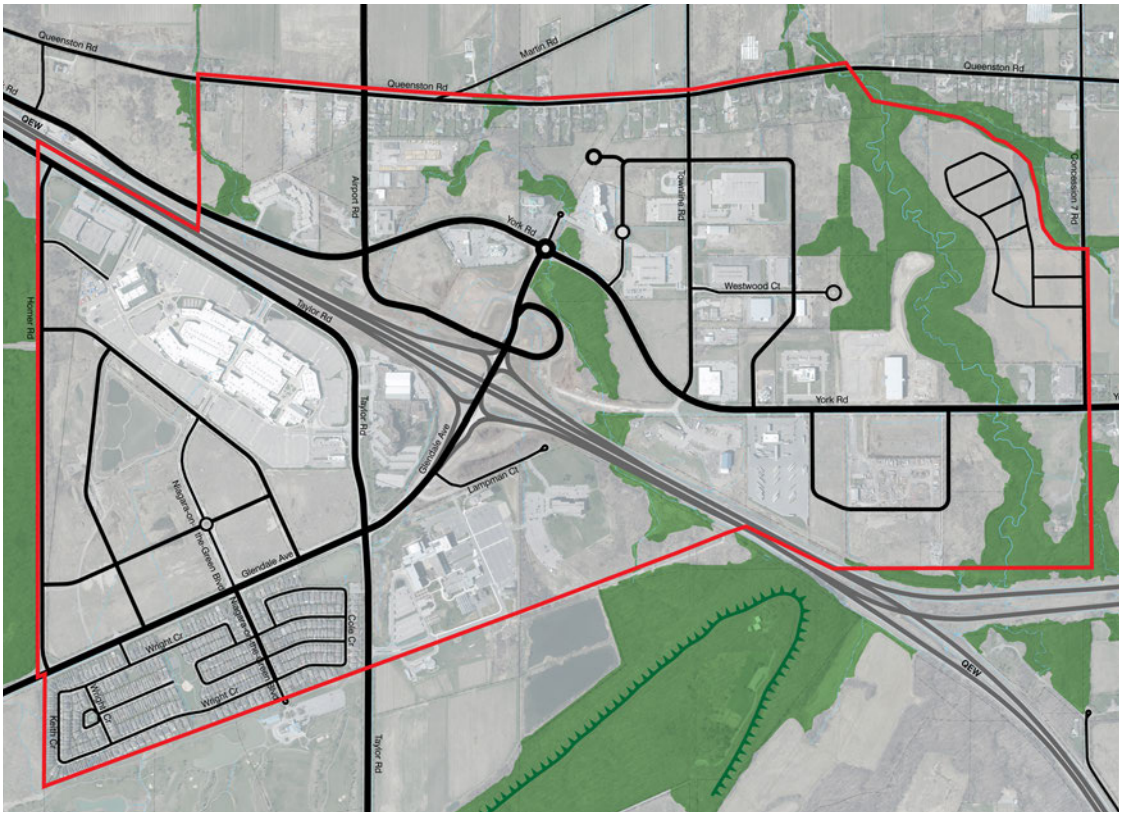
a) Orient streets and buildings to maximize views to the natural heritage system and Niagara Escarpment. These views are an opportunity to reinforce these natural elements as landmark features.

b) Existing natural features such as the Niagara Escarpment should form the basis for directing views.

c) Protect significant views through the location and configuration of open space opportunities.

d) Consider retaining and utilizing views from public areas of development sites as potential assets.

An old farm lane lined with trees integrated into Bonnie Braes Park, Brampton



Legend

- Natural Heritage System Core Areas
- Niagara Escarpment Edge of Slope
- Glendale Secondary Plan Area

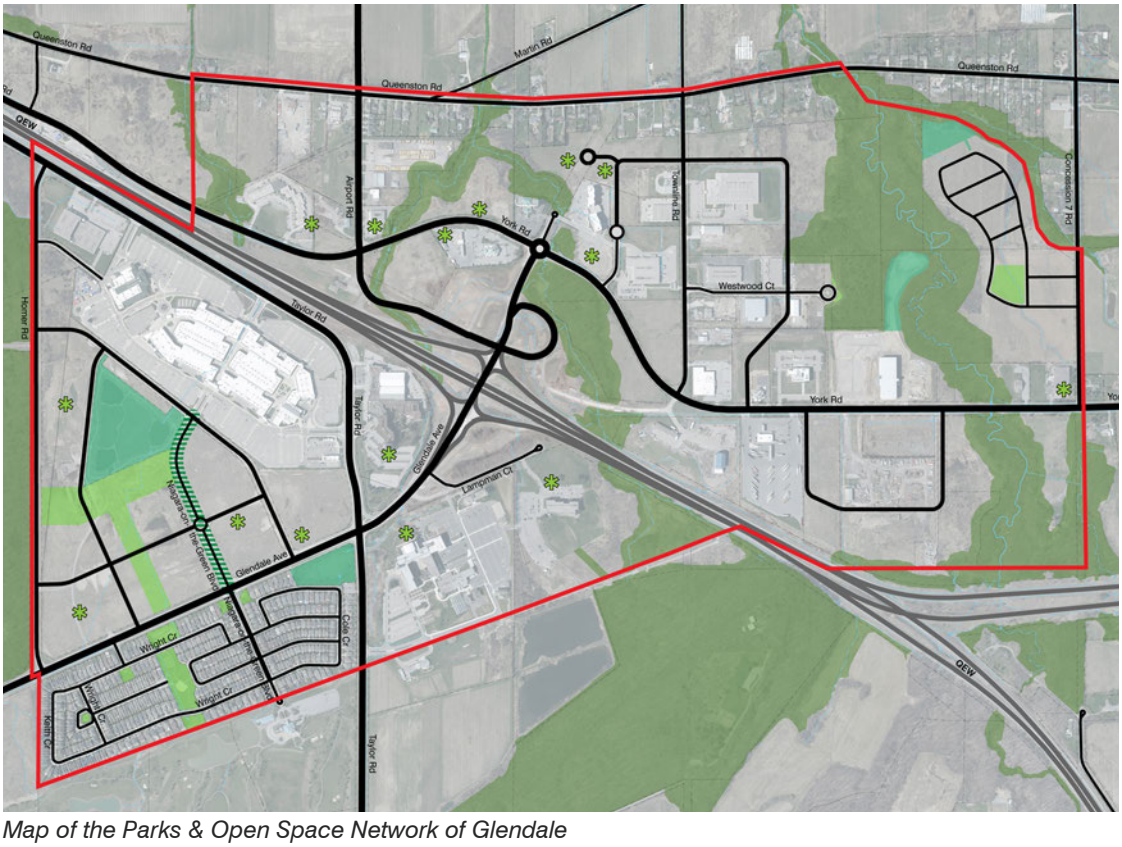
Map of the Natural Heritage System Core Areas in Glendale and the Niagara Escarpment edge of slope

Parkland Network

A Parkland Network provides for a variety of open spaces, parks, and recreation facilities to support opportunities for improved public health. Convenient access to these amenities encourages residents to walk and cycle, in addition to providing places for gathering, socializing, and active and passive recreation.

The Parkland Network consists of Public Parkland, larger neighbourhood parks, and Urban Park Spaces, which include smaller open spaces such as Urban Squares, Pocket Parks and Connecting Links.

Active transportation link through a park



Map of the Parks & Open Space Network of Glendale

Public Parkland

Public Parkland primarily benefits local communities, and can serve as an organizing element in a neighbourhood. These parks support a balance of active and passive recreation, such as playgrounds, skate zones, play courts, unlit sports fields and social gathering spaces, where space permits.

Lee Lifeson Art Park, Toronto

Guidelines

a) Public Parkland is intended to primarily serve local residents within a 10 minute walk (approximately 800 metres) and is typically between 0.75 hectares to 2 hectares in size.

b) Plan Public Parkland as focal points of neighbourhoods, preferably centrally located at the terminus of a major street or at the corner of a main intersection, and within walking distance of schools and other community amenities and destinations.

c) Ensure Public Parkland has significant frontage on adjacent streets to promote views and reinforce its focal nature. Street frontage should not be less than 30% of the park perimeter and should include frontage on at least 2 public streets.

d) Avoid backing residential lots onto Public Parkland, where possible.

e) Coordinate the design of park structures, such as gazebos, with other neighbourhood elements such as transit stops and community mail boxes.

f) Include a range of active and passive recreation opportunities in Public Parkland, such as playgrounds, waterplay, courts, walkways, seating, planting areas, and/or natural or cultural features.

g) Implement linkages between neighbourhood parks and other parks or natural heritage features.

h) Public Parkland is primarily comprised of softscape, but can have some hardscape elements.

i) Public Parkland may be co-located with school sites.

Neighbourhood park structure, with areas for seating and shade

Active recreation through the use of playgrounds

Urban Park Spaces

Urban Squares

Urban Squares are a moderately-scaled typology of the urban public park hierarchy commonly associated with higher intensity mixed use and residential areas. Urban Squares support neighbourhood-oriented social opportunities, as well as Town-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.

Guidelines

a) Locate Urban Squares to achieve significant public exposure and access with frontage on at least 2 public streets.

b) Urban Squares should be between 0.25 to 1 hectare in size and shall generally follow a 1:1 proportion of length to width.

c) Adjacent built form should have primary and active frontages facing the Square.

d) Design Urban Squares to enhance the character of the surrounding public realm through public art, site furniture, seating areas and places to eat, landscape treatments, as well as street-related activities such as vendor and exhibit space.

Larger Urban Squares with distinctive paving can be used to hold large-scale, occasional events, such as a farmers market

Pentagon Row, Arlington, VA
(image: Solomon Abrams, CC BY 2.0, Flickr)

e) Design Urban Squares 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.

f) Urban Squares should be primarily hard surfaced, but may include soft surface elements.

g) Use distinctive, high quality paving treatments for the Urban Square with consideration given to extending the paving treatment onto the street to give the space further prominence. This additional area would delineate an extended space that could be occasionally utilized for large-scale events such as a farmers market or festival.

h) Include community and civic event spaces as well as performance venues and playful elements for children.

i) 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.

Pocket Parks

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.

Guidelines

a) Pocket Parks should be a minimum of 75 square metres in size, and are intended to serve a local community that is generally within a 2.5 to 5-minute walk of residents, visitors and businesses.

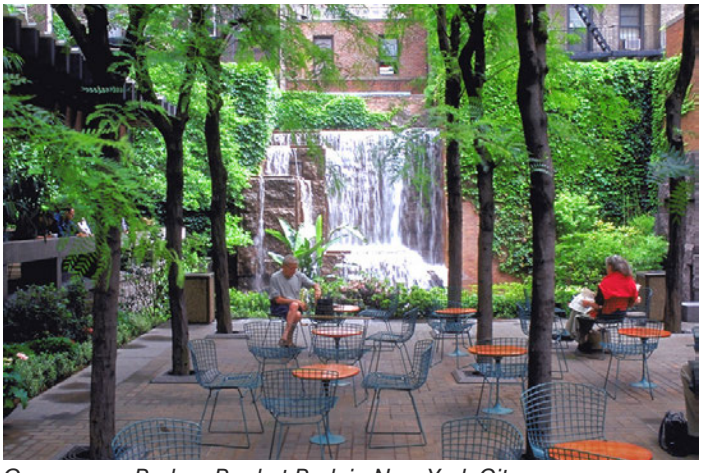
b) Pocket Parks should be connected to, and have at least 7.5 metres of direct frontage along the public sidewalk system.

c) Adjacent built form have primary and active frontages facing the Pocket Park.

d) Design Pocket Parks 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.

e) Pocket Parks should be primarily hard surfaced, with limited soft surface elements.

f) 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.



Greenacres Park, a Pocket Park in New York City

Connecting Links

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.

Guidelines

a) Connecting Links should be a minimum of 4 metres in width, and may be substantially wider, taking into account scale of adjacent buildings.

b) When enclosed, the floor to ceiling height of Connecting Links should be a minimum of 7 metres.

c) Connecting Links should be primarily hardscaped, with softscape and seating elements to provide amenity and visual interest.

d) Connecting Links should be well lit, promoting pedestrian comfort and safety.

e) Include signage to identify adjacent buildings.

f) Elements of the active transportation network such as sidewalks, mid-block connections, multi-use paths and trails may be considered as Connecting Links. Guidelines for Active Transportation are in the following section.

Connecting link lined with overlooking residential buildings

General Guidelines for Parks

Context, Heritage & 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. 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.

Village of Yorkville Park, Toronto

Awen Gathering Place, Collingwood

Guidelines

a) Each park should have an identity of its own, while also respecting, or enhancing, the neighbourhood character, including patterns, materials, and architectural style.

b) Encourage the reflection, protection or enhancement of Indigenous and non-indigenous cultural heritage and historical values in parks.

c) Work with Indigenous communities to celebrate and commemorate Indigenous history and/or culture by providing opportunities for Indigenous placemaking in public spaces.

d) Where possible, incorporate public art and local artifacts into the space, including opportunities for education and interpretation.

e) Effort should be made to understand and communicate the unique culture, history, or qualities of the community in the design of parks and public spaces.

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 urban park network can be used by people of all incomes, and all abilities by keeping park spaces free of charge and by ensuring they are distributed throughout Glendale. Parks should avoid designs that appear to privatize the space, or elements within it.

Parks must meet the requirements of the Accessibilities for Ontarians with Disabilities Act (AODA).

Neshama Playground, Toronto, PMA Landscape Architects

Playground with pathway and seating area and overlooking houses

Guidelines

a) Accommodate a variety of activities within the park space.

b) Minimize changes in grade between the open space and surrounding public space, including public sidewalks.

c) Where changes in grade are not avoidable, provide an accessible route that complies with AODA standards.

d) Strive to locate utilities such as manhole, handwell and water valves covers outside of walkway zones. Where grates are required in a walkway zone, orient them perpendicular to the direction of travel.

e) Provide a detectable edge and contrasting change in surface at the edge of the vehicular zone, or other conflicts or hazards, through pavement treatments, tactile warning indicators, and signage.

f) Ensure surface under play structures is accessible and has impact attenuating properties for injury prevention. Wood chips, sand and gravel are not acceptable ground surfaces.

Safety

The primary risks for pedestrians in parks are associated with vehicle traffic and crime. Key considerations include separation from vehicle traffic - taking into consideration the speed and volume of traffic, and the treatment of intersections where pedestrian and vehicle traffic must cross. With regard to the design of parks, *Crime Prevention Through Environmental Design* (CPTED), provides direction for improving the safety of a space through thoughtful design.

Guidelines

a) Parks should be generally be located abutting and visible from public streets, pedestrian or multi-use pathways.

b) Provide clear sightlines through the park space to adjacent streets and buildings to promote informal neighbourhood surveillance.

c) Include adequate, consistent, pedestrian-scaled lighting.

d) Avoid the creation of entrapment spots, blind corners, dense planting designs or areas that are not easily visible.

e) Parks should be located where they can be lined with buildings that have active frontages, with windows and doors that open onto the park.

f) Parks should be designed with quality materials and furnishings and be regularly maintained to a high standard.

Park is adjacent and visible from the street, Saskatoon

Adequate and consistent pedestrian-scale lighting

Comfort

Pedestrian comfort is critical for the success of parks, and should be considered early in the design of the site. The location of the park in relation to surrounding buildings will have implications relating to 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 park, and it can be enhanced through construction materials and the provision of pedestrian amenities that serve the needs of pedestrians. Perceptions of space should also be considered, including providing more intimately scaled "rooms" in larger open spaces. The following practices will contribute to the comfort of the open space:

Guidelines

a) Locate open space such that it maximizes sunlight and views to the sky.

b) Provide ample seating throughout the site.

c) Provide a range of exposures, including areas with shading, through the use of canopy trees or other structures.

d) 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.

e) 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).

f) Provide site amenities including drinking fountains, bottle fill stations, washrooms, and waste receptacles.

Provide ample seating and site amenities

Attractive and welcoming public washrooms in parks

Sustainability & Resilience

Sustainability in park design refers to a space's impact on the environment. This includes minimizing negative influences which may compromise the future health of the environment and putting in place measures which help improve the health of the local ecosystem. Resilience goes further to consider the constantly changing effects of climate change, and the ability of a space to persist in good health and quality over time, while also mitigating factors contributing to climate change. Resiliency also includes designing new parks, to meet the societal needs and challenges facing the whole community, neighbourhood and Town-wide.

Guidelines

a) Encourage active transportation through circulation design and the provision of supportive facilities (e.g. – provide ample bike racks, connect with public sidewalks).

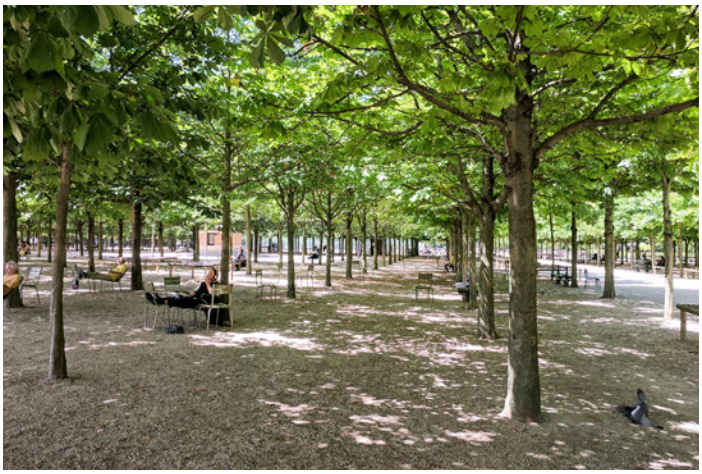
b) Encourage mature tree growth to increase canopy cover, which combats urban heat island effect, improves air quality, and increases stormwater uptake.

c) Increase species diversity in planting, and support local pollinator and faunal species.

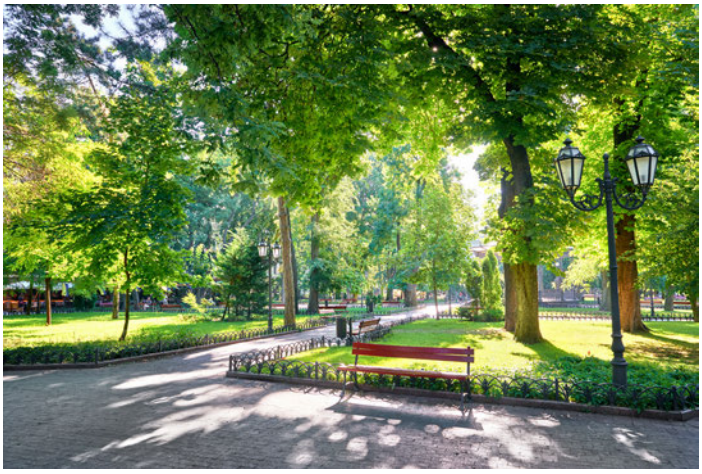
d) Use native and drought-tolerant plant species, that are also tolerant to salt and other pollutants.

e) Use permeable paving and below-grade infrastructure to harvest stormwater for reuse.

f) Use recycled materials, or materials with sustainable lifecycles.



Closely spaced trees creates a shaded area



Park with a diversity of ages and species of trees

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. It is crucial that all of the urban park typologies exist and work together to create a robust and comprehensive urban park network.

Guidelines

a) Urban parks should be designed to be flush with the building facades and at-grade uses.

b) 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. Active edges help to animate the park, improve safety, and encourage use.

c) Urban parks should have physical and visual access to the larger pedestrian circulation system, and have significant frontage onto the public sidewalk system.

Urban square lined with active building frontages

Significant frontage on public sidewalk, Victoria Square, Toronto

Programming

Great urban open spaces have strong functional assets. With respect to programming urban space, the key is flexibility in meeting the needs of residential users, 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. 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 play elements for children. Smaller open space typologies will not accommodate the same diversity in programming, but still may include children's play areas, seating areas, public art, and planting elements.

Market event being held in a park

Temporary outdoor cinema set up in a park

Guidelines

a) Support active transportation use for participants in programming by ensuring there are multiple public access points and connections, creating trail connections, and providing bike parking facilities.

b) Support adjacent interior uses (e.g. – retail, office, residential, dining).

c) Promote passive recreation, including sitting, walking, and socializing.

d) Provide opportunities for individual and modestly scaled group recreational activities.

e) Be flexible in its design to support four-season use and temporary programming, including events, festivals and markets.

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.

Guidelines

a) Provide a safe walking surface for all users, with special implementation of universal accessibility. Walking surfaces should be non-skid material.

b) Design hardscaping for passive cooling. Light coloured or high albedo materials, and open grid or porous surfaces help to mitigate urban heat island effect.

c) Select high quality materials that contribute to the character of the space and the surrounding area.

d) Where unit paving is used, ensure that differential settlement and heaving in the long term is mitigated. Consider incorporating a concrete base below the unit pavers.

