Downtown Streetscape Guidelines

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burlington.ca

CITY OF Burlington











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1. INTRODUCTION

1.1. Background & Overview

Downtown Burlington's streetscape has gradually changed over time due to significant public and private sector investments and general wear from weathering and use. Many of the furnishings and materials that contribute to the Downtown streetscape are physically and visually fragmented and no longer offer the cohesiveness they were originally intended to provide.

The 2019 Downtown Streetscape Guidelines [the "DSG"] establishes a new vision, framework, and a set of design principles and strategies, which will provide guidance for the consistent application and renewal of the various downtown streetscapes. This may include the reconstruction of surface works such as sidewalks, curbs, cross-walks, and roadways together with the replacement or refurbishment of streetscape elements such as street trees, streetlighting, and furnishings (e.g. benches, waste receptacles, bike racks, bus shelters, and bollards). The guidelines are intended to help enhance and strengthen the public realm and contribute to the Downtown as an accessible, cohesive, identifiable and vibrant destination within the city.

The DSG replace the previous downtown streetscape guidelines adopted by Council in 1982.



Terms defined

Find a definition for underlined terms in the Glossary included on page 39

1.2. Purpose

What is the Streetscape?

The streetscape is the combination of all the elements that make up the physical environment of a street and define its character, including trees, lighting, paving materials, street furniture, pedestrian amenities and the setback and form of surrounding buildings.

What are Streetscape Guidelines?

It is a document that establishes a vision, design principles, strategies and guidelines for future construction work within the public right-of-way. The intent is to provide recommendations on how to create a continuity of space for people to experience and enjoy.

What are the benefits of Streetscape Guidelines?

They provide the city with a consistent and unified design approach. Guidelines are a tool for creating change towards a coherent, consistent and complementary palette of materials, furnishings and plantings that integrate well with the surrounding built environment and land uses. Through proper implementation, they can have positive social, environmental, and economical benefits.

How are Streetscape Guidelines structured & used to inform design decisions?

The DSG establishes a set of guiding design principles (Section 2.2) structured around character areas (Section 2.3). The DSG will be used when planning for street-related capital improvement projects or reviewing publicly-initiated and private development applications. This document is intended to supplement in-force land use policies and built form design guidelines.

How are Streetscape Guidelines implemented?

These guidelines set out an implementation framework [refer to Chapter 4 in its entirety]. In the short-term, known private sector developments and street-related capital improvements will present the first opportunities for realization of the new streetscape designs and treatments.

The DSG will be implemented over an extended time frame and thus a consistent application of the guidelines is critical to ensure a cohesive downtown streetscape. Accordingly, medium- and long-term street-related capital investments should continue to be developed based on the City's asset management practices.

1.3. Where Downtown Streetscape Guidelines Apply

The DSG applies to all downtown streets or street segments that fall within the boundaries of the Downtown Business Improvement Area [Figure 1].



Figure 1: Study Area

Boulevard Bounded

It is important to note that the guidelines set out in this document apply only to the street boulevard – the area between the curb edge and either the front lot line of abutting properties and/or the building face [see Figure 3 on page 8]. While this document offers design guidance for streetscape elements outside of the boulevard zone, recommendations related to the functional design of streets and intersections are outside the scope of this project. Notwithstanding, all public and private sector developments within the defined area should have regard for all applicable guidelines presented herein.

1.4. How to Use the Guidelines

The DSG will assist staff, landowners, developers, and the public by providing both general and area-specific design direction for all Downtown streetscapes. The DSG presents illustrative design approaches that should be implemented by future public and private sector developments, street-related capital improvements, and other city initiatives and projects to ensure a high level of design excellence throughout the Downtown.

Where it can be demonstrated that an alternative design achieves or exceeds the intent of the DSG, as outlined herein, alternative solutions will be considered.

1.5. Policy Alignment

The DSG builds on the Strategic Plan through its guiding design principles and will deliberately connect to the outcomes of various other policy documents and implementation plans. As such, the DSG is intended to be a living document that will be continually edited and updated to evolve with the downtown yet still provide predictability for long range planning and investments.

The following is a summary of key plans, guidelines, standards and studies that should be considered when designing a streetscape as they provide background and context to align this document:

Accessibility Design Standards

Active Aging Plan

Asset Management Plan

Burlington's Strategic Plan

Community Trails Strategy

Core Commitment: Burlington's Downtown Vision and Action Plan

Cycling Plan

Downtown Urban Design Guidelines

Downtown Water Quality Control Plan

Mid-Rise Building Guidelines

Official Plan

Pedestrian Charter

Public Art Master Plan

Transit's Bus Stop Design Standards

Integrated Mobility Plan

Tree Planting Guidelines

Street Lighting Specifications and Design Manual

Tall Building Guidelines

Urban Forest Management Plan

The DSG alignment with these documents signals the City's commitment to strategic growth and design excellence in the Downtown. Accordingly, the recommendations set out herein will lead to renewed streetscapes in the Downtown that may require the continued need for enhanced levels of service and corresponding financial resources.

2. FRAMEWORK

2.1. Vision

Streets play an important role in the livability, vitality, and character of the Downtown. These guidelines strive to create a friendlier and greener downtown street network for people to enjoy and explore.

The DSG is about place-keeping and place-making in the Downtown, as well as supporting streets that can accommodate a diverse population, serve many roles, and be universally accessible. It must retain and enhance active and vibrant pedestrian-focused streets, and provide safe, sociable and comfortable environments.

The following vision statement will inform all decisions to meet current and future streetscape needs:

"To **enhance** the public realm by creating **high quality** downtown streetscapes that are **attractive, pedestrian-friendly**, and support **vibrant** destinations."



2.2. Design Principles

The following design principles will guide and support the creation of an accessible, walkable, and attractive public realm that integrates with the existing urban fabric. These principles are based on the key strategic directions of a city that moves, a healthy and greener city, and an engaging city, which were established by the City of Burlington through its Strategic Plan.



1. Pedestrian-First Focus

Design streetscapes to be safe and comfortable for all users by prioritizing the safety of the most vulnerable users (children, older adults, and people living with disabilities). The downtown is a place where life can slow to a human walking pace, where people can gather and spend time.



2. Green & Sustainable

Improve environmental quality through living assets and responsible design.



3. Easy to Use & Equitable

Design streetscapes for all ages, abilities and modes of travel. Design must be impartial and inclusive, serving the needs of a diverse range of users with equitable attention for children, older adults, and people living with disabilities.



4. Long Lasting

Provide for a high quality of design using durable materials and construction practices that are informed by local conditions such as climate, and ongoing maintenance needs.



5. Connect & Integrate

Design streetscapes to be context-sensitive and reflect the character of the street.

2.3. Character Areas

The Downtown is Burlington's historical commercial core, developed along two main streets, Brant Street and Lakeshore Road. Both streets provide key points of entry into the downtown and together provide the anchor for many business, civic, and entertainment activities and interests. While the neighboring lands have helped to support and reinforce the character and function of these two main streets, they have emerged as two distinct districts; and are characterized by a mix of business and higher density residential buildings or established residential neighbourhoods primarily of lower-scale buildings with a few medium- and high-density buildings. The DSG organizes the downtown into the following Character Areas to reflect the unique qualities of each:

Two Character Streets
1. Lower Brant Street
2. Lakeshore Road

+

Two Districts
3. Mixed-Use Commercial
4. Residential