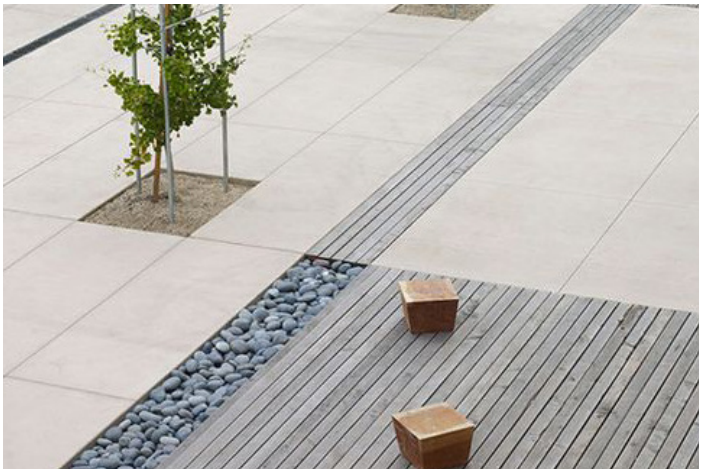
e) Select paving materials that have a long lifespan. Prepare a maintenance and repair manual as part of the design deliverables.

f) 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.

g) Provide unobstructed circulation routes through or around the space. Provide a minimum 2.1 metres wide pedestrian clearway.

h) Incorporate guiding edges and contrasting materials along the edges of main circulation routes, especially where located adjacent to open hard surface areas.

Distinctive paving in Place Bourge, Montreal, Quebec



Variety of high quality paving material

Unobstructed paving surface for pedestrians, Bellevue Park, Toronto

Softscaping

Softscaping, including planting beds and areas of sod, helps to establish the identity of the park, supports passive and active recreation, and provides 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.

Guidelines

a) Use planting to provide visual interest across all seasons. Consider incorporating a variety of colours, textures, heights, and forms throughout the open space.

b) Ensure that planting material does not obstruct visibility through the site. Use CPTED principles while developing the planting strategy.

c) Use planting material to establish a comfortable microclimate (e.g. – provide wind and noise reduction).

d) Plantings, should be low maintenance, drought tolerant, pest and disease resistant and tolerant of salt and other pollutants.

e) Provide planting beds that are a minimum of 600mm in width to ensure the beds have some significance.

f) Where non-drought tolerant species are used, provide automatic irrigation.

g) Encourage the design of irrigation systems to both conserve potable water and utilize rainwater.

h) Softscaping can be used to form guiding edges and contrast along the edges of main circulation routes, especially where walkways are located adjacent to open hard surface areas.

Planting beds do not obstruct views into the park

Planting provides visual interest.

Seating

Seating is a key amenity in all types of urban parks. Seating should be designed to be accessible, inviting, durable and comfortable and chosen based on the site conditions, park design and operations and management framework. A variety of seating types should be considered, such as benches and chairs, seat walls, fixed chairs with a table, movable chairs, including with tables, and informal seating (e.g. – lawn, platforms, steps, ledges).

Guidelines

a) Provide a variety of seating types. In Urban Squares provide at least two seating types. In Connecting Links and Pocket Parks and Sliver Parks provide at least one type of seating.

b) Provide seating in both the sun and the shade.

c) Provide a variety of configurations to accommodate individuals and groups.

d) Consider movable chairs and tables (tethered if required) to accommodate flexibility in use, depending on specific maintenance and operations for the Urban Park.

e) Optimize four-season comfort when selecting seating materials and finishes (e.g. – wood is more comfortable during cooler seasons).

f) Orient seating to provide engaging views, encourage informal surveillance, and increase comfort.

g) Provide a range of backed and backless seating, and benches with and without arms, to accommodate a variety of users. Backed benches should be considered as a preferred accessible option.

h) Provide spaces in seating areas to accommodate mobility devices.

i) Set a metric for providing seating at regular intervals on busy pedestrian streets. The Global Alliance on Accessible Technologies and Environment (GAATES) cites a best practice of the provision of seating every 30 metres in their *Illustrated Technical Guide to the Accessibility Standard for the Design of Public Spaces*.

Moveable seating

Seating and tables near Jean Talon Market, Montreal

Long backed and unbacked benches, New York City

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.

Guidelines

a) Provide adequate lighting to improve safety in the space. Consult Crime Prevention Through Environmental Design (CPTED) for additional direction.

b) Use fixtures that are dark sky compliant, which reduce glare, light trespass, and light pollution, including use of full cut-off lighting.

c) Use fixtures that are energy efficient, with automated timers.

d) Create a standardized palette of types, styles and varieties of decorative lighting for parks that takes into account maintenance requirements, and minimizes the total number of types used.

e) Use a variety of lighting scales and types, including lighting bollard, pedestrian lights, and catenary lighting.

f) Where events are anticipated, incorporate electrical hookups and event signage into the light posts.

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

Creative and dynamic use of lighting in a park

Lighting identifies the path in a park

Public Art

Public art can be used as a placemaking and programming element within an urban park. It can integrate cultural heritage into the fabric of the park, or establish a new narrative for the community. Well designed, engaging, and thought provoking public art has the potential to draw visitors, and can contribute to the success and vitality of the space. A single public art piece can serve as an organizing element for the urban park or identify significant gateways or points of arrival. A series of art pieces can also act as wayfinding elements.

Guidelines

a) Allocate a percentage of capital cost of new park projects for public art.

b) Create a fund for public art maintenance and an account to pool public art funds.

c) Public art should be considered throughout the planning and detail design for urban park projects with a public artist included as a core member of the team.

d) Public art should enhance the public realm through artistic excellence and originality, and be appropriate to the site or location's physical and cultural context.

e) Consider the full range of possibilities for public art in urban parks including freestanding work and site specific work that is integrated into paving, lighting, furnishings, retaining walls, etc.

f) Public art should not obstruct pedestrian, cyclist or vehicular circulation, entrances, windows, or sight lines to important natural and built features.

g) Public art should not impact, or be diminished by existing or planned utility locations.

h) Public art should exhibit high quality construction, installation and materials, as appropriate for its intent.

i) Appropriate maintenance procedures should be secured with the installation of public art.

Watermark by Gerald Beaulieu, Fredericton, New Brunswick

Water Guardians by Jennifer Marman, Daniel Borins and James Khamsi, West Don Lands, Toronto

Public art installation in a park

Other Features

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

Guidelines

a) Playgrounds, play equipment, outdoor workout equipment will be approved by the Town. Play areas are to be set back from the street. Grading around playground areas is to be designed to allow clear views into the play area from the road and surroundings.

b) Drinking fountains and bottle stations may be appropriate for certain locations.

c) Dog runs may be considered only where the park can accommodate a fenced area with a preferred minimum enclosure of 8,040 square metres (2.0 acres) with segregated areas for large and small dogs. Off Leash Dog areas should be well buffered from playgrounds, splash pads, wading pools, pedestrian activity areas and horticultural displays.

d) Waste and recycling receptacles should be selected in coordination with the design of other park furnishings.

e) Spray pads or similar water play features may be provided depending on the park size. Water supply, plumbing and drainage will conform to requirements of the Town.

f) An amphitheatre/performance stage may be appropriate depending on the urban park type, the park location and programming anticipated.

Overhead shade structure

Games tables, New York

Maintenance

Urban parks have more stringent maintenance requirements and require a specific approach to ensure they can meet their potential.

Guidelines

a) Urban parks should be managed by a Comprehensive Maintenance Protocol to ensure safe, accessible and healthy landscapes. The protocol may include defined roles for community groups or other entities to be involved in park maintenance projects.

Active Transportation

Pedestrian & Cycling Network

Encouraging active transportation and supporting physical activity through the provision of a linked network of pedestrian and bicycle routes and trails helps ensure that residents have increased access and mobility options to local destinations for work and play.

Guidelines

a) Create a continuous and diverse active transportation network of inter-connected pedestrian and cycling routes, walkways, sidewalks, bicycle lanes and multi-use trails that link the community with surrounding neighbourhoods, integrate with existing and future public transit infrastructure, and connect to the open space system.

b) Design the active transportation network to link residents to transit stops, trails, community mailboxes, schools, recreational and healthcare facilities, parks and open spaces, and retail, restaurants and businesses.

c) Design pedestrian routes to be convenient, comfortable, safe and easily navigable, continuous, and barrier-free.

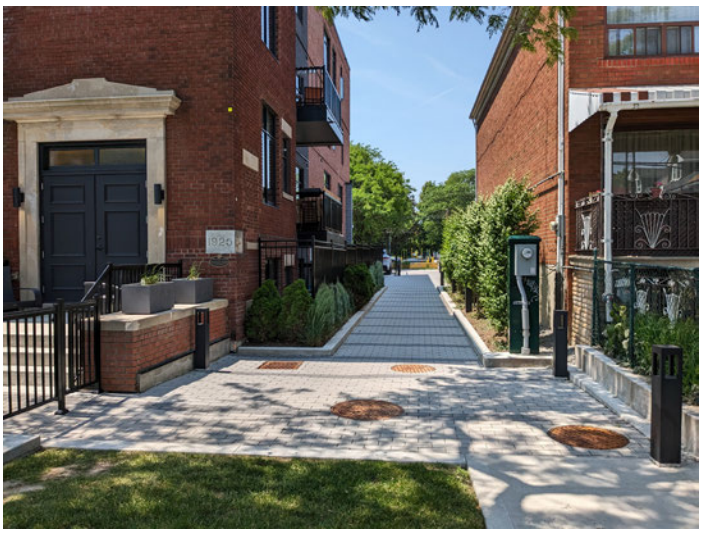
d) Develop a cycling network that includes bike lanes and off-street cycling or multi-use trails that connect to existing bike lanes and trails.

e) Encourage safe routes to schools by providing a network of connected local streets with traffic calming measures to ensure safe use by young pedestrians and cyclists, such as reduced lane widths, raised intersections, slower vehicle speeds, and crosswalks.

f) Provide active transportation connections across water courses and open spaces for pedestrians and cyclists, where required. Design as functional multi-season connections

g) Provide signage and wayfinding at key intersections and locations indicating destinations, distances and potential route connections.

Beautiful and continuous pedestrian realm

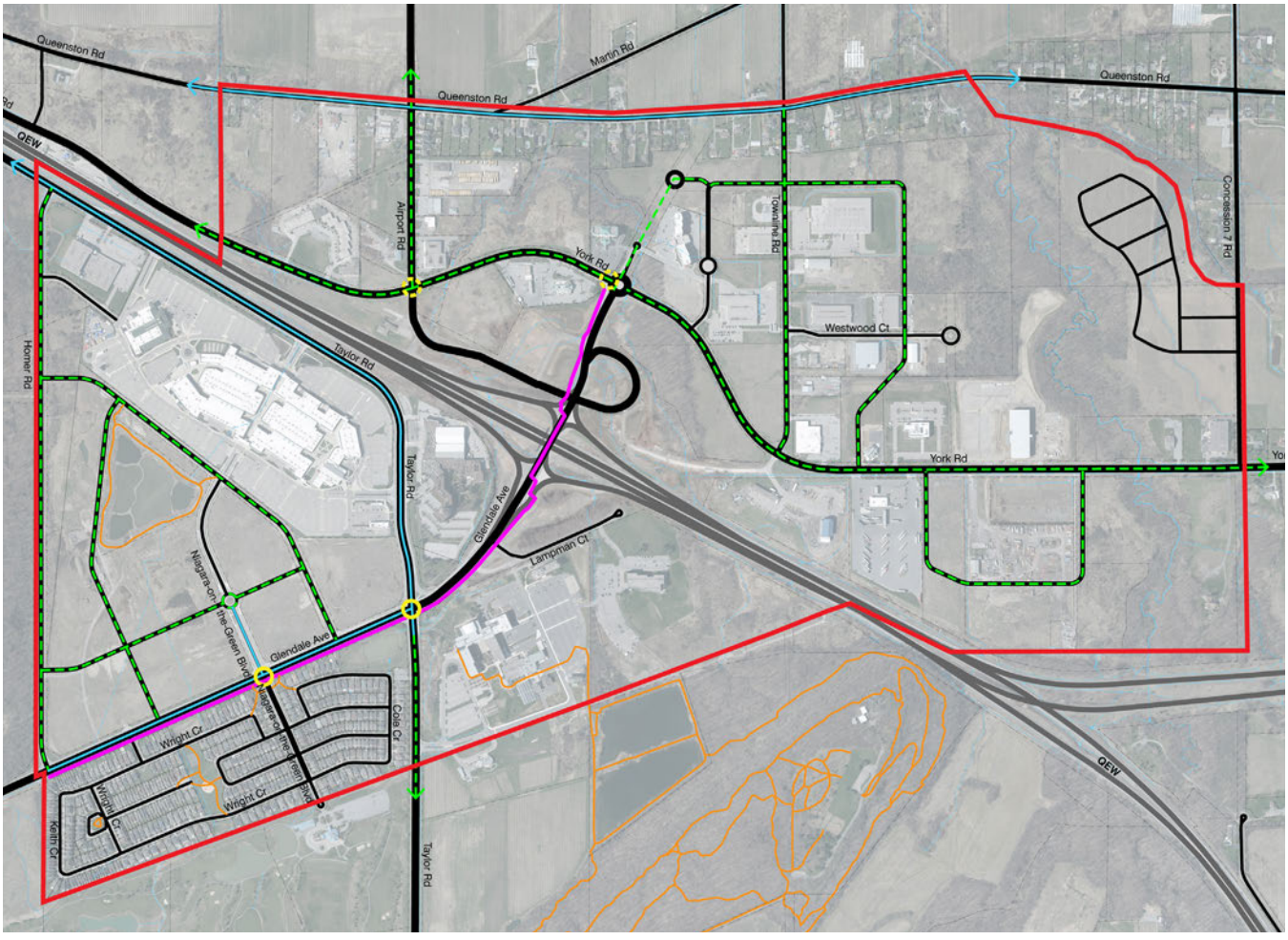


Mid-block connection

Clearly marked bike lanes through an intersection

Legend

- Existing Trails
- Existing Multi-Use Path
- Existing On-Road Bike Facility
- Future Active Transportation Connection
- Potential Crossride
- Future Potential Crossride
- Glendale Secondary Plan Area



Map of the Active Transportation Network of Glendale

Multi-Use Paths

Multi-use paths are shared off-street pedestrian and bicycle routes. When implemented along one side of a street, they usually replace the need for a sidewalk on that side.

Guidelines

a) Design multi-use paths to be a minimum 3.0 metres wide to facilitate two-way cyclist or pedestrian movement. 3.5 metre width is preferred where space allows.

b) Pedestrian and cycling lanes should be painted on multi-use paths or clearly identified by other means to minimize pedestrian and cycling conflicts.

c) Ensure multi-use paths include adequate amenities including seating, waste receptacles, and signage that are designed to reflect site-specific conditions.

d) Provide frequent access points along multi-use paths from adjacent streets, trails, open spaces, and nodes of activity.

e) Generally, multi-use paths should have asphalt surfaces for the comfort and convenience of both cyclists and pedestrians.

f) Implement crossrides where multi-use paths cross arterial or collector streets or where connections to other multi-use paths or on-street cycling facilities require crossing a busy street.

Multi-use path designed to accommodate a range of users

A crossride safely allows a bike route or multi-use path to cross a busy street

Walking Trails

Walking trails are off-street pedestrian routes that generally allow connections across or between natural areas and open spaces and have a recreational orientation.

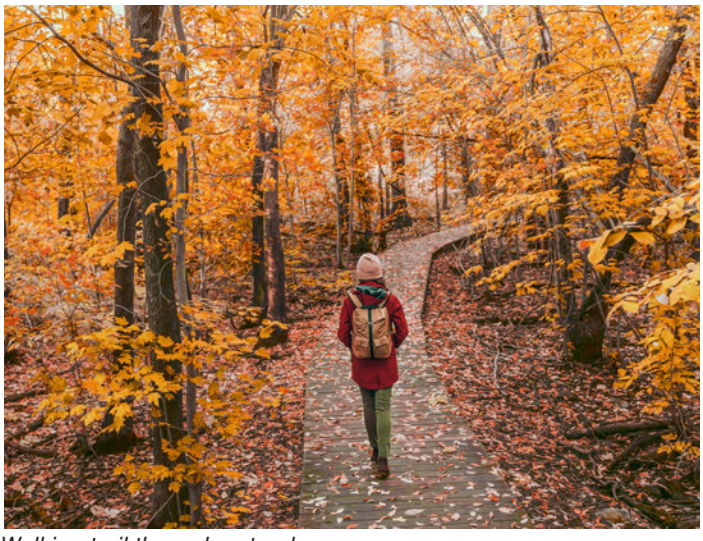
Guidelines

a) Provide for a continuous, linked, legible, and clearly marked system of trails throughout the community as part of the open space network.

b) For new developments link or maintain additional trails, connections, and public accesses between streets and trails to ensure connectivity through developments for pedestrians.

c) Design trails to be barrier-free and to accommodate a range of users and abilities. Where possible, slopes should be under 5% with curb-cuts and other safety measures provided to improve access at street crossings.

d) Trails should be clearly signed identifying trail entry and access points, permitted uses, and speed limits if cycling or off-road vehicle users are permitted. Provide wayfinding signage and trail markers throughout the trail network.



Walking trail through natural area

e) Incorporate interpretive signage on trails located in proximity to significant natural heritage features or adjacent to stormwater management facilities to educate and promote stewardship initiatives that will protect and enhance the features and functions of the natural landscape.

f) Consider special treatments at trail head entrances including features such as landscaping, benches, natural or built shade structures, decorative paving pattern, interpretive or directional signage, or wider pathway widths.

g) Design trails to minimize and mitigate impacts on natural heritage features. Consider the use of low impact materials such as wood chips, limestone screenings, or porous or permeable materials for trail construction in areas where sufficient drainage exists.

h) Provide lighting for pedestrian safety along primary connecting trails. Lighting is not acceptable in natural heritage features.

i) Along trails abutting natural features, use native species, suitable for the area and purpose, and plant trees to contribute to the urban tree canopy and provide shade for trail users.

Stormwater Management Facilities

Stormwater management facilities should be developed in a manner that will yield the greatest environmental and amenity benefit to the neighbourhood, which can be achieved first through reducing stormwater run-off and flow to the ponds, and secondly, through the design and landscaping of the pond. These facilities promote sustainability by providing habitat, enhancing ecosystem structure and resilience, and managing stormwater on site.

Guidelines

a) Design stormwater management facilities as major open space features that provide passive recreational and educational opportunities, while augmenting the extent of the community's open spaces and associated microclimatic benefits.

b) Enhance views and access to ponds by designing a portion of the pond to be bounded by either streets and/or open space.

c) Pond Design and Landscaping:

- Locate ponds off line and as buffering to environmental features;
- Landscape ponds to contribute to the urban tree canopy, add to the natural features of the community, and support wildlife habitat;
- In addition to functional objectives related to flow moderation and water quality, design ponds as key focal/visual features within the community; and,
- Design ponds as part of the overall pedestrian and trail system with view points and interpretive signage. Surround ponds with public walking or cycling trails and extend along stormwater channels.

d) Fencing of the entire perimeter of stormwater management ponds is discouraged, except where necessary along steep slopes, or the rear or flankage of residential property lines. Install 1.8 metre high black-vinyl-coated chainlink fencing along the property line where the stormwater management facility block abuts private property. It should be continuous with no gates permitted.

Ponds should blend with the natural landscape

Stormwater pond integrated with school and recreational park uses

e) Fencing is not required along the property line where a stormwater management facility abuts a public park, open space, natural area, or street right-of-way.

f) Consider on-site treatment of stormwater through the use of green infrastructure such as bioswales, green roofs, at source infiltration, and permeable pavement.

g) Consider using below grade stormwater retention storage tanks or beds to retain stormwater and allow for infiltration and/or delayed release during high rainfall events.

h) Design stormwater management facilities to blend with the natural landscape. Where feasible, conceal inlet and outlet structures using a combination of planting, grading, and natural stone.

i) Ensure the edges of ponds abutting natural heritage features remain naturalized.

j) Install signage at prominent locations along the street frontage or in an appropriate location along the interface between the pond block and the adjacent open space to ensure it is highly visible to the public The purpose of signage is to identify the site as a stormwater management facility and raise public awareness of the functional aspects and related potential hazards of the facility.

k) Coordinate landscape components such as look-outs, seating areas, fountains and gazebos to complement the overall character of the pond.

Stormwater pond at Downtown Cary Park, North Carolina
Image: CC BY 2.0: Payton Chung

3 Private Realm

The private realm within the Glendale Secondary Plan area comprises the built form and site design within development blocks and their relationship to adjacent open spaces and streets. The residential, institutional, commercial, mixed-use, employment, and employment buildings within a community contribute to its character and can assist in further defining and complementing the public realm.

These Urban Design Guidelines promote high quality urban design within the private realm that is based upon the quality, scale, and character of the surrounding existing and emerging contexts to reinforce 'human scaled' environments and promote a sense of place.

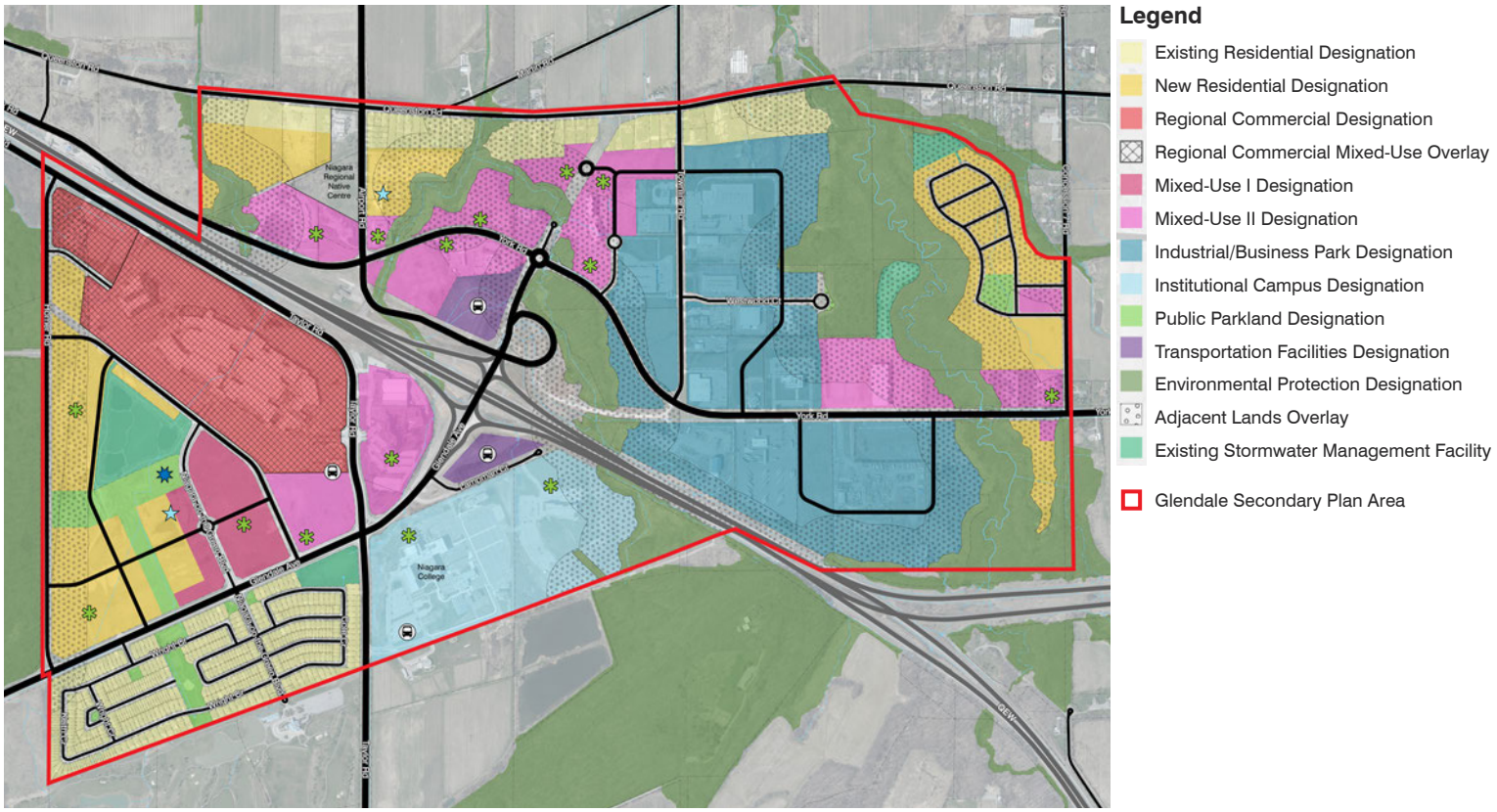
Good urban design practices will promote excellence in the design of the private realm. While the specifics of each development proposal may vary, the overall objectives will remain the same throughout Glendale. These objectives include:

- Creating distinctive, appealing, and pedestrian friendly streetscapes through attention to building design and detailing;
- Ensuring appropriate massing, materials, building siting, and design compatibility; and
- Identifying enhanced design requirements for priority lots having highly visible elevations.

The guidelines will be considered and implemented through the review of development applications within the private realm which are visible from the public realm.

The Private Realm chapter of the Glendale Secondary Plan Urban Design Guidelines is divided by the following land use types that follow the designations in the Secondary Plan as illustrated below on Schedule 1.

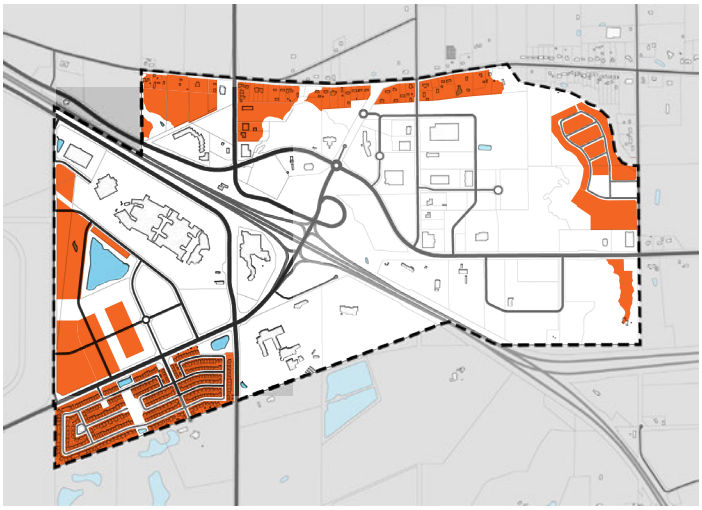
- Residential Areas (applies to both Existing Residential Designation and New Residential Designation)
- Mixed-Use Areas (applies to both Mixed-Use I and Mixed-Used II Designations)
- Regional Commercial
- Industrial/Business Park
- Institutional Campus
- Uses that May be Located in Other Designations (including Public Service Facilities, Emergency Services Facilities and Places of Worship)



Schedule 1 - Land Use Designations of the Glendale Secondary Plan

Residential Areas

The following guidelines apply to residential areas.



Residential Neighbourhoods

Residential neighbourhoods will include a range and mix of housing types and centrally located parks and community facilities. Development will include low-rise and mid-rise buildings.

Guidelines

a) Arrange all new development to address the street by lining streets with building front facades, active uses, and public spaces.

a) Design residential neighbourhoods to ensure residents are in proximity to amenities that will meet their daily needs including convenience commercial, office and personal services, institutional, and recreational uses.

b) Provide a mix of housing types, densities, sizes and tenures in new residential development.

c) Ensure new residential blocks contain a mix of dwelling types with a variety of elevations to provide a diverse housing stock and to avoid a homogeneous streetscape.

d) Ensure appropriate transitions in terms of height and massing between buildings of different densities, particularly if they belong in the same block.

e) Locate denser residential uses at the ends of blocks or adjacent to parks, community amenities, or civic uses and buildings, and along Collector or Arterial streets.

f) Design blocks with a regular shape measuring a maximum of 100 metres in width and 200 metres in length.

g) Provide mid-block pedestrian connections for development blocks over 200 metres in length to support pedestrian movement.

h) Enhance wayfinding by using buildings as gateways and landmarks, public spaces as focal points, and streetscapes to frame significant views.

Pedestrian mid-block connection with paving and landscaping

Low-Rise Residential Buildings

The following guidelines apply to low-rise residential buildings up to 3 storeys in height.

Siting & Setbacks

Guidelines

a) Integrate existing topography and natural features into the development, and minimize alteration to the existing grading of the site, if feasible.

b) Orient buildings to face the street with setbacks that are compatible with the immediate neighbours.

c) Locate dwelling units and townhouse blocks close to the street edge to create a pedestrian-oriented streetscape.

d) Orient dwelling units and townhouse blocks to face the public realm, and particularly any adjacent streetscape, pedestrian connection or open space, to promote a high level of comfort and create a safe environment.

e) Where the first floor of the dwelling or townhouse unit is within 3 metres of a sidewalk, raise the entry of the unit a minimum of 0.9 metres to a maximum of 1.2 metres above the sidewalk grade. The change of grade should be reinforced through landscaping features.

f) Increase side yard setbacks at pedestrian mid-block connections and public open spaces.

g) Low-rise developments should have front-to-front or back-to-back dwelling configurations along streets, lanes, or around open spaces.

h) Avoid front-to-back dwelling configurations where possible. If necessary, the 'rear' facing units of front-to-back dwelling configurations should include recessed garages, enhanced landscaping, and upgraded façades.

i) Locate built form to minimize the need for noise attenuation walls.

Triplex dwelling

Townhouses

Building Design

Massing & Elevation Articulation

Guidelines

a) Ensure generally consistent height and massing along a street. Individual building mass should be compatible with buildings in the immediate vicinity.

b) Provide appropriate transitions between all unit types to avoid drastic changes in height and/or massing.

c) Ensure appropriate design compatibility where different unit types are located adjacent to each other.

d) Articulate elevations exposed to streets and open spaces by using strategies such as changes in plane, projections, enhanced fenestration, highlighted entrances, contrasting materials, and building elements such as bay windows, balconies or decks and porches.

e) Upgrade the façade treatment for side and rear elevations visible from public areas.

A block of townhouse units with a variety of elevations and colours

Porches and Entry Features

Guidelines

a) Ensure the main entrance faces the street, with the door in a prominent position. The front door should be clearly visible and approachable from the street.

b) Articulate front elevations by highlighting the prominence of front entries with features like porches, verandahs, arches, generous overhangs and massing elements such as a cantilevered or recessed upper storeys.

c) Ensure steps to a front porch or entrance are not located closer than 1.0 metre from a property line.

d) To ensure porches and verandahs are useable they should be a minimum of 1.5 metres in depth.

Front porch highlights the dwelling entrance and addresses the street

Materials

Guidelines

e) Ensure building materials are high quality, durable, and easily maintained.

f) Ensure the materials selected are consistent for a building's facade and any side or rear walls exposed to public view.

g) Recommended building materials include brick masonry, stone masonry, wood, or stucco; one or two of these materials should be selected as base materials and may be complemented by a wider range of accent materials.

Example of a mix of building materials on the facade of a dwelling

Utility Meters & Mechanical Equipment

Guidelines

a) Where possible, locate utilities and meters in interior side yards, away from public view.

b) Locate utility and service meters discreetly by:

- Integrating into the design of the building;
- Screening through landscaping;
- Recessing or enclosing in the porch entry or landing;
- Installing below porch slabs and porch steps;
- Grouping in one location in a wall recess, enclosure or, where appropriate, a small roof overhang; and
- Screening meters on exposed elevations by integrating them into a wall or below porches and steps, providing complementary landscaping, or placing them behind a change in plane towards the rear of the elevation.

c) Locate dryer vents, exhaust fans, furnaces and hot water tanks on rear elevations.

d) Locate air conditioning units in the rear yard or interior side yard or provide an architectural screen if they must be visible from the street.

e) For flat roofs locate air conditioning units on the roof, setback from the edge so they are out of sight from public view, where possible.

Private Outdoor Amenity Space

The design of private outdoor amenity areas, such as balconies, terraces, back yards, or gardens provide an important extension to the livable space of a dwelling unit.

Guidelines

a) Provide outdoor amenity space for dwelling units either individually or in a shared space.

b) Design private outdoor amenity spaces to have direct access to sunlight and sky view.

c) Avoid a 'rear yard' condition along streets and parks/open spaces.

d) Locate private outdoor amenity spaces for family-sized units so that they have views and access to outdoor play areas, where possible.

e) Provide outdoor private amenity areas for townhouse units. Consider outdoor amenity areas in the form of second floor decks or rooftop patios for townhouses with an attached garage in the rear over traditional rear yard amenity areas.

f) Inset or partially inset balconies to offer greater privacy and shelter from wind, reduce the building bulk and minimize the impact of shadow on other amenity spaces below.

Parking pad and private outdoor amenity space over the garage

Multiple Unit Parking

Guidelines

a) Locate parking areas away from the street frontage, at the rear or sides of the principal building.

b) For multiple unit development locate visitor parking spaces within a 200 metre walking distance or one block, whichever is less, of the residential units served.

c) Design surface parking areas for multiple unit residential buildings with the following:

- continuous brick, pavers, or other distinct and decorative pavement treatment;
- markings for stalls;
- pedestrian scaled lighting; and
- low fencing, architectural features, or landscaping to screen from public view.

d) Walkways should be distinguished from vehicular areas through a change in material or by using a planted or sodded edge.

Parking lot for apartments broken up with landscaping

Garages & Driveways

Front Garages

In order to minimize the presence of the garage, the following guidelines should be applied for attached and detached garages accessed from the front yard.

Guidelines

a) Driveways and/or garage doors should not dominate the front façade of the primary building or the view from the street.

b) Ensure garages are a natural extension of the design, massing, and materials of the main dwelling.

c) Recess garages 0.5 to 1.5 metres from the main wall of the building to de-emphasize the presence of garage doors on the streetscape.

d) Dwellings should have a maximum of 2 garage doors for garages fronting the street, with a maximum width of 50% of the dwelling's width.

e) For double garages use two single garage doors separated by a masonry pier.

f) Set back a second storey built over the garage a maximum of 2.0 metres.

g) Consider glazed top panels or transom lights for all garage doors.

h) Utilize a consistent garage door throughout a townhouse block.

i) Detached garages should only be permitted in the rear yard and interior side yard.

Houses with recessed front garages

Townhouses with recessed front garages

Lane-Based Garages

Garages that are accessed from a laneway can either be detached or attached to the main dwelling at the rear. Attached garages can be set into the house with access at the rear, or they can be attached to the main dwelling through a breezeway which forms a side courtyard for amenity space.

Guidelines

a) The minimum setback for garages accessed by a lane should be 0.6 metres from the lane right-of-way.

b) Side yard setbacks may be a minimum of 1.2 metres if the garage has doors or windows facing the side yard.

c) Side yard setbacks may be a minimum of 0.3 metres if the garage has no doors or windows facing the side yard. No setback is allowed where the garages on abutting lots are attached.

d) Where possible, pair garages to allow for increased rear yards or an outdoor parking pad.

e) The maximum number of attached garages on adjacent lots is three.

Materials and details of garages match the dwelling

Driveways

Guidelines

a) Ensure driveway widths are no larger than the interior width of the garage. Driveways should have a maximum width of 3.0 metres for single car garages and 6.0 metres for double car garages.

b) Use light-coloured paving material for driveways to reduce heat island effect.

c) Consider using porous or permeable pavement for surfacing driveways and parking areas instead of asphalt and concrete to reduce stormwater run-off.

d) Locate driveways as far as possible from parks, open space features, public walkways, schools, and intersections.

Driveways not wider than the width of the garage

Light coloured materials reduce heat island effect

Guidance for Specific Building Types

The following guidelines apply to specific low-rise residential building types in addition to the preceding guidelines.

Single Detached, Semi Detached, & Duplex Dwellings

Guidelines

a) Design dwellings to frame the street edge with a consistent setback, and front doors, windows, and entry features facing the street to create a consistent street wall.

b) Design the front elevation of the dwelling so that its front entrance and architectural elements reduce the visual dominance of the garage and driveway.

c) Porches, stairs, canopies, and other entrance features may encroach into the required setbacks from the right-of-way.

d) Garage doors facing a public street should be set back a distance of 6.0 metres from the right-of-way to allow a car to sit in front of the garage on private property.

e) Pair the garages of semi-detached and duplex dwellings with a front facing garage and driveway to maximize the extent of continuous green planting area in the front yards.

f) Ensure semi-detached and duplex dwellings have a single unified roof form and continuous and consistent architectural details and materials for both dwelling units.

g) Design duplex buildings with separate entrances for each unit.

An upgraded elevation with variety in roof lines, materials, and a front porch

Triplex & Fourplex Dwellings

Guidelines

a) Up-down triplexes and fourplexes are intended to be designed as a large single detached dwelling.

b) Side-by-side triplexes and fourplexes are intended to be designed as a small townhouse grouping.

c) Each unit should have an easily identifiable access to the fronting street.

d) Exterior stairs should be avoided; where necessary they should be limited to rear or interior side yards.

e) Use porches or other architectural feature to complement additional front facing doors and to reduce the visual impact of these entrances.

f) Each unit should have access to private on-site, outdoor amenity space via balconies, porches, or yard.

Triplex dwelling

Detached Additional Residential Unit

Guidelines

a) An additional residential unit is permitted in a detached accessory building or structure on a lot that includes a primary single detached, semi-detached and/or townhouse building. Ensure the detached building:

- Is created and used in accordance with the Implementing Zoning By-law;
- Has a maximum gross floor area of no more than 75 square metres and a maximum height of 2 storeys; and,
- Is designed to complement the architecture of the main building.

b) Consider providing an additional parking space as a tandem parking space on the lot.

Detached garage with second storey dwelling unit

Townhouses

Guidelines

a) Coordinate the siting, massing, and facade design of townhouse units on a block-by-block basis.

b) Articulate the elevation of the townhouse block to provide variation between units with common characteristics.

c) Utilize variety in the design of roofs through the use of traditional gables and dormers, or more contemporary designs that include cantilevers and parapet details to break up the massing of units within a block. The main roof should appear as one roof where possible.

d) The length of townhouse blocks should be minimized.

e) Orient the main front entry of interior units to the front lot line or higher order street. Orient the entry of the end unit to the exterior lot line when on a corner lot. Where a dwelling unit flanks a private street or laneway, the main entrance should face the front lot line.

f) Orient blocks of attached townhouse units to the street with integrated front garages accessed from the street. For rear lane townhouses an attached or detached garage will be located at the rear of the block and accessed from a lane.

g) Pair front driveways to allow for more substantial front yard green space.

h) Ensure rear lane accessed garages are complementary in design and building material with the principal dwelling.

i) Townhouse units with driveways should not be located on Collector or Arterial streets. Lane based options are more appropriate for such street typologies.

Example of variation between the units of a townhouse block

Use of massing and materials for variation between units

Townhouses fronting directly onto an open space

Live-Work Units

Guidelines

a) Live-work units should have a minimum work area of or 41 sq. metres or 450 sq. feet.

b) Design live-work buildings to support pedestrian activity through minimal front yard setbacks, pedestrian weather protection such as canopies, and enlarged clear glazed windows.

c) Provide on-street parking by using lay-by parking with resident parking provided at the rear of the building and accessed from a lane or a private street.

d) Ensure live-work units have continuous and consistent architectural details and materials for the entirety of the block.

e) Screen mechanical equipment including air conditioning units and utility meters or locate away from public view.

f) Commercial signage for live-work uses should be discreet and of a small scale, and should be integrated into the building design.

Live-work units with lay-by parking

Low-Rise Apartment Buildings

Guidelines

a) Design the building and the site layout to integrate into the scale of the built form of the street and to create a streetscape that supports a pedestrian scale.

b) The main building facade should front on the abutting street.

c) Locate and orient primary building entrances to public streets and design them to be visible and accessible to the public.

d) Locate visitor parking, loading, and service areas in areas of low public visibility in side or rear yards and set back from the building.

e) Screen parking from street view through the use of landscaping or fencing, or a combination of both.

f) Locate and orient windows, decks, and balconies to limit overlook into nearby windows and amenity spaces of adjacent properties while enabling “eyes on the street” for common public areas.

g) Provide landscape screening, fencing or setbacks appropriate to maintain the privacy of both building residents and adjacent residential uses.

h) Provide additional landscaping, patios, decks or walkouts for at-grade residential units to increase their level or privacy.

Low-rise building with balconies and entrances along the street

Priority Lots

Priority lots are those which are situated in prominent locations and are highly visible from the public realm. Priority lots include:

- Gateway lots;
- Corner lots;
- Lots which terminate at "T" intersections; and,
- Lots facing, adjacent to, or backing onto parks, open spaces, and pedestrian links.

Architectural and siting treatments for priority lots are recommended in order to promote a defined and attractive streetscape with visual focal points. Where a townhouse is sited on a corner lot, the end unit flanking a street is defined as a priority lot. In cases where a semi-detached dwelling is sited on a corner lot, both units are defined as a priority lot.

Gateway Lots

Guidelines

a) Ensure dwellings on gateway lots are given special consideration in architectural design, massing, orientation, siting, and materials, and should be of high architectural quality.

b) Utilize upgraded entry elements and porches to create a more interesting facade, as well as to help define the entrance to the neighbourhood.

c) Pair similar model units on lots directly opposite to each other to establish and enhance a gateway condition. Use stone or other quality materials as the main massing material for gateway units where possible.

d) Provide upgraded landscape features on gateway lots including decorative fencing, where appropriate.

e) Coordinate the materials of dwellings on gateway lots with those used on gateway features.

A porch flanking a park creates "eyes on the park"

Gateway dwelling with expanded porch and front entry detailing

Corner Lots

Guidelines

a) Consider wrap around windows, porches, and other architectural treatments for corner lot dwelling units.

b) Ensure active living spaces are designed for the rooms adjacent to the corner.

c) Locate main entry features on the flankage elevation where possible.

d) Coordinate privacy fencing design for all corner lots to prevent views into the private rear yard amenity area.

Dwellings located at the intersection of two streets should address both streets

"T" Intersections

"T" intersections occur when one street terminates at a right angle to another.

Guidelines

a) Ensure the architecture on lots at the end of "T" intersections is of a highly articulated facade design such as coordinated fenestration, masonry detailing, and entry elements.

b) Incorporate special built form such as added height, turrets, or bay windows for "T" intersection lots.

c) Pair side yards to form a landscaped area at the terminus of the "T" intersection.

d) Locate garages away from the "T" intersection of the streets.

e) Provide larger front yard setbacks at the view terminus for "T" intersections.

Dwelling unit at the end of a "T" intersection

Lots Adjacent to Parks & Open Spaces

Guidelines

a) Ensure front, side, and rear elevations exposed to public spaces such as neighbourhood parks and urban greens are highly articulated. Utilize a combination of fenestration, bay windows, material changes, and dormers in addition to other design elements to achieve the objective.

b) Ensure side and rear elevations adopt a similar design and use materials that are consistent with those used on front elevations. Architectural detailing such as corbelling should continue from front to side elevations, where visible to the public.

c) Ensure the location of porches, windows, and entry doors for units surrounding parks and urban greens maximizes opportunities for overview.

d) Locate driveways of adjacent dwellings as far away as possible from the public space.

An example of front porches overlooking amenity areas

Mid-Rise Residential Buildings

The following guidelines apply to residential mid-rise buildings from 4 to 7 storeys in height. Mid-rise buildings provide opportunities for framing and defining the public realm, while allowing for increased densities that more efficiently use land and infrastructure, supporting retail activity, promoting active transportation, and if done properly, generating livable pedestrian experiences.

Building Placement & Orientation

Guidelines

a) Mid-rise buildings should be located on a site of suitable size, and provide adequate landscaping, amenity features, buffering, on-site parking and garbage pickup and recycling services.

b) Mid-rise buildings should have frontage onto a Collector or Arterial Street.

c) Concentrate the greatest heights and massing of the site along the frontage of an Arterial or Collector Street, with the buildings sited to frame streets and open spaces.

d) Locate buildings close to the street edge to frame and animate the public realm.

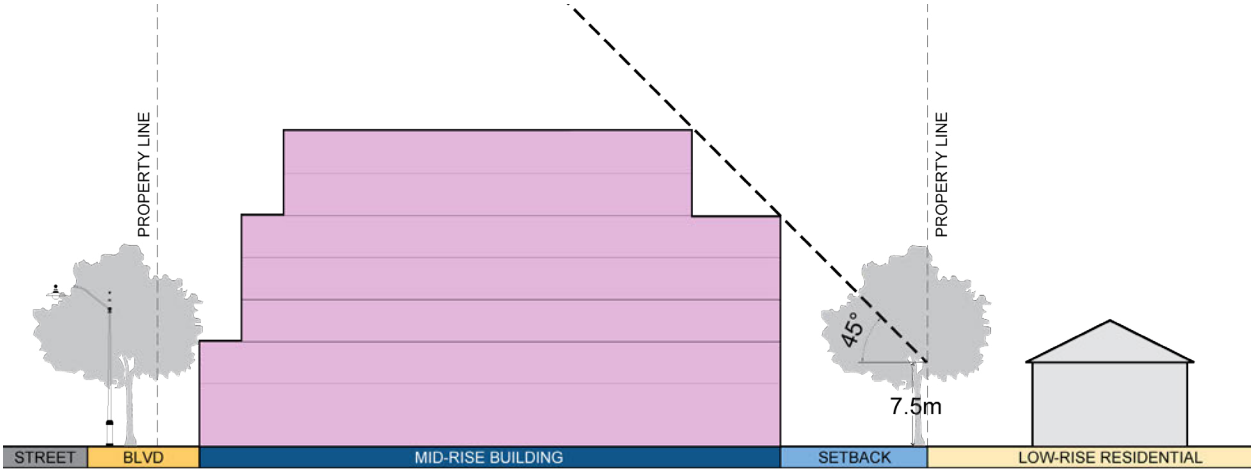
e) Maintain a floor plate size and massing configuration that permits adequate sky view and minimizes shadow impacts.

f) Locate and orient primary building entrances to public streets, and design them to be visible and accessible to the public.

g) Locate mid-rise building in proximity to the pedestrian realm network, public service facilities and other amenities.

Four storey apartment building with an articulated facade

Demonstration plan illustrating a concept tor the Mid-Rise Residential Area north of Glendale Avenue



Angular plane diagram - 45 degree angular plane measured from 7.5m above the property line

Compatibility & Transitions

Guidelines

a) Ensure the scale of mid--rise buildings is compatible and sensitively integrated with surrounding residential uses in terms of building mass, height, setbacks, orientation, privacy, landscaping, shadow casting, accessibility, and visual impact.

b) To demonstrate mitigation of potential shadow or wind impacts on existing or proposed pedestrian routes, public spaces, and adjacent development technical studies may be required including a wind study and/or sun/ shadow study.

c) Development transition requirements may be met using a combination of the following:

- Separate mid-rise buildings from low-rise buildings with a Local Street;
- Locate less dense and lower scale buildings in locations adjacent to existing low-rise neighbourhoods;
- Require a minimum 7.5 metre rear yard setback where mid-rise development abuts low-rise properties;
- Mitigate the actual and perceived massing impacts of a mid-rise building by breaking up the mass horizontally and vertically, through the creative incorporation of changes in materials, balcony and floor plate design, architectural features, and unit/amenity locations;

Use of stepbacks to provide appropriate transition to adjacent uses

- Provide rear and side step-backs for upper storeys to provide contextually appropriate transitions from the mid-rise buildings to the surrounding low-rise neighbourhoods; and
- Provide high quality landscape treatment such as decorative fencing, trees, shrubs, grassed areas, and berming.

d) Development in mid-rise areas should apply a 45 degree rear yard angular plane measured from 7.5 metres above the abutting property line where a building transitions to an adjacent low-rise residential area to ensure appropriate skyview, light, and separation.

Building Design

Height & Massing

Mid-rise buildings are generally comprised of a base, middle, and top.

Guidelines

a) The height of the building base should be between 2 and 4 storeys to frame and reinforce the pedestrian scale of the streetscape.

b) The height of the building base should generally be within 1 storey of any adjacent mid-rise development to create a consistent street wall.

c) Above the building base there should be a minimum 3.0 metre stepback to define the street wall. Exceptions to the minimum depth of the stepback may be permitted but in no case should it be less than 1.0 metre.

d) Provide a height transition towards adjacent existing or planned built form.

e) The top of the building should define a unique and interesting skyline. Design the top of buildings to include a variety of elements, such as step backs, material variations, lighting, and other architectural elements to reinforce a strong presence at the top of the building.

f) For mid-rise buildings with permitted retail or other active uses at grade, provide a minimum ground floor height of 4.5 metres. Residential-only ground floors should be a minimum of 4.0 metres in height.

g) Where possible, include outdoor amenity space at various levels above grade, including balconies, patios, terraces, and rooftop gardens.

h) Mechanical penthouses should be designed and clad with materials that complement the main building façades.

i) Locate mechanical rooms to the centre of the building rooftop and integrate into the rooftop design so they are not visible from the public realm.

Four storey stacked townhouse located close to street edge

j) For developments with more than one building, provide a range of heights and establish a height hierarchy related to site conditions and context.

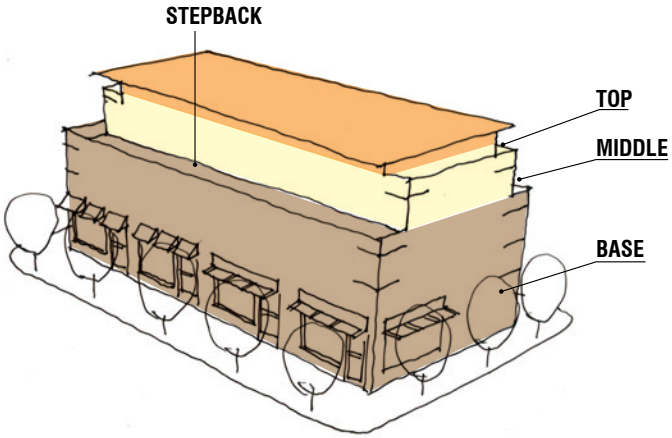


Diagram illustrating the building components of base, middle and top

Clearly defined building base with a stepback

Articulation & Architectural Features

Articulation considers the three dimensional qualities of the façade, including windows, doors, and architectural elements such as decoration, organization, the expression of interior spaces, and structural expression.

Guidelines

a) To animate the public realm and promote safe environments encourage active uses at grade or ground-related residential units.

b) Mitigate the actual and perceived impacts of mid-rise buildings by breaking up the mass both vertically and horizontally through the creative incorporation of changes in materials, balcony and floor plate design, architectural features, and amenity locations.

c) Incorporate windows and balconies on all elevations, especially if exposed to public view.

d) Locate entrances strategically so they are highly visible and well connected to the public realm.

e) Provide a high level of glazing at ground level, especially for those areas related to lobbies, common/amenity areas, and non-residential uses (i.e. commercial uses).

f) Encourage weather protective design at grade through the use of canopies, arcades, and cantilevers. Canopies located on the ground floor should be at least 1.5 metres deep.

Exterior Materials

The variety and selection of building materials contributes to visual interest along the street and to the varied architectural character of the Glendale area.

Guidelines

a) Ensure high quality and durable materials are used on all elements and elevations of the development.

b) Select materials to complement the architecture, character, size, and style of the building, as well as the streetscape.

c) Maintain consistent materials between elevations.

d) Incorporate changes in materials to visually break-up the building massing.

e) Use reflective, low intensity colours on rooftops to reduce heat island effect and HVAC loads. Refer to Chapter 4 for cool roofing material and solar reflectance guidelines.

f) Minimize danger to migratory birds by adhering to the Bird-Friendly Design guidelines in Chapter 4.

Windows and balconies on included on all elevations of the building

Contrasting but complementary materials in the Plateau, Montreal

Gateways

To contribute to the creation of a sense of place and local identity, buildings at visually prominent, landmark and gateway locations should express a higher design standard.

Guidelines

a) Use prominent built form to address gateways and other key locations within the community.

b) Express prominence through building articulation, massing, materiality, etc.

c) Taller building elements at gateways and landmark sites/frontages are encouraged, such as towers, rotundas, porticos, change in building plane, overhangs, special rooflines, public art, and street wall height exceptions, where those elements exhibit:

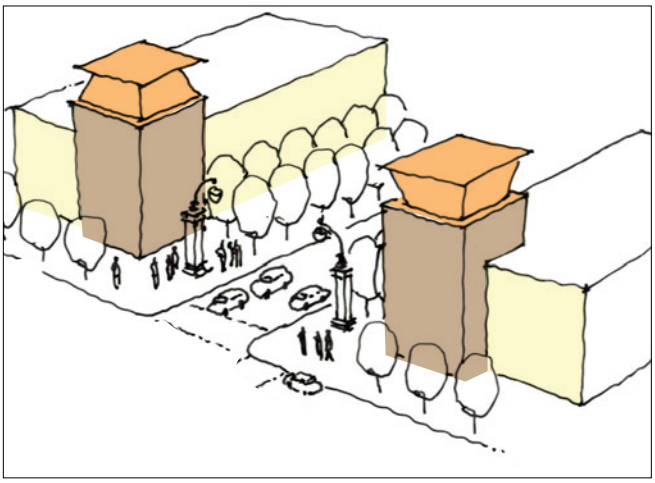
- Compatibility with adjacent context, including appropriate scale;
- Compatibility with the principal building expression; and,
- Design excellence.

d) On larger sites, create 'paired' corner buildings on either side of a street to emphasize a sense of entry or to distinguish one street district from another.

e) New development and landscaping should frame rather than block public views of prominent natural features, landmark sites and buildings, public art and other prominent features.

f) Buildings at the end of long view corridors should be designed to terminate the view with a landmark building element such as a tower or massing element.

Corner buildings articulated as a gateway features



Paired corner buildings to emphasize a sense of entry

Site Landscaping

Landscaping design should reinforce the structure of the site with a focus on creating a safe, comfortable, and animated pedestrian environment.

Guidelines

a) Provide a safe, clear, and accessible site circulation system for pedestrians, cyclists, and vehicles, including connections to the surrounding street network, public sidewalks, transit stops, and parking areas.

b) Create a pedestrian-scaled environment by arranging buildings to create comfortable and protected pedestrian spaces that provide a sense of enclosure.

c) Provide mid-block pedestrian connections for development blocks over 200 metres in length to support pedestrian movement.

d) Develop a comprehensive strategy for planting, built features, fencing, walls, paving, lighting, signage, and site furnishings.

e) Base planting strategies on year-round interest, hardiness, drought, salt and disease tolerance, and biodiversity.

f) Preserve, protect, and incorporate existing healthy and mature trees into the site and landscape designs.

g) Minimize the use of hard, paved areas to reduce surface run-off and heat island effect. Use permeable or porous paving wherever possible.

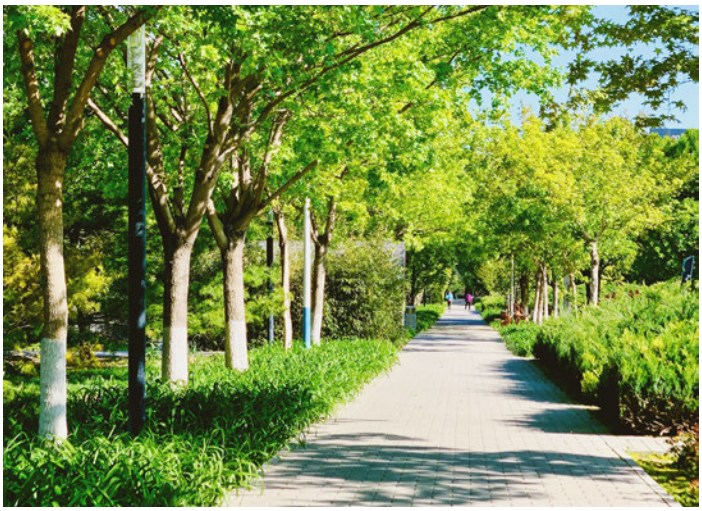
h) Use high-quality, durable materials for all landscape features such as paving, fences, walls, planters, site furniture, and shade structures.

i) Consider green roofs for buildings with flat roofs. This will assist with reducing heat island effects and improving air quality and noise insulation.

j) Appropriate planting conditions such as soil depth, volume, and growing mediums should be provided for successful landscapes.

k) Utilize landscaped buffers to provide an appealing and 'soft' transitional interface between new development areas and the backyards of existing established areas or between low-rise and high-rise developments.

l) Ensure the design of lighting avoids light spill onto abutting properties and adjacent residential neighbourhoods.



Landscape buffers integrated with a mid-block connection

Green shared amenity area with playground

Access, Parking & Servicing

Guidelines

a) Provide access to parking, servicing and loading from the rear of the building, or a laneway where possible. On corner sites, provide access from secondary streets.

b) Encourage underground parking. Where not feasible, at grade and structured parking above grade should be located at the back of the building or site.

c) Locate and screen parking, loading, utilities, and servicing areas away from the public view through a combination of soft and hard landscaping, as well as other integrated architectural elements such as walls and pergolas.

d) Facilities for handling, storing, and separating waste and recycling should be integrated into the building design and screened from public view through landscaping and architectural elements.

e) Where it is only possible to provide parking at grade, split the surface parking into small courtyards by using walkways, public art, or landscaped strips.

f) Avoid vehicular site access from higher order streets. Provide access from local streets or rear lanes where possible.

g) Consolidate vehicular entrances to serve multiple buildings in order to minimize the number of interruptions to the street wall and sidewalk network. Limit the number of accesses from the same street to two.

h) Design underground/above ground parking ramps and service entrances as part of the building façade.

i) Provide long-term bicycle storage inside the building and short-term bicycle parking areas and racks close to entrances and external to the building.

j) For multiple unit development locate visitor parking spaces within a 200 metre walking distance or one block, whichever is less, of the residential units served.

k) Walkways should be distinguished from vehicular areas through a change in material or by using a planted or sodded edge.

Parking for apartments with walkways and landscaping

Underground parking garage access screened by decorative door

Private Outdoor Amenity Space

Private outdoor amenity spaces should have access to sunlight, be comfortable, and designed to afford a level of privacy.

Guidelines

a) Provide shared space for both indoor and outdoor amenities in new multi-unit residential development.

b) Design private outdoor amenity spaces to:

- Have direct access to sunlight and sky view;
- Mitigate impacts on the public realm and neighbours - increased facing distances between buildings may be required to reduce impacts;
- Provide generous and well-designed landscaped areas to offer privacy, screening, and attractive interface with the public realm; and,
- Include railing designs to help increase privacy, screen items from view, and reduce risk of bird strikes.

c) Private outdoor amenity spaces can be provided in a variety of forms including front verandas on buildings where the building base is designed to incorporate townhouse units, roof-top decks, or balconies.

d) Raised terraces should be raised a minimum of 0.6 metres and a maximum of 1.2 metres.

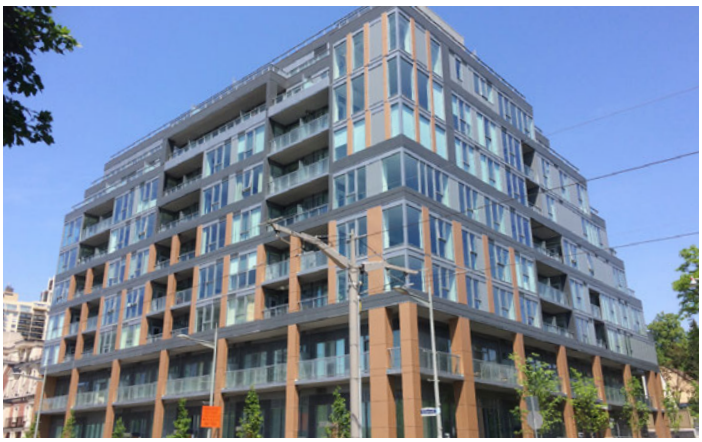
e) Raised terraces should provide an entrance to only one unit. Provide privacy with planting and architectural elements and translucent or solid railings.

f) Design roof top private amenity spaces to limit overlook into the adjacent neighbourhood:

g) Design roof top terraces with parapets, and solid or translucent railings.

h) Inset balconies or partially inset to offer greater privacy and shelter from wind, reduce the building bulk, and minimize the impact of shadow on other amenity spaces below.

i) Limit the size and avoid continuous projecting balconies, especially on residential streets, or when a private outdoor amenity space, pedestrian mews, and/or landscaped walk



Example of a building with inset balconies to minimize shadowing on uses below

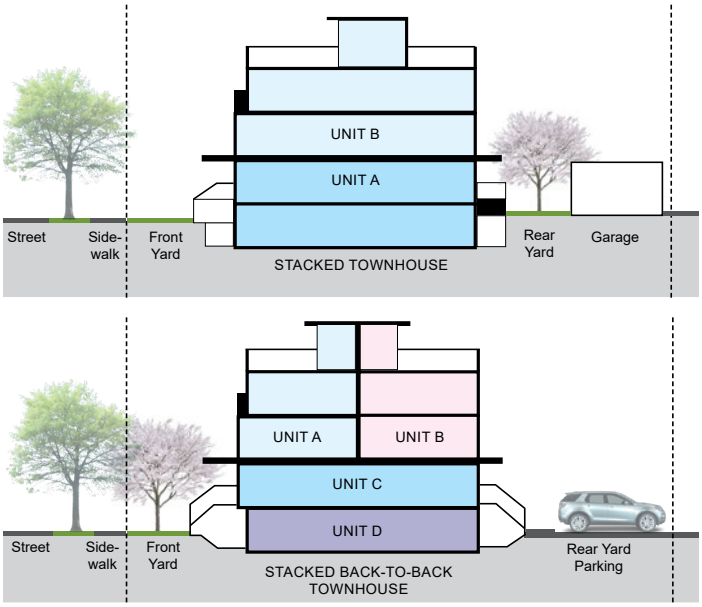
Raised terrace providing a transition zone between sidewalk and individual residential units

Guidance for Specific Building Types

In addition to the other mid-rise residential building guidelines, the following guidelines apply to specific mid-rise building types.

Stacked & Back-to-Back Stacked Townhouses

Stacked townhouses are typically a 3 to 4 storey building of attached units which are stacked one above the other and oriented to the street. Stacked townhouses have units stacked vertically. This can include three units located on top of each other, a two storey unit stacked on top of a one storey unit, or a two storey unit stacked on top of two storey unit. Each unit has its own entrance at grade. Back-to-back stacked townhouses share a rear and side wall and are two stacked townhouses placed back-to-back.



Sections illustrating stacked and back-to-back stacked townhouses

Guidelines

a) Articulate the elevation of the townhouse block in a manner that provides variation between units and reinforces common characteristics that visually unite the block.

b) Use continuous and consistent architectural details and materials for the entirety of the building.

c) Limit the number of units in a townhouse block and limit the length of the townhouse block.

d) Locate and orient windows, decks, and balconies to limit overlook into nearby windows and amenity spaces of adjacent properties while enabling “eyes on the street” for common public areas.

e) Locate attached garages at the rear of the building to be accessed from a lane or private drive.

f) Consider providing underground parking for stacked back-to-back townhouses.

g) Provide prominent, well-designed and integrated building entrances such as porches, porticos, or canopies along the building frontage.

h) On corner or double-fronting sites, locate building fronts and entrances facing both streets. Buildings on corner sites require additional attention to detail to enhance the corner.

Example of stacked townhouses with prominent entrances

Apartment Buildings

These buildings are multi-storey structures that contribute to complete communities, provide a mix of housing and activity, and are built at densities that improve the viability of transit.

Guidelines

a) Design the building and the site layout to integrate into the scale of the built form of the street and to create a streetscape that supports a pedestrian scale.

b) The main building facade should front on the abutting street.

c) Locate and orient primary building entrances to public streets and design them to be visible and accessible to the public.

d) Design ground floors to be appealing to pedestrians and include uses that are more active, such as lobbies, amenity rooms, gyms, or active accessory uses (where permitted).

e) Locate visitor parking, loading, and service areas in areas of low public visibility in side or rear yards and set back from the building.

f) Screen parking from street view through the use of landscaping or fencing, or a combination of both.

g) Locate and orient windows, decks, and balconies to limit overlook into nearby windows and amenity spaces of adjacent properties while enabling “eyes on the street” for common public areas.

h) Provide landscape screening, fencing or setbacks appropriate to maintain the privacy of both building residents and adjacent residential uses.

i) Provide additional landscaping, patios, decks or walkouts for at-grade residential units to increase their level or privacy.

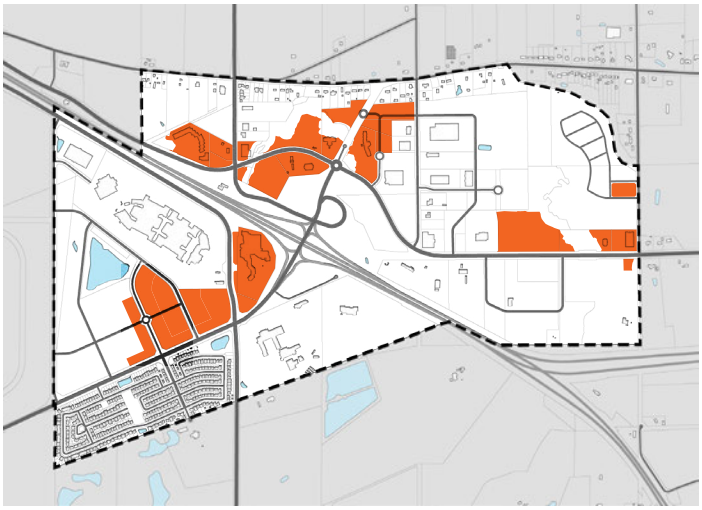
j) Design interior courtyards to maximize sun exposure through the massing and location of taller building elements.

5 storey residential building with material palette matching adjacent low-rise residential uses

6 storey residential building with a prominent entrance

Mixed-Use Areas

Mixed-use areas contain buildings with retail, office or other active uses at ground level and residential and/or office above. These buildings contribute to a vibrant, pedestrian friendly streetscape.



Building Placement & Orientation

Guidelines

a) Mixed-use buildings should be located on a site of suitable size, and provide adequate landscaping, amenity features, buffering, on-site parking and garbage pickup and recycling services.

b) Mixed-use buildings should have frontage onto a Collector or Arterial Street.

c) Concentrate the greatest heights and massing of the site along the frontage of an Arterial or Collector Street, with the buildings sited to frame streets and open spaces.

d) Locate buildings close to the street edge to frame and animate the public realm.

e) Ensure the siting and massing of buildings provides a consistent relationship, continuity, and enclosure to adjacent public streets.

f) Maintain a floor plate size and massing configuration that permits adequate sky view and minimizes shadow impacts.

g) Locate and orient primary building entrances to public streets, and design them to be visible and accessible to the public.

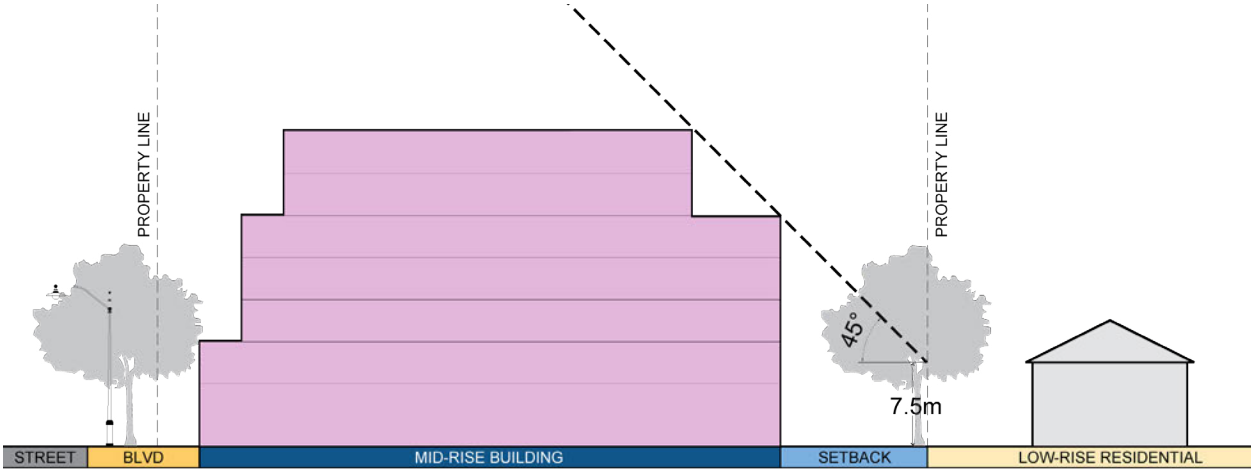
h) Ensure buildings located adjacent to, or at the edge of parks or urban greens provide opportunities for overlook into the public space with windows and doors. The massing, siting and scale of these buildings should create a degree of enclosure or definition appropriate to the type of open space they enclose.

i) A pedestrian-scaled, permeable and connected internal layout (block and street pattern) creates comfortable and protected pedestrian spaces that have a sense of enclosure.

Multi-storey mixed-use buildings with activity at the ground level

Mixed-Use area of Westbrook Village, Vancouver
(image: UBC Public Affairs, photo by Don Erhardt, CC BY-NC 2.0, Flickr)

Demonstration plan illustrating a concept tor the Mixed -Use Areas along York Road west of Glendale Avenue



Angular plane diagram - 45 degree angular plane measured from 7.5m above the property line

Compatibility & Transitions

Guidelines

a) Ensure the scale of mixed-use buildings is compatible and sensitively integrated with surrounding residential uses in terms of building mass, height, setbacks, orientation, privacy, landscaping, shadow casting, accessibility, and visual impact.

b) To demonstrate mitigation of potential shadow or wind impacts on existing or proposed pedestrian routes, public spaces, and adjacent development technical studies may be required including a wind study and/or sun/shadow study.

c) Development transition requirements may be met using a combination of the following:

- Separate mid-rise buildings from low-rise buildings with a Local Street;
- Locate less dense and lower scale buildings in locations adjacent to existing low-rise neighbourhoods;
- Require a minimum 7.5 metre rear yard setback where mixed-use development abuts low-rise residential properties;
- Mitigate the actual and perceived massing impacts of a mid-rise mixed-use building by breaking up the mass horizontally and vertically, through the creative incorporation of changes in materials, balcony and floor plate design, architectural features, and unit/amenity locations;

Use of stepbacks to provide appropriate transition to adjacent uses

- Provide rear and side step-backs for upper storeys to provide contextually appropriate transitions from the mid-rise mixed-use buildings to surrounding residential low-rise neighbourhoods; and
- Provide high quality landscape treatment such as decorative fencing, trees, shrubs, grassed areas, and berming.

d) Development in mixed-use areas should apply a 45 degree rear yard angular plane measured from 7.5 metres above the abutting property line where a building transitions to an adjacent low-rise residential area to ensure appropriate skyview, light, and separation.

Building Design

Height & Massing

Mixed-use buildings are generally comprised of a base, middle, and top.

Guidelines

a) The height of the building base should be between 2 and 4 storeys to frame and reinforce the pedestrian scale of the streetscape.

b) The height of the building base should generally be within 1 storey of any adjacent mid-rise development to create a consistent street wall.

c) Above the building base there should be a minimum 3.0 metre stepback to define the street wall. Exceptions to the minimum depth of the stepback may be permitted but in no case should it be less than 1.0 metre.

d) Provide a height transition towards adjacent existing or planned built form.

e) The top of the building should define a unique and interesting skyline. Design the top of buildings to include a variety of elements, such as step backs, material variations, lighting, and other architectural elements to reinforce a strong presence at the top of the building.

f) Provide a minimum ground floor height of 4.5 metres in mixed-use areas.

g) Where possible, include outdoor amenity space for residential uses at various levels above grade, including balconies, patios, terraces, and rooftop gardens.

h) Mechanical penthouses should be designed and clad with materials that complement the main building façades.

i) Locate mechanical rooms to the centre of the building rooftop and integrate into the rooftop design so they are not visible from the public realm.

j) For developments with more than one building, provide a range of heights and establish a height hierarchy related to site conditions and context.

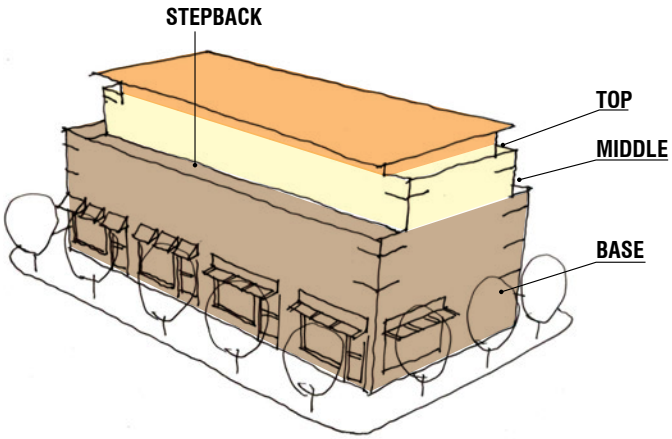


Diagram illustrating the building components of base, middle and top

Mixed-use building with stepback above the building base

Articulation & Architectural Features

Articulation considers the three dimensional qualities of the façade, including windows, doors, and architectural elements such as decoration, organization, the expression of interior spaces, and structural expression.

Guidelines

k) Mitigate the actual and perceived impacts of mid-rise mixed-use buildings by breaking up the mass both vertically and horizontally through the creative incorporation of changes in materials, balcony and floor plate design, architectural features, and amenity locations.

l) Incorporate windows and balconies on all elevations, especially if exposed to public view.

m) Locate entrances strategically so they are highly visible and well connected to the public realm.

n) Provide a high level of glazing at ground level, especially for those areas related to lobbies, common/amenity areas, and non-residential uses (i.e. commercial uses).

o) Encourage weather protective design at grade through the use of canopies, arcades, and cantilevers. Canopies located on the ground floor should be at least 1.5 metres deep.

Exterior Materials

The variety and selection of building materials contributes to visual interest along the street and to the varied architectural character of the Glendale area.

Guidelines

a) Ensure high quality and durable materials are used on all elements and elevations of the development.

b) Select materials to complement the architecture, character, size, and style of the building, as well as the streetscape.

c) Maintain consistent materials between elevations.

d) Incorporate changes in materials to visually break-up the building massing.

e) Use reflective, low intensity colours on rooftops to reduce heat island effect and HVAC loads. Refer to Chapter 4 for cool roofing material and solar reflectance guidelines.

f) Minimize danger to migratory birds by adhering to the Bird-Friendly Design guidelines in Chapter 4.

Articulation of the facade with various materials and offsets

Corner articulation in a mixed use building

Gateways

To contribute to the creation of a sense of place and local identity, buildings at visually prominent, landmark and gateway locations should express a higher design standard.

Guidelines

a) Use prominent built form to address gateways and other key locations within the community.

b) Express prominence through building articulation, massing, materiality, etc.

c) Taller building elements at gateways and landmark sites/frontages are encouraged, such as towers, rotundas, porticos, change in building plane, overhangs, special rooflines, public art, and street wall height exceptions, where those elements exhibit:

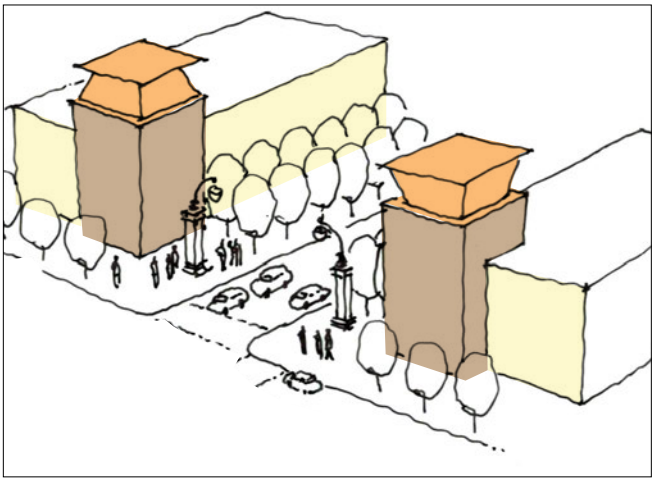
- Compatibility with adjacent context, including appropriate scale;
- Compatibility with the principal building expression; and,
- Design excellence.

d) On larger sites, create 'paired' corner buildings on either side of a street to emphasize a sense of entry or to distinguish one street district from another.

e) New development and landscaping should frame rather than block public views of prominent natural features, landmark sites and buildings, public art and other prominent features.

f) Buildings at the end of long view corridors should be designed to terminate the view with a landmark building element such as a tower or massing element.

Corner building as a gateway feature



Paired corner buildings to emphasize a sense of entry

Storefronts

Guidelines

a) Provide retail and commercial uses on the ground floors of buildings to bring animation to the street and encourage pedestrian activity.

b) Locate entrances to stores and the ground floor of live-work units at grade and design to be universally accessible, highly visible, and clearly articulated.

c) Provide spill-out space around the base of buildings for uses such as patios, street furniture, and special events.

d) Ensure a significant amount of the building frontage on the ground floor and at building base levels is glass to allow views of the indoor uses and create visual interest for pedestrians. Clear glass should be used to promote the highest level of visibility and should not be covered with advertising, opaque or semi-opaque stickers or other treatments that limit the visibility of the interior.

e) Provide awnings or canopies above windows and doors for weather protection.

Frequent doors, windows and pedestrian generating uses

Signage

Guidelines

a) Integrate signage in the building design and ensure it complements the building's elevation, animates the ground level, and enhances the streetscape.

b) Design signage to be consistent with respect to materials, size, location (on a building), lettering and lighting, while also allowing some flexibility for tenant branding.

c) Ensure signage lighting design complements the design of the building.

d) Direct signage lighting to limit light trespass to surrounding properties and to prevent light pollution.

e) Signage should add diversity and interest to the street and not overwhelm either the storefront or streetscape. Design building signage to be compatible and complement the architecture of the building in its scale, material, consistency and design.

f) Projecting or hanging signs should be permitted to encroach over the streetline provided that they do not project more than 1.0 metre from the building. There should be a minimum 2.4 metre clearance between the bottom of the sign and grade.

Signage integrated into a sign band as part of the facade design

Site Landscaping

Landscaping design should reinforce the structure of the site with a focus on creating a safe, comfortable, and animated pedestrian environment.

Guidelines

a) Provide a safe, clear, and accessible site circulation system for pedestrians, cyclists, and vehicles, including connections to the surrounding street network, public sidewalks, transit stops, and parking areas.

b) Create a pedestrian-scaled environment by arranging buildings to create comfortable and protected pedestrian spaces that provide a sense of enclosure.

c) Provide mid-block pedestrian connections for development blocks over 200 metres in length to support pedestrian movement.

d) Develop a comprehensive strategy for planting, built features, fencing, walls, paving, lighting, signage, and site furnishings.

e) Base planting strategies on year-round interest, hardiness, drought, salt and disease tolerance, and biodiversity.

f) Preserve, protect, and incorporate existing healthy and mature trees into the site and landscape designs wherever possible.

g) Minimize the use of hard, paved areas to reduce surface run-off and heat island effect. Use permeable or porous paving wherever possible.

h) Use high-quality, durable materials for all landscape features such as paving, fences, walls, planters, site furniture, and shade structures.

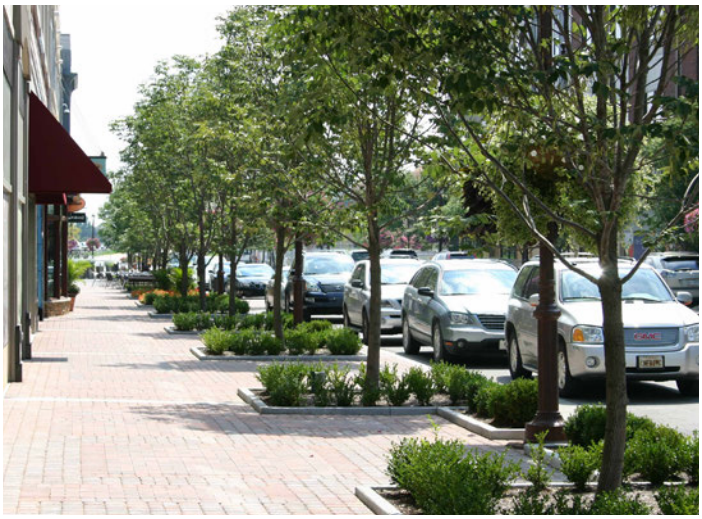
i) Consider green roofs for buildings with flat roofs. This will assist with reducing heat island effects and improving air quality and noise insulation.

j) Appropriate planting conditions such as soil depth, volume, and growing mediums must be provided for successful landscapes.

k) Utilize landscaped buffers to provide an appealing and 'soft' transitional interface between new development areas and the backyards of existing established areas. Landscaped buffers should provide a visual barrier, as well as some sound attenuation

l) Ensure the design of lighting avoids light spill onto abutting properties and adjacent residential neighbourhoods.

Patio defined behind a planting bed



Street tree planting to buffer the sidewalk from the street

Parking

Guidelines

a) On-site surface parking should be avoided wherever possible.

b) Encourage underground or structured parking. Where not feasible, at-grade parking should be located at the back of the building.

a) Provide access to parking, servicing and loading from the rear of the building, or a laneway where possible.

b) Access to parking and servicing areas should clearly prioritize pedestrian movement and the continuity of the public sidewalks.

c) Integrate vehicular entrances to a building into the building's architectural design.

d) Incorporate active uses at-grade for above-grade parking structures facing onto any Arterial or Collector Street.

e) Where above-grade parking structures face a street, minimize the visual impact of the building through screening or by treating the building face like an occupied building through expressing an architectural vocabulary and material compatible with adjacent façades.

f) Provide accessible and secure bicycle racks and parking at key locations to promote active transportation.

Parking entrance integrated into building design

Pedestrian priority established across vehicular access

Parking structure with rhythmic facade design (image: La Citta Vita, CC BY-SA 2.0, Flickr)

Servicing, Storage & Loading

Servicing, utility, storage, and loading are necessary components of all building sites. These areas need to be functional and easily accessible and their visual impact minimized through location and screening.

Guidelines

a) Coordinate, consolidate, and integrate loading docks, service areas, and storage within the building envelope, where possible.

b) Locate loading, service, storage, and utility areas away from public streets and screened from public view.

c) Ensure that waste collection vehicles have ample room to manoeuvre at the site planning stage to ensure that these functions do not spill over into either the public right-of-way or public spaces.

d) Provide access to servicing and loading areas from secondary streets or rear laneways. Include design treatments to minimize impact and improve safety for pedestrians and cyclists crossing these areas.

e) Locate all utilities underground. Where components of utilities must be located above ground, utility providers are encouraged to consider innovative methods of containing utility services on or within streetscape features.

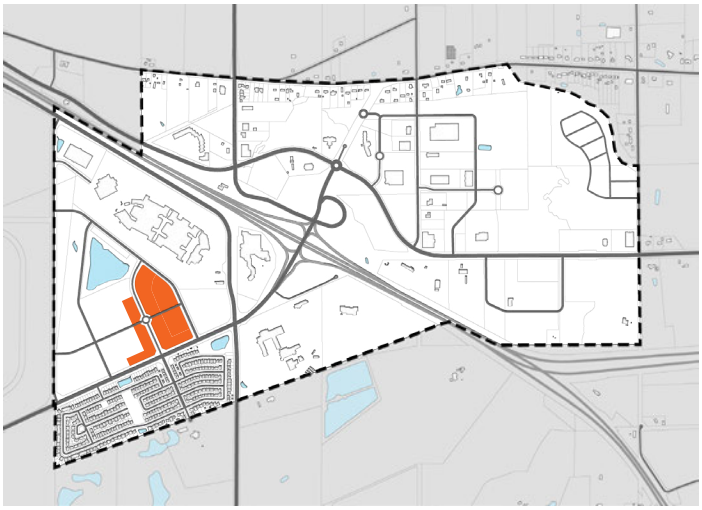
f) For all restaurant uses, cooking ventilation systems, incorporate ecologizer, water wash, ultraviolet, or other equivalent odour extraction mechanisms that are sufficient to ensure that the resulting exhaust is substantially odour free and will not affect surrounding residents.

g) Fully screen and locate garbage, recycling, loading, and service areas away from public view. These facilities should be located in the rear or side yards away from residential uses, major streets, and open space areas. Integrate these functions within the building envelope.

Integrated service area with high standard of design

Main Street Mixed-Use Areas

In addition to the preceding Mixed-Use Area guidelines, additional guidelines apply to the Main Street Mixed-Use Areas (identified as the *Mixed-Use I Designation* in the Glendale Secondary Plan) where the intent is to create a community "main street" along Niagara-on-the-Green Boulevard, that provides a focal point for commercial and social activities for residents, workers, students and visitors in Glendale.



Guidelines

a) Along the frontage of Niagara-on-the-Green Boulevard, the height of the building base of a mid-rise building should be between 2 and 3 storeys to frame and reinforce the pedestrian scale of the streetscape.

b) Along the frontage of Niagara-on-the-Green Boulevard, portions of buildings above the building base's street wall should have additional stepbacks as necessary to preserve sky view and solar access to the street.

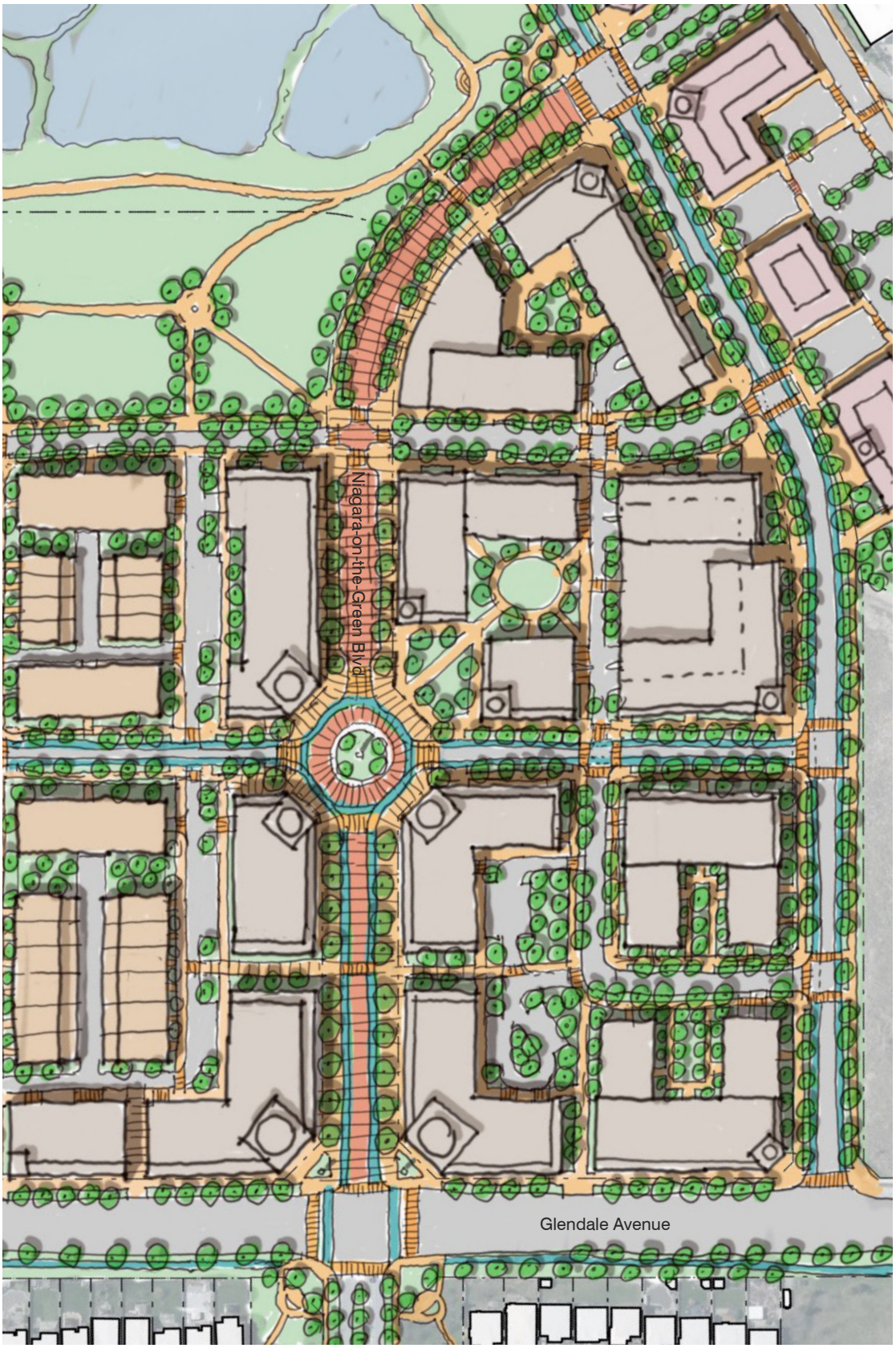
c) Locate buildings at or near the front property line to create good street definition and a sense of enclosure. Buildings should not be set back more than 5 metres from the front property line.

d) Buildings may be set back from the street edge where they frame and define the edges of public spaces, such as plazas, courtyards, and seating areas.

a) Buildings should occupy a minimum of 90% the frontage along public streets, with exceptions for public spaces, such as plazas, courtyards, and seating areas.

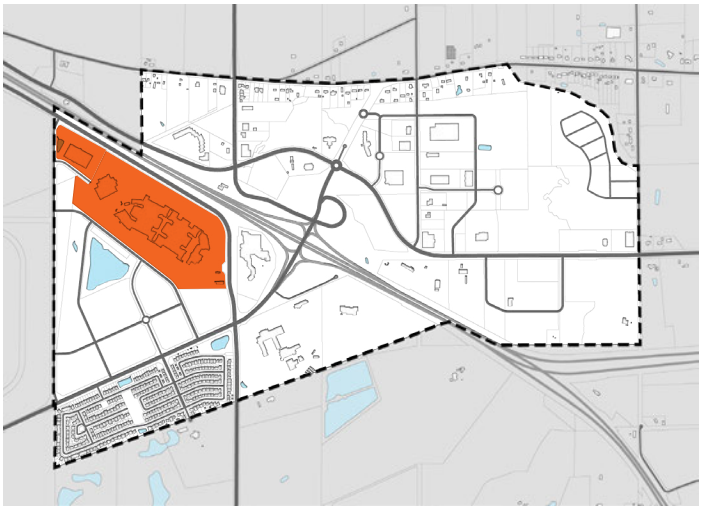
Larger set back when defining a public space

Mid-rise mixed-use development incorporating a grocery store



Demonstration plan illustrating a concept tor the Main Street Mixed-Use area along Niagara-on-the-Green Boulevard

Regional Commercial Areas



New and redeveloped buildings in Regional Commercial areas should be designed to frame the street edge, provide clear pedestrian access, and create gathering spaces such as patios, in order to foster a greater sense of place.

Building Placement & Orientation

Building placement refers to the location of the building in relation to the street. The orientation and placement of buildings along the street can help to reinforce the public realm by enhancing the pedestrian environment and creating a sense of enclosure.

Guidelines

a) Use buildings and smaller scale retail and commercial stores to frame and provide enclosure to the surrounding public streets by locating them close to the street edge.

b) Create a pedestrian-scaled, permeable and connected internal layout (block and street pattern) with comfortable and protected pedestrian spaces that have a sense of enclosure.

c) At key corner sites, sidewalk cafes, kiosks, and street vendors are encouraged, and larger setbacks may be permitted. The area within the front yard setback should be hardscaped with paving to provide an extension of the sidewalk.

Primary entrances located along the street frontage

d) Ensure buildings located adjacent to, or at the edge of parks or urban greens provide opportunities for overlook into the public space with windows and doors. The massing, siting and scale of these buildings should create a degree of enclosure or definition appropriate to the type of open space they enclose.

e) Ensure primary entrances to buildings are clearly visible and located on a public street, onto a public open space, or on a primary internal route for reasons of public safety and convenience.

f) Ensure access to primary building entrances from sidewalks and public open space areas are illuminated, convenient, and direct with minimum changes in grade.

g) Parking, driveways, or lanes should not be located between the buildings and the street except for large buildings on large sites with multiple buildings where the larger buildings are situated to the interior of the block with smaller buildings facing the street.

h) Provide accessible and secure bicycle racks and parking at key locations to promote active transportation.

Demonstration plan illustrating a concept tor the Regional Commercial Area south of Taylor Road

Building Design

Guidelines

a) Articulate large walls visible from the street through various treatments such as offsets in massing, façade, and fenestration treatments.

b) For stand-alone commercial uses, minimize the building footprint by providing a multi-storey building in order to deliver compact form, conserve land and make the development more walkable.

c) Buildings located at corner sites along Arterial and Collector Streets should have a high level of architectural quality for the façade.

d) Design sites with multiple buildings to reflect a consistent architectural theme. Similar building elements could include colours, materials, signage, and the base and top of buildings. Design individual buildings to offer visual interest and variety in design through architectural features.

e) Ensure consistent high quality building design and architectural elements on all building elevations, particularly on facades in public view or backing onto residential properties.

f) Establish a rhythm of minor breaks or articulation along the façade, distinguishing one unit (retail or residential) or building component from the next.

g) Incorporate architectural elements to enhance the pedestrian environment such as canopies, overhangs, awnings, projecting display windows, architectural arcades, and colonnades. These elements should be designed as integral parts of the building in terms of form, style, material, and colour.

h) Steps and ramps should be architecturally incorporated into the building entrance.

Corner buildings address both sides of the street with windows, signage, lighting, and a continuation of public walkways

Combination of elements that enhance the pedestrian environment

Storefronts

Storefronts represent the primary interface of commercial areas with the public realm.

Guidelines

a) The floor-to-ceiling height of ground floors for commercial buildings should be at least 4.25 metres.

b) Locate entrances to stores at grade and design them to be universally accessible, highly visible, and clearly articulated.

c) Provide spill-out space around the base of buildings for uses such as patios, street furniture, and special events.

d) Ground floors facing public streets should have a significant amount of glazing to allow views of the indoor uses and create visual interest for pedestrians. Glazing should be clear and should not be covered with advertising or stickers that block views into the building.

e) Provide awnings or canopies above store windows and doors for weather protection.

f) Patio spaces should be defined by low screening fences, planters or hedges and be located adjacent to building entrances.

Awnings, canopies, and signage provide shade and weather protection for pedestrians

Signage

Signs play a significant role in the character and animation of commercial areas.

Guidelines

a) Integrate signage in the building design and ensure it complements the building's elevation, animates the ground level and is compatible in its scale, material, consistency and design.

b) In a site with multiple buildings, design signage to be consistent with respect to materials, size, location (on a building), lettering and lighting, while also allowing some flexibility for tenant branding.

c) Ensure signage lighting design complements the design of the building.

d) Direct signage lighting to limit light trespass to surrounding properties and to prevent light pollution.

e) For multi-tenant sites, provide an overall signage strategy that coordinates the site and building signage, and limits the number of monument/pylon signs on a single site and provide combined signage listing the businesses within the site.

f) Signage should not obscure windows, cornices or other architectural elements.

Retail signage integrated into building design (Copyright Queen's Printer for Ontario, photo source: Ontario Growth Secretariat, Ministry of Municipal Affairs)

Drive-Throughs

Where permitted, drive-through facilities must demonstrate that they do not adversely affect the character of the existing and planned streetscape.

Guidelines

a) Locate buildings close to or at the streetline to define and support the street edge and facilitate pedestrian activity and access.

b) Align new buildings with the front facades of existing buildings.

c) Ensure an appropriate transition in setback from existing and adjacent buildings along the street.

d) Locate the main entrance directly off the public sidewalk.

e) Ensure walls visible from the street are transparent with windows, doors, and other forms of transparent building materials to maximize views in and out of the building enhancing the relationship between interior and exterior to support and animate the public street and sidewalk.

f) Provide vehicular access and stacking lanes along the side or the rear of the building away from adjacent residential uses, streetscapes, and open spaces. Do not locate stacking lanes or driveways between the building and the street.

g) Provide parking adjacent to the secondary entrance to the facility so it is not necessary for pedestrians who arrive by car to cross driveways or stacking lanes to enter the building.

h) Locate utilities and service components such as transformers, loading, and garbage pick up at the rear or flank of the building out of view from the street and other public areas.

i) Provide sufficient signage where necessary to indicate direction of vehicular travel, stop signs, or no entrance areas.

Drive-through bank (Image: Oksana - stock.adobe.com)

Drive-through queue lanes (Image: Oksana - stock.adobe.com)

Site Landscaping

Landscaping design should reinforce the structure of the site with a focus on creating a safe, comfortable, and animated pedestrian environment.

Guidelines

a) Develop a comprehensive strategy for planting, built features, fencing, walls, paving, lighting, signage, and site furnishings.

b) Base planting strategies on year-round interest, hardiness, drought, salt and disease tolerance, and biodiversity.

c) Preserve, protect, and incorporate existing healthy and mature trees into the site and landscape designs wherever possible.

d) Minimize the use of hard, paved areas to reduce surface run-off and heat island effect. Use permeable or porous paving wherever possible.

e) Use high-quality, durable materials for all landscape features such as paving, fences, walls, planters, site furniture, and shade structures.

f) Consider green roofs for buildings with flat roofs. This will assist with reducing heat island effects and improving air quality and noise insulation.

g) Appropriate planting conditions such as soil depth, volume, and growing mediums must be provided for successful landscapes.

h) Where a commercial area abuts a residential area use landscaped buffers to provide an appealing and 'soft' transitional interface. Landscaped buffers should provide e a visual barrier, as well as some sound attenuation.

i) Ensure the design of lighting avoids light spill onto abutting properties and adjacent residential neighbourhoods.

Incorporate substantial landscaping in surface parking lots and include internal walkways that directly link sidewalks on public streets to store entrances

Parking

Vehicular access and parking are necessary for commercial areas to function properly, but care must be taken to minimize their physical and visual impacts on the public realm.

Guidelines

a) Provide a variety of parking options, including on-street parking, underground parking, structured, and screened at-rear parking courtyards. Avoid the use of large surface parking areas, where possible.

b) Locate parking areas away from the street frontage, at the rear or sides of the principal building.

c) Screen surface parking lots from streets, open spaces, and adjacent residential areas with the use of buildings, low fencing, architectural features, landscaping, berms, or other mitigating design measures, such as lowered parking surfaces with landscaped buffers.

d) Design surface parking to minimize environmental impacts by reducing the parking area size, considering shared parking facilities with adjacent buildings, and providing preferential parking for fuel efficient vehicles.

e) Break large parking areas into smaller courts by providing walkways at a minimum interval of 8 rows of parking. Locate walkways flanking a lane or between 2 parking rows.

f) Incorporate pedestrian walkways and landscaping into surface parking areas along primary vehicular routes to enable safe, barrier-free, and direct movement to principal building entrances and the sidewalk. Design walkways with a minimum width of 1.8 metres.

g) Where walkways cross drive aisles, they should be differentiated from the driving surface through the use of surface materials, colour and/or grade change.

h) Use landscaping to break up parking areas to assist with reducing the heat island effect. Trees create a more comfortable walk to and from parking areas, avoiding overheating of parked vehicles. Landscaping islands should have a minimum width of 2.5 metres.

i) Consider above or below grade parking structures where possible and feasible in efforts to conserve land, promote compact development, and reduce heat island effect.

j) Incorporate active uses at-grade for above grade parking structures facing onto any Arterial or Collector Street, where possible.

k) Where above grade parking structures abut a street, minimize the visual impact of the building through screening or by treating the building face like an occupied building through expressing an architectural vocabulary and material compatible with adjacent façades.

Lowered parking surfaces and landscaped buffers help screen parking areas from street view

Parking structure with retail uses facing street at ground level

Servicing, Storage & Loading

Servicing, utility, storage, and loading are necessary components of commercial uses. These areas need to be functional and easily accessible and their visual impact minimized through location and screening.

Guidelines

a) Coordinate, consolidate, and integrate loading docks, service areas, and storage within the building envelope, where possible.

b) Locate loading, service, storage, and utility areas away from public streets and screened from public view.

c) Ensure that waste collection vehicles have ample room to manoeuvre at the site planning stage to ensure that these functions do not spill over into either the public right-of-way or public spaces.

d) Provide access to servicing and loading areas from secondary streets or rear laneways. Include design treatments to minimize impact and improve safety for pedestrians and cyclists crossing these areas.

e) Locate all utilities underground. Where components of utilities must be located above ground, utility providers are encouraged to consider innovative methods of containing utility services on or within streetscape features.

f) For all restaurant uses, cooking ventilation systems, incorporate ecologizer, water wash, ultraviolet, or other equivalent odour extraction mechanisms that are sufficient to ensure that the resulting exhaust is substantially odour free and will not affect surrounding residents.

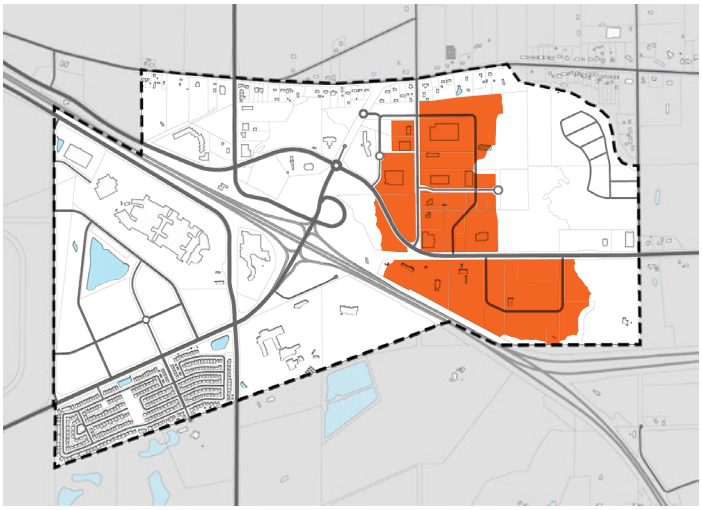
g) Integrate facilities for handling, storing, and separating waste and recycling into the building design.

h) Ensure waste facilities within an external structure are consistent in design, colour, and materials to the main building and are not in a prominent location.

Fully enclosed garbage enclosure

Industrial/Business Park Areas

Industrial/Business Park Areas may include a wide variety of uses, including offices, research and development, warehouses, and light industrial and manufacturing uses.



Building Placement & Orientation

Guidelines

a) Arrange and design industrial and business parks to incorporate a campus design to ensure that all development components are recognizable as part of an integrated complex. A campus design format consists of one or more individual buildings or multiple tenancy buildings having shared parking, loading, and access facilities.

b) Design buildings to have high-quality design features including built form, architectural detail, landscaping, and signage.

c) Orient buildings adjacent to an arterial or collector street to face the street to provide good visibility and contribute to the framing of the streetscape.

d) If there are multiple buildings on one site, provide a coordinated architectural treatment to develop overall site harmony. Provide differentiating characteristics, particularly at building entrances.

e) Vehicular access and parking should be shared between adjacent properties wherever feasible to reduce the extent of interruption along the sidewalk and the streetscape and minimize turning locations.

Colour, material and massing create a dynamic façade

Colour, material and massing create a dynamic façade

Demonstration plan illustrating a concept tor the Industrial/Business Park Area at York Road and Townline Road

Building Design

Guidelines

f) Avoid long stretches of monotonous building façades or 'blank walls'. Building articulation and material and colour changes should be the primary means to create interest on long expanses of walls.

g) Industrial uses may provide less decorative facade materials for non-street frontages, such as concrete and metal siding; provided the front facade material does not transition at the corner, and is wrapped around to the sides.

h) Design highly visible sites (such as those visible from the QEW or at main intersections such as York Road and Townline Road) with entry features and identifiable architectural features, such as towers, enhanced elevation treatments, unique massing or roofing lines, a multi-storey presence, or other prominent architectural forms to provide an identity to the area.

i) For accessory buildings, provide compatible and complimentary design, colour, and materials to the main building.

A special architectural feature breaks up a long façade

Signage

Guidelines

a) Design building signage to be compatible and complement the architecture of the building in its scale, material, consistency and design.

b) For buildings or sites with multiple tenants, provide combined signage listing the businesses within the site.

c) Ensure signage lighting design complements the design of the building.

d) Direct signage lighting to limit light trespass to surrounding properties and to prevent light pollution.

Site Landscaping

Guidelines

a) Provide outdoor amenity areas, such as courtyards, patios, and seating areas in desirable areas, such as facing public streets or natural heritage features and define with building façades, architectural features, fencing, and/or landscaping.

b) Develop a comprehensive strategy for planting, built features, fencing, walls, paving, lighting, signage, and site furnishings.

c) Base planting strategies on year-round interest, hardiness, drought, salt and disease tolerance, and biodiversity.

d) Preserve, protect, and incorporate existing healthy and mature trees into the site and landscape designs wherever possible.

e) Minimize the use of hard, paved areas to reduce surface run-off and heat island effect. Use permeable or porous paving wherever possible.

f) Use high-quality, durable materials for all landscape features such as paving, fences, walls, planters, site furniture, and shade structures.

g) Consider green roofs for buildings with flat roofs. This will assist with reducing heat island effects and improving air quality and noise insulation.

h) Appropriate planting conditions such as soil depth, volume, and growing mediums must be provided for successful landscapes.

i) Where a commercial area abuts a residential area use landscaped buffers to provide an appealing and 'soft' transitional interface. Landscaped buffers should provide a visual barrier, as well as some sound attenuation.

j) Ensure the design of lighting avoids light spill onto abutting properties and adjacent residential neighbourhoods.

Use of vegetated screening as a visual buffer

Parking

Guidelines

a) Locate parking areas away from the street frontage, at the rear or sides of the principal building.

b) Screen surface parking lots from streets, open spaces, and adjacent residential areas with the use of buildings, low fencing, architectural features, landscaping, berms, or other mitigating design measures, such as lowered parking surfaces with landscaped buffers.

c) Design surface parking to minimize environmental impacts by reducing the parking area size, considering shared parking facilities with adjacent buildings, and providing preferential parking for fuel efficient vehicles.

d) Break large parking areas into smaller courts by providing walkways at a minimum interval of 8 rows of parking. Locate walkways flanking a lane or between 2 parking rows.

e) Incorporate pedestrian walkways and landscaping into surface parking areas along primary vehicular routes to enable safe, barrier free, and direct movement to principal building entrances and the sidewalk. Design walkways with a minimum width of 1.8 metres.

f) Where walkways cross drive aisles, they should be differentiated from the driving surface through the use of surface materials, colour and/or grade change.

g) Use landscaping to break up parking areas to assist with reducing the heat island effect. Trees create a more comfortable walk to and from parking areas, avoiding overheating of parked vehicles. Landscaping islands should have a minimum width of 2.5 metres.

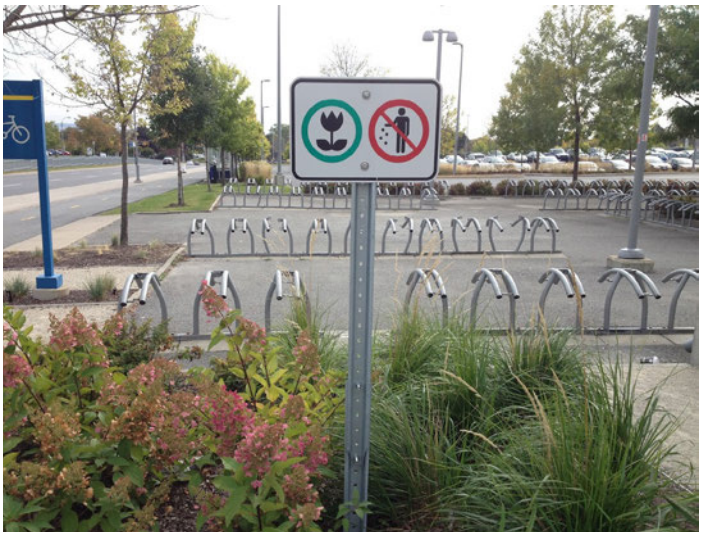
h) Integrate stormwater facilities for large parking lots into the parking area using for example permeable pavers and bioswales. Design the facilities as aesthetic landscape features such as planting strips between parking rows.

i) Consider above or below grade parking structures where possible and feasible in efforts to conserve land, promote compact development, and reduce heat island effect.

j) Incorporate active uses at-grade for above grade parking structures facing onto any Arterial or Collector Street, where possible.

k) Where above grade parking structures abut a street, minimize the visual impact of the building through screening or by treating the building face like an occupied building through expressing an architectural vocabulary and material compatible with adjacent façades.

Example of a parking lot that incorporates planting strips for as a stormwater management strategy



Bicycle parking in employment areas to support active transportation

Servicing, Storage & Loading

Guidelines

a) Provide specifically designated areas for uses such as service entrances, loading docks, delivery and sorting, temporary storage, garbage and recycling, outdoor storage, outdoor work areas, and other similar uses. These should be:

- Located behind buildings or away from public streets;
- Appropriately sized for the intended use; and,
- Screened from public streets and residential uses to reduce visual and sound impacts on adjacent uses.

b) Ensure that service areas have adequate space for manoeuvring and allow for efficient operation. Vehicle movements in and around service areas should not conflict with adjacent parking areas.

c) Ensure truck manoeuvring, circulation, and queueing lanes are signed, and marked accordingly on the pavement.

d) Provide sufficient on site truck queueing areas as necessary for the expected numbers of trucks. Locate behind buildings and screen, as practical.

e) Ensure loading and delivery areas are not located in a required setback area.

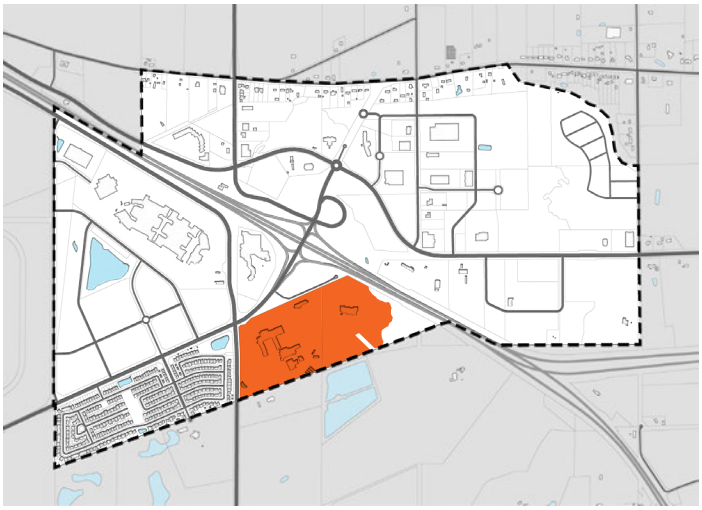
f) Include design treatments to minimize impact and improve safety for pedestrians and cyclists crossing servicing and loading areas.

g) Construct trash and recycling enclosures to be compatible with the project architecture and materials, built to house sufficiently sized bins for the intended use, and designed with a wall height that is sufficient to completely conceal bins.

h) Use berms in landscape strips to minimize views/noise from adjacent uses, parking, loading, and service areas.

i) Where permitted, ensure that outdoor storage only occurs within physically-defined areas, is screened with appropriate fencing, walls, or landscaping, and that all materials in an outside storage area are stored on an impermeable surface to prevent adverse impact on site drainage and stormwater management facilities.

Institutional Campus Areas



Institutional Campus areas in Glendale consists of the Niagara-on-the-Lake campus of Niagara College. The College provides important opportunities for place-making and landmarking and is an important focal point for the Glendale community.

Building Placement & Orientation

Guidelines

a) Institutional buildings should be arranged and designed as part of the overall campus design to ensure that all College buildings are recognizable as part of an integrated complex.

b) Site institutional buildings prominently and where possible, to terminate views.

c) Ensure institutional campus areas have direct access from the surrounding community through a comprehensive and connected active transportation network with linked trails and parks

d) Arrange buildings around a network of campus open spaces and face and address the open spaces.

e) Building sites should be well landscaped and visible at the pedestrian level.

f) Provide drop-off areas for buses and cars at a convenient location, but designed in such a way that prioritizes pedestrian movement and access.

g) Institutional buildings should include public art, either integrated into the building or in a prominent and publicly-visible location on the building site.

h) Institutional buildings should demonstrate a commitment to sustainability by aiming to attain certification by an appropriate green building programs. See Green Buildings & Sites Section in Chapter 4.

Durham College/UOIT quad (image: Aaron Tait, CC BY 2.0, Flickr)

Buildings framing open spaces

Building Design

Guidelines

a) Design institutional buildings as special landmark buildings with high quality architectural design, materials, and finishes.

b) Respond to the local context and site conditions when siting buildings. Where applicable, design buildings to respond to the site's topography

c) Incorporate architectural elements such as massing and special features to terminate important views and vistas.

d) Ensure highly articulated façade design for all elevations exposed to public view from streets or campus open spaces. This includes changes in plane and materials, fenestration, projections, relief, and horizontal and vertical elements. Blank, uninterrupted walls should be avoided.

e) For buildings located at corners, design elevations to equally address the two street frontages. Additionally, use prominent massing, height, architectural elements and detailing to emphasize these locations.

f) Provide integrated weather protection elements at main entrances and ensure they complement the building's design.

g) Provide a sufficiently sized gathering space designed as an outdoor amenity space for institutional buildings where significant numbers of people are expected to gather or wait outside the main entrance.

h) Ensure the main doors of all institutional buildings are connected by a walkway to the sidewalk and have direct access to transit stops.

i) Coordinate building materials and ensure they reflect, complement, and enhance the building's architectural style and detailing.

j) Ensure the design of ancillary buildings and structures is coordinated with that of the principal building in terms of height, massing, architectural details, signage, materials, and colours.

k) Provide a high level of visual transparency and permeability at eye level for lobbies by using windows and prominent entrances.

l) Utilize daylighting strategies, such as building orientation, uniform windows across the facade, or skylights to capture natural light and reduce the need for electric lights during the day.

m) Where flat roofs are used, incorporate cool roofs and/or green roofs in the design of the building to minimize surface runoff, reduce heat island effect, provide noise insulation, and improve local air quality. See Energy Conservation Section in Chapter 4.

n) Screen rooftop mechanical equipment with materials that are complementary to the building.

o) Integrate signage within the building design and ensure it complements the building's elevation, animates the ground level, and enhances the streetscape.

p) Direct signage lighting to limit light trespass to surrounding properties and downcast to prevent light pollution.

q) Ensure signage provides a high level of clarity, visibility, and visual interest, and should aid pedestrians and drivers in navigating the area, especially at night.

Articulated façade (image: Andreas Jalsøe, CC BY 2.0, Flickr)

Site Landscaping

Guidelines

a) Create a comprehensive pedestrian and active transportation network across the campus that provides connections to key locations, destinations and transportation options.

b) Pedestrian routes should be a minimum width of 2.1 metres, with significantly wider routes provided based on expected student volumes.

c) Develop a comprehensive strategy for planting, built features, fencing, walls, paving, lighting, signage, and site furnishings.

d) Base planting strategies on year-round interest, hardiness, drought, salt and disease tolerance, and biodiversity.

e) Preserve, protect, and incorporate existing healthy and mature trees into the site and landscape designs wherever possible.

f) Minimize the use of hard, paved areas to reduce surface run-off and heat island effect. Use permeable or porous paving wherever possible.

g) Use high-quality, durable materials for all landscape features such as paving, fences, walls, planters, site furniture, and shade structures.

h) Consider green roofs for buildings with flat roofs. This will assist with reducing heat island effects and improving air quality and noise insulation.

i) Appropriate planting conditions such as soil depth, volume, and growing mediums must be provided for successful landscapes.

j) Ensure the design of lighting avoids light spill onto abutting properties and adjacent residential neighbourhoods.

Wide pedestrian routes and clearly marked crossings

Integrate stormwater design into open spaces

Parking

Guidelines

a) Locate parking areas away from the street frontage.

b) Screen surface parking lots from streets and campus open spaces with the use of buildings, low fencing, architectural features, landscaping, berms, or other mitigating design measures, such as lowered parking surfaces with landscaped buffers.

c) Design surface parking to minimize environmental impacts by reducing the parking area size, considering providing preferential parking for fuel efficient vehicles.

d) Break large parking areas into smaller courts by providing walkways at a minimum interval of 8 rows of parking. Locate walkways flanking a lane or between 2 parking rows.

e) Incorporate pedestrian walkways and landscaping into surface parking areas along primary vehicular routes to enable safe, barrier free, and direct movement to principal building entrances and the sidewalk. Design walkways with a minimum width of 2.1 metres.

f) Where walkways cross drive aisles, they should be differentiated from the driving surface through the use of surface materials, colour and/or grade change.

g) Use landscaping to break up parking areas to assist with reducing the heat island effect. Trees create a more comfortable walk to and from parking areas, avoiding overheating of parked vehicles. Landscaping islands should have a minimum width of 2.5 metres.

h) Integrate stormwater facilities for large parking lots into the parking area using for example permeable pavers and bioswales. Design the facilities as aesthetic landscape features such as planting strips between parking rows.

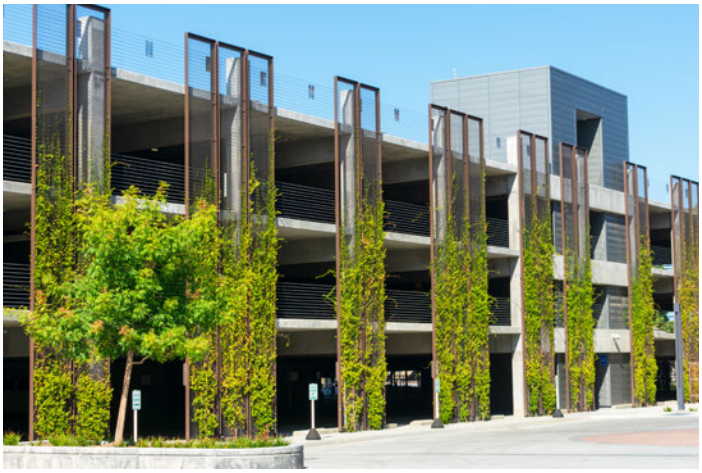
i) Consider above or below grade parking structures where possible and feasible in efforts to conserve land, promote compact development, and reduce heat island effect.

j) Incorporate active uses at grade for above-grade parking structures facing onto street or campus open space, where possible.

k) Where above-grade parking structures abut a street or campus open space, minimize the visual impact of the building through screening or by treating the building face like an occupied building through expressing an architectural vocabulary and material compatible with adjacent façades.

l) Parking for cyclists should be located near building entrances and where visual surveillance can be maximized.

Permeable surfaces and landscaping in parking areas



Parking structure with facade elements for green walls

Servicing, Storage & Loading

Guidelines

a) Provide specifically designated areas for uses such as service entrances, loading docks, delivery and sorting, temporary storage, garbage and recycling, outdoor storage, outdoor work areas, and other similar uses. These should be:

   – Located behind buildings or away from public streets;

   – Appropriately sized for the intended use; and,

   – Screened from public streets and residential uses to reduce visual and sound impacts on adjacent uses.

b) Ensure that service areas have adequate space for manoeuvring and allow for efficient operation. Vehicle movements in and around service areas should not conflict with adjacent parking areas or pedestrian circulation.

c) Include design treatments to minimize impact and improve safety for pedestrians and cyclists crossing servicing and loading areas.

d) Construct trash and recycling enclosures to be compatible with the project architecture and materials, built to house sufficiently sized bins for the intended use, and designed with a wall height that is sufficient to completely conceal bins.

e) Use berms in landscape strips to minimize views/noise from adjacent uses, parking, loading, and service areas.

f) Provide drop-off areas for buses and cars at a convenient location, but designed in such a way that prioritizes pedestrian movement and access.

Uses that May be Located in Other Designations

Public Service Facilities

Public Service Facilities include elementary and secondary schools, public libraries, museums, community centres, or other similar uses that meet the recreational, health, social, educational and cultural needs of residents.

Overall Guidelines

Guidelines

a) Site public service facility buildings prominently and where possible, to terminate views. Ensure buildings are sited to specifically differ from the surrounding urban fabric in order to emphasize their importance as landmarks.

b) Locate buildings in community hubs to promote cost-effectiveness and facilitate service integration and access to transit.

c) Locate buildings close to the street to reinforce the street wall and define intersections.

d) Ensure buildings have direct access from the surrounding community through a comprehensive and connected active transportation network.

e) Locate vehicular parking at the side or rear of the building. Parking for cyclists should be located near building entrances and where visual surveillance can be maximized.

f) Provide drop-off areas for buses and cars in the public right-of-way where possible, but when located on site they should be at the side, and not the front of the building.

g) Consider integrating public service facilities into mixed-use, residential or multi-storey buildings in order to maximize the use of the site and services, minimize the building footprint, contribute to the creation of compact neighbourhoods, as well as contribute to an urban street condition.

h) Consider co-locating or sharing facilities with other public service facilities or other compatible uses.

i) Respond to the local context and site conditions when siting buildings. Where applicable, design buildings to respond to the site's topography

j) Locate the most active portions of the buildings facing higher order streets. Locate large portions of buildings such as gymnasiums or auditoriums to the sides, rear, or interior of buildings.

k) Public service facilities should include public art, either integrated into the building or in a prominent and publicly-visible location on the site.

l) Public service facilities should demonstrate a commitment to sustainability by aiming to attain certification by an appropriate green building programs. See Green Buildings & Sites Section in Chapter 4.

The building is located close to the road to frame the street edge

Building Design

Guidelines

a) Design public service facilities as special landmark buildings with high quality architectural design, materials, and finishes.

b) Incorporate architectural elements such as massing and special features to terminate important views and vistas.

c) Ensure highly articulated façade design for all elevations exposed to public view. This includes changes in plane and materials, fenestration, projections, relief, and horizontal and vertical elements. Blank, uninterrupted walls should be avoided.

d) For buildings located at corners, design elevations to equally address the two street frontages. Additionally, use prominent massing, height, architectural elements and detailing to emphasize these locations.

e) Coordinate building materials and ensure they reflect, complement, and enhance the building's architectural style and detailing.

f) Ensure the design of ancillary buildings and structures is coordinated with that of the principal building in terms of height, massing, architectural details, signage, materials, and colours.

g) Provide a high level of visual transparency and permeability at eye level for lobbies by using windows and prominent entrances.

h) Utilize daylighting strategies, such as building orientation, uniform windows across the facade, or skylights to capture natural light and reduce the need for electric lights during the day.

i) Provide integrated weather protection elements at main entrances and ensure they complement the building's design.

j) Ensure the front door of all community service facilities are connected by a walkway to the sidewalk and have direct access to transit stops.

k) Consider roof forms other than flat roofs to respond to the context and character of the neighbourhood, particularly where there is a heritage context, and to highlight the nature of the public or institutional building.

l) Where flat roofs are used, incorporate cool roofs and/or green roofs in the design of the building to minimize surface runoff, reduce heat island effect, provide noise insulation, and improve local air quality. See Energy Conservation Section in Chapter 4.

m) Screen rooftop mechanical equipment with materials that are complementary to the building.

n) Integrate signage within the building design and ensure it complements the building's elevation, animates the ground level, and enhances the streetscape.

o) Direct signage lighting to limit light trespass to surrounding properties and downcast to prevent light pollution.

p) Ensure signage provides a high level of clarity, visibility, and visual interest, and should aid pedestrians and drivers in navigating the area, especially at night.

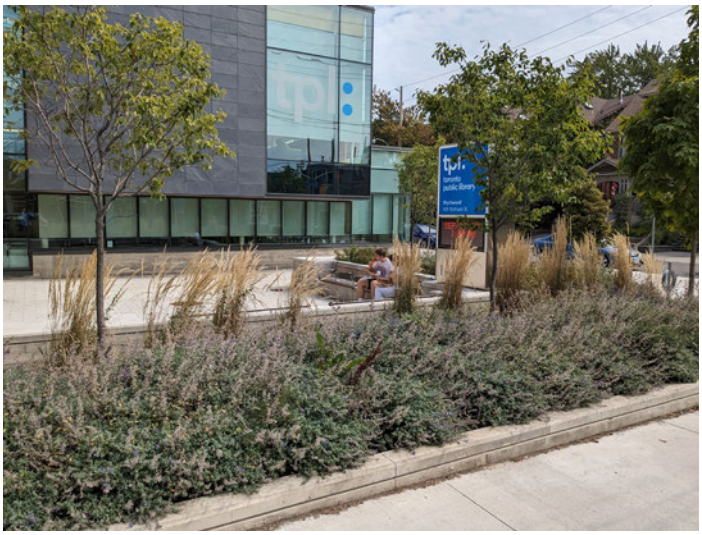
Example of the use of architectural features to denote landmark community facilities

Site Landscaping

Guidelines

a) The site should be well landscaped and visible at the pedestrian level.

b) Provide a sufficiently sized gathering space designed as an outdoor amenity space for public service facilities where significant numbers of people are expected to gather or wait outside the main entrance.



Plantings and consistent materials along the building facade

School Sites

In addition to the preceding Public Service Facilities guidelines, the following guidelines apply to school sites.

Guidelines

a) Minimize the land area required for school sites in order to promote compact development and conserve land. School Boards are encouraged to build more compact facilities including three storey elementary schools and buildings located close to the street.

b) Where possible, locate elementary school sites adjacent to a neighbourhood park to allow for the sharing of playfields to promote compact development and minimize land area requirements. Explore the use of appropriate and innovative engineered turf material to increase the durability of the playfields and minimize maintenance requirements.

c) Consider opportunities for shared parking lots in order to reduce the on-site parking requirements. Locate and site the shared parking lot to facilitate easy and safe access by students.

d) Consider maximizing the opportunity for using the natural heritage system for passive open space uses such as trails and trail heads for school sites located adjacent to the natural heritage system.

e) Provide direct pedestrian and cycling routes to secondary schools from all parts of the surrounding community that are linked with the active transportation network.

f) Design schools to ensure safe pedestrian crossing and cycling practices. Whenever possible, ensure students are able to easily reach building entrances without crossing bus zones, parking entrances, and student drop-off areas.

g) Design school sites to provide for visitor parking and bus pick-up and drop-off for automobiles and buses on site. For smaller sites, consider demarcated bays in the adjacent street right of way.

h) Locate parking at the rear or to the side of the principal building. Circulation in front yards should be limited to drop-off zones, and clear sight lines should be preserved to the street.

Parking is located to the rear of the building off the main street and the front entrance to the building is directly connected to the public sidewalk

Emergency Services Facilities

Guidelines

a) Locate emergency services facilities such as fire stations and emergency medical service stations in a prominent and visible location with convenient access to an Arterial or Collector Street.

b) Integrate the design of emergency services facilities with the surrounding development, through appropriate architectural design and landscaping.

c) Provide buffering, including visual screening, planting and/or fencing, between the emergency services facilities and any adjacent residential uses to mitigate noise and light impacts.

Places of Worship

Guidelines

a) Locate Places of Worship on Arterial or Collector Streets along public transit routes in order to maximize transit ridership.

b) Consider the joint use of parking areas with adjacent uses in order to reduce land requirements and promote compact development, especially in mixed use areas.

c) Ensure the massing and scale of the building is compatible with the character of adjacent development, especially within low-rise areas through the use of similar setbacks, material selection, and the use of architectural elements.

d) Provide buffering, including visual screening, planting and/or fencing, between the place of worship use and any adjacent residential uses.

4 Green Infrastructure & Buildings

While sustainability is an overarching objective throughout the Guidelines, this section provides guidance on green infrastructure and building practices and helps achieve the broad sustainability principles of the Official Plan.

Development in Glendale should incorporate sustainable buildings and infrastructure to:

- Encourage the preservation, reuse and incorporation of existing buildings in new development to make use of their embedded carbon and zero carbon debt to minimize the carbon debt of new development.
- Protect and enhance local and regional ecosystems and biological diversity.
- Promote the responsible use of resources to ensure long-term sustainability, reduce greenhouse gas emissions, and reduce demands for energy, water, and waste systems.
- Demonstrate leadership in sustainable forms of green building design and technology, including the incorporation of renewable and alternative energy sources.
- Promote innovative residential and public building designs that contribute to energy reduction and natural resource conservation, green roofs, synergies between buildings, and site management practices.
- Protect the urban forest and the tree canopy and identify objectives for how it can be maintained, enhanced and expanded.
- Support opportunities for best management practices for stormwater to protect against flooding and erosion while improving water quality.

The Green Infrastructure and Building Guidelines apply to development by both the private and public sectors.

BedZED Eco Village, London, UK
(Image: Tom Chance, CC BY 2.0, Flickr)

Green Buildings & Sites

Promote innovative programs to encourage the design and construction of green buildings and sites that meet the Town's goals.

Guidelines

a) Encourage innovative building designs which contribute to affordability and energy and natural resource conservation.

b) Encourage the use of third-party certification and rating programs, such as Energy Star, LEED® (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Method), Zero Carbon Building (ZCB) Standards, Green Globes, Climate Positive Design's Pathfinder, or Passive House (Passivhaus) Certification.

c) Encourage the use of the full spectrum of LEED certification options by developers, current property owners and the Town, including LEED for Cities, LEED for Neighbourhood Development (ND), LEED for Homes (H), LEED for Building Design and Construction (BD+C), LEED for Interior Design and Construction (ID+C) and LEED for Building Operations and Maintenance (O+M).

d) Redevelopment of sites in which there will be demolition should include a Life Cycle Assessment (LCA) that includes loss of embedded carbon. In addition to any third-party certification, all new construction should include whole life carbon costing.

Building with living walls on facade

LEED certification sign (Image: Tada Images - stock.adobe.com)

Energy Conservation

Minimizing energy consumption and clean, renewable electricity generation are key components of sustainability. On-site generation in new developments helps reduce GHG emissions from non-renewable power generation.

Guidelines

a) Where feasible, consider alternative community energy systems such as district energy, geo-exchange, sewer heat recovery, energy storage, air source heat pumps and/or inter-seasonal thermal energy.

b) Consider reducing demand for energy from the grid and encourage renewable energy production. Renewable energy sources that could be employed may include the use of solar thermal and photovoltaic equipment or wind power. Proposed alternative energy sources could be used in combination with energy from the grid.

c) Encourage passive solar building orientation to permit enhanced energy efficiencies by creating optimum conditions for the use of passive and active solar strategies. The integration of passive building systems is enhanced with buildings oriented to maximize the potential for sunlight and natural ventilation.

d) Consider constructing all low- and mid-rise residential buildings to be Solar Ready. Being Solar Ready means built with all the necessary piping and equipment that would be needed to install a rooftop solar power system.

Solar panels on the roof of low-rise residential development.

e) Reduce heat absorption through the use of cool roofs that are designed to reflect more sunlight and absorb less heat than a standard roof. Cool roofs can be made of a highly reflective type of paint, a sheet covering, or highly reflective tiles or shingles.

f) Cool roofing materials should have a minimum initial solar reflectance of 0.65 and minimum thermal emittance of 0.90, or for a low sloped roof (less than 1:6 slope), typical of commercial and institutional buildings, the 3-year aged Solar Reflectance Index (SRI) value should be a minimum of 15, and for steep sloped roofs (greater than 1:6 slope), typical of residential, the minimum SRI value should be 64.

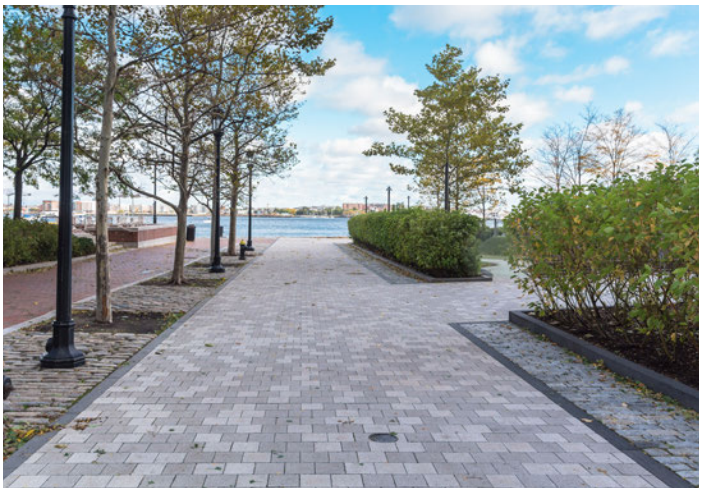
Cool roofing material

g) Green roofs are encouraged for larger multiple-unit residential buildings, office buildings, as well as, public institutional buildings to minimize surface runoff, reduce urban heat island effects, provide noise insulation, improve local air quality and opportunities for pollinator habitat.

Green roof on a commercial building (Image: Sookie, CC BY 2.0, Flickr)

h) In mid-rise residential buildings, design roofs as barrier-free amenity areas.

i) Mitigate urban heat island effects through the use of light-coloured paving materials including white concrete, grey concrete, open pavers and any material with an SRI of at least 28. Consider light-coloured paving materials (without compromising contrast requirements) for parking areas, pedestrian walkways and urban squares.



Use of light coloured pavers to reduce urban heat island effects while maintaining contrast between walkway and furnishing zones

j) Consider paving driveways with light-coloured material to reduce urban heat island effects.

k) Prioritize the preservation of existing trees and provide deciduous trees to help with evapotranspiration and the shading of sidewalks and hard surface areas in the summer and solar access in the winter.

l) Use awnings to lower summer indoor cooling needs and energy use as well as providing shade to pedestrians during warm weather.

m) For residential buildings four storeys or more and non-residential buildings, at least 10% of parking spaces (including a minimum of one accessible parking space) should be equipped with electric vehicle charging stations. Consider designing all remaining spaces to enable future charging station installation (EV ready).

n) Provide electric vehicle charging stations in parking areas of mixed-use, office, institutional, or employment uses, or within underground garages for multi-unit residential buildings, where feasible.

Charging stations for electric vehicles in mixed use areas

o) Provide long-term, secure bicycle parking options in multi-storey residential and employment buildings. Indoor bicycle parking is preferred. Where appropriate, include e-bike charging stations.

p) Development of a Transportation Demand Management Plan may be required, with consideration given to share programs, carpooling, transit, remote/flexible work, end-of-trip facilities and active transportation options.

Water Use & Management

Reducing household water consumption reduces water utility costs and helps protect the natural water supply. Reducing impervious surfaces improves stormwater absorption, and retaining and treating stormwater runoff helps protect natural watercourses.

Guidelines

a) Consider using the following Low Impact Development strategies:

- Soakways, infiltration trenches and chambers;
- Permeable pavement/pavers;
- Perforated pipe systems; and,
- Rain gardens in the right-of-way.

Example of an innovative stormwater management facility.

b) Consider the following strategies for stormwater retention and run-off:

- Retain stormwater on-site through rainwater harvesting and on-site infiltration;
- Direct flow to landscaped areas and rain gardens and minimize the use of hard surfaces in order to reduce the volume of run-off into the storm drainage system;
- Store snow piles away from drainage courses, storm drain inlets, and planted areas; and,
- Use infiltration trenches, dry swales, and naturalized bioswales adjacent to parking areas to improve on-site infiltration.

c) Introduce green infrastructure, such as bioswales or bioretention planters, within the public right-of-way to enhance ground water infiltration and improve water quality as part of a comprehensive water management plan.

Bioretention planters for stormwater management, Portland OR

d) Use perennial plants in bioswales and other planting areas to bind soil together, prevent washing out of soils, and improve absorption.

e) Consider the inclusion of third pipe greywater systems and rain water harvesting, for watering lawns and gardening, to reduce demand on potable water use.

f) Implement a rainwater harvesting program to provide the passive irrigation of public and private greenspace, including absorbent landscaping, cisterns, rain barrels, underground storage tanks, infiltration trenches, etc.

g) Consider the use of permeable or porous pavement instead of standard asphalt and concrete as a stormwater run-off management strategy that reduces the impact of urban development on the natural hydrological cycle.

Permeable paving used on a street

h) Consider the installation of subsurface basins below parking lots to enable stormwater to be stored and absorbed slowly into surrounding soils.

i) Where feasible, implement curb cuts along sidewalks and driveways to allow water to flow into planted zones or infiltration basins, while ensuring a guiding edge is maintained for people with disabilities. Tactile attention indicators may be required in some circumstances.

Curb cut allowing rainwater runoff into planting area, Portland OR

j) Encourage water conservation measures in new development, including:

- Targeting 10% greater water efficiency than the Ontario Building Code and encouraging through appropriate incentive programs, 20% greater water efficiency than the Ontario Building Code;
- Restricting the use of potable water for outdoor watering;
- Promoting the use of native, water efficient and drought resistant plant materials (xeriscaping) in parks, along streetscapes, and in public and private landscaping;
- Avoiding use of turf grass areas, and when required, installing drought resistant sod; and,
- Increasing topsoil depths and providing soil scarification.

Air Quality

To minimize the air quality and climate change impacts associated with development, the following measures are encouraged.

Guidelines

a) Reduce the impact of air pollution by encouraging the creation of a 'complete' community that is characterized by greater densities placed at mixed use nodes, and near transit facilities; mixed land uses; a mix and diversity of housing types; and a connected and walkable street network that is designed to encourage active transportation.

b) Encourage and promote alternative modes of transportation such as public transit, walking, rolling and cycling by providing infrastructure and amenities in key areas, and by securing a transit hub in Glendale.

c) Ensure there are transit options within a 400 metre (5 minute) walking distance of all parts of the Glendale.

d) To promote transit ridership, programs such as developer-sponsored transit passes at reduced-costs for each residential unit or employee are encouraged.

e) Ensure the separation of sensitive land uses from air pollutant sources through land use planning and zoning. Refer to the Ministry of the Environment guidelines.

f) Minimize the number of parking spaces and overall impact of car parking:

- Mixed use developments should include shared use of parking among uses that have different peak use characteristics;
- Design parking areas so they are not the primary visual component of a neighbourhood;
- Reduce the parking ratio required in areas that are served by transit; and,
- Dedicate priority 5% of the total parking spaces for carpool, ride sharing, and ultra low emission vehicles
- Adhere to bicycle parking requirements for developments and public spaces.

Niagara Region Transit bus (image: City of St Catharines)

Canopy protecting bicycle parking area

Signs marking parking for EVs and carpool users

Bird-Friendly Design

Many birds die or are severely injured trying to fly through glass or glass-like structures that reflect vegetation or open sky. Light pollution can have a negative impact on migratory birds, confusing their sense of direction and disrupting breeding and reproduction. Mitigations should be implemented that minimize the danger to birds.

Guidelines

a) Avoid untreated reflective glass or clear glass that reflects trees and the sky.

b) Use etched glass, fritted glass, screening or shutters to reduce reflections.

c) On existing glass or where etched or fritted glass, screening or shutters are undesirable or impractical, use visual markers on the exterior surface of glass in a dense pattern (ideally with a maximum gap of 5 centimetres).

d) Glass should not be reflective within the first 12 metres of building height, or to the height of adjacent vegetation.

e) Follow dark-sky-compliant lighting practices, including full cut-off fixtures to limit light spillage.

f) Locate and manage lighting to reduce reflections that might confuse migratory birds.

g) Turn off unnecessary indoor lighting during bird migration seasons (spring and fall). Also consider reducing outdoor lighting levels to minimum safety requirements during bird migration seasons.

Bird-friendly glass on a new building in Ottawa

Visual markers applied to a large window (image: Kawartha Wildlife Centre)

Material Resources & Solid Waste

Reduction of waste, diversion of waste from landfills and increasing recycling and reuse can help reduce the impacts of solid waste on the environment by conserving energy, reducing disposal costs, and reducing the burden on landfills and other waste disposal pathways.

Guidelines

a) Consider the use of recycled or reclaimed materials for new infrastructure including roadways, parking lots, sidewalks, unit pavings, curbs, water retention tanks and vaults, stormwater management facilities, sanitary sewers, and/or water pipes.

b) Reduce waste volumes through the provision of recycling/reuse stations, drop-off points for potentially hazardous waste, and centralized composting stations.

Comprehensive recycling station

Provide on-site sorting facilities in multi-unit residential buildings

c) In large buildings, such as multi-unit residential buildings and institutional or public buildings, provide on-site recycling facilities for the handling, storing, and separating of recyclables.

d) Recycle and/or salvage at least 50% of nonhazardous construction and demolition debris and locate a designated area on site during construction for recyclable materials.

Urban Agriculture

Urban agriculture such as community gardens provides the opportunity for an alternative use of green space and as a transition in land uses.

Guidelines

a) Promote initiatives such as sustainable food production practices as a component of a new development. Development plans and building designs are encouraged to incorporate opportunities for local food production through:

- Community gardens;
- Edible landscapes;
- Small scale food processing, such as community kitchens, food co-ops, and community food centres;
- Food-related home occupations/industries;
- Small and medium scaled food retailers; and,
- Local market space (i.e., a farmer's market).

b) Incorporate urban agriculture as part of a neighbourhood's character and open space system, while also providing a transitional use between the natural and built environments.

Farmer's markets support access to fresh produce.

Urban agriculture supports sustainable local food production

Community gardens support local food production

Tree Planting

A central challenge in the urban environment is the incorporation of trees. Trees are an invaluable piece of green infrastructure, acting as urban lungs. 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 giving trees ample space to grow will increase their chances of reaching maturity, and increase their lifespan. 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. A variety of strategies will increase the likelihood of success of planting canopy trees.

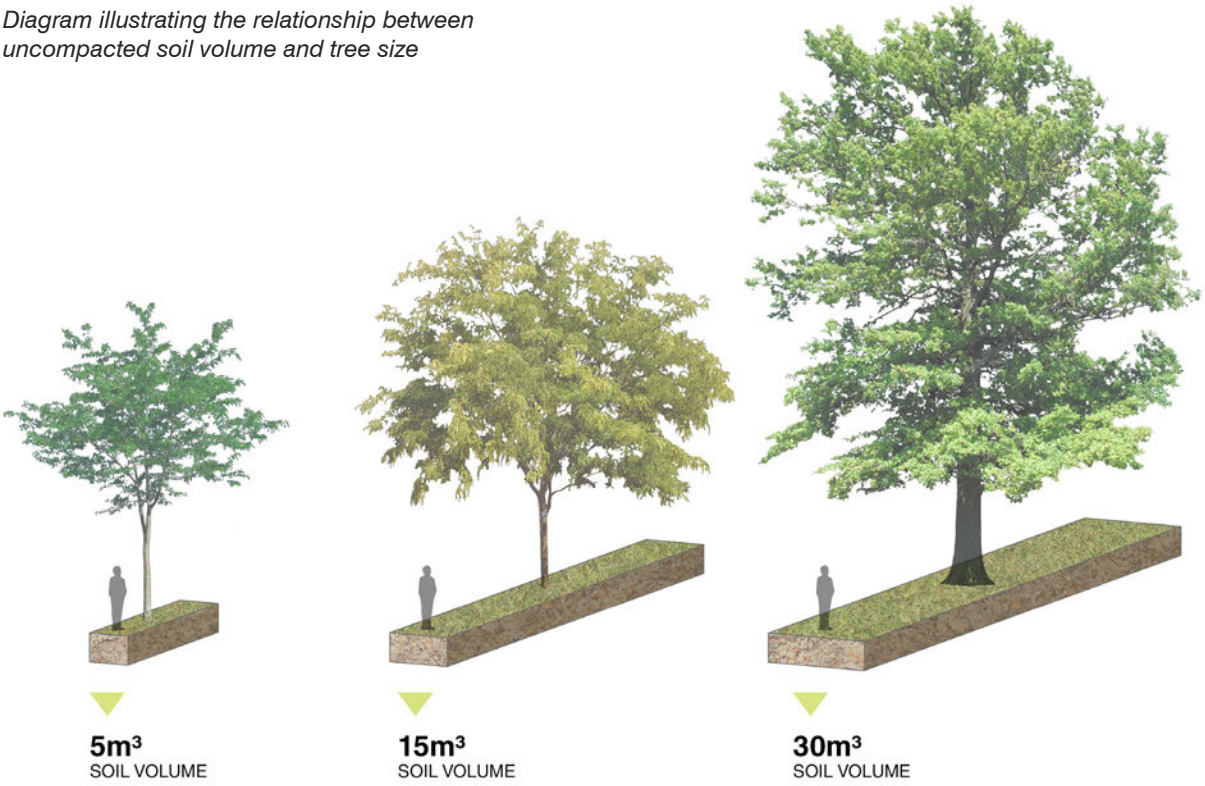
Tree planting along Front Street in the West Don Lands, Toronto

Guidelines

a) Preserve and incorporate existing trees wherever possible and ensure existing trees are healthy and protected from impacts during construction and development.

b) Street trees require a minimum 20 m^3 uncompacted soil volume per tree, within a maximum of 1.4 m from the surface. For trees to reach their full potential, a minimum 30 m^3 soil per tree should be targeted. Measures must also be taken to mitigate soil compaction and to ensure healthy soils for the trees.

Diagram illustrating the relationship between uncompacted soil volume and tree size



c) Where minimum uncompacted soil volumes cannot be achieved, use structural soil cells (a system of structural plastic units). Structural soils and structural sands can be used to connect adjacent soil volumes.

Soil cell installation at Lincoln Center New York (Source: DeepRoot on Flickr.com)

d) Where space is limited and trees must be placed in a hardscape condition to maximize at grade pedestrian space, use of open planters with curbs is preferred. When using tree grates, size the openings to allow tree trunks to grow.

Trees in hard paving with connected soil volumes

e) Plant a diverse selection of resilient canopy tree species, with preference given to native species.

f) Provide species diversity across Glendale to promote resilience in the ecosystem.

g) Use trees to establish a comfortable microclimate (e.g. – provide wind ad noise reduction and cooling effects).

Trees contribute to comfortable microclimates

h) Ensure tree planting areas have adequate drainage, such as through the provision of sub-drains.

i) Implement a watering program during the establishment period of the tree (approximately 5 years). Provide watering in times of drought.

j) Avoid conflicts with underground and above grade infrastructure and utilities by arranging reviews with Town stakeholder agencies early in the development process, recognizing that there are capital costs and time involved in locating utilities.

k) Understand and identify capital costs to provide appropriate growing conditions.

l) Understand and identify operating/ maintenance costs, including a tree placement program.

Stewardship and Education

For new development in Glendale actions should be taken to support homeowner environmental education and stewardship through development agreements with developers.

Guidelines

a) Create a Homebuyer's Environmental Instruction Guide that explains the unique environmental aspects of the development and special maintenance considerations.

b) Include an owner/tenant education package at the time of purchase or rental regarding activities to improve energy and water efficiency, access to transit, location of recycling station, etc. Coordinate with existing Town and Region information.

c) Include environmental builder specifications in all subcontracts.

d) Produce detailed sales and promotion materials that feature conservation aspects of the development.

e) Develop subdivision covenants that establish ground rules for the maintenance of shared open lands and individual lots.

Niagara-on-the-Lake
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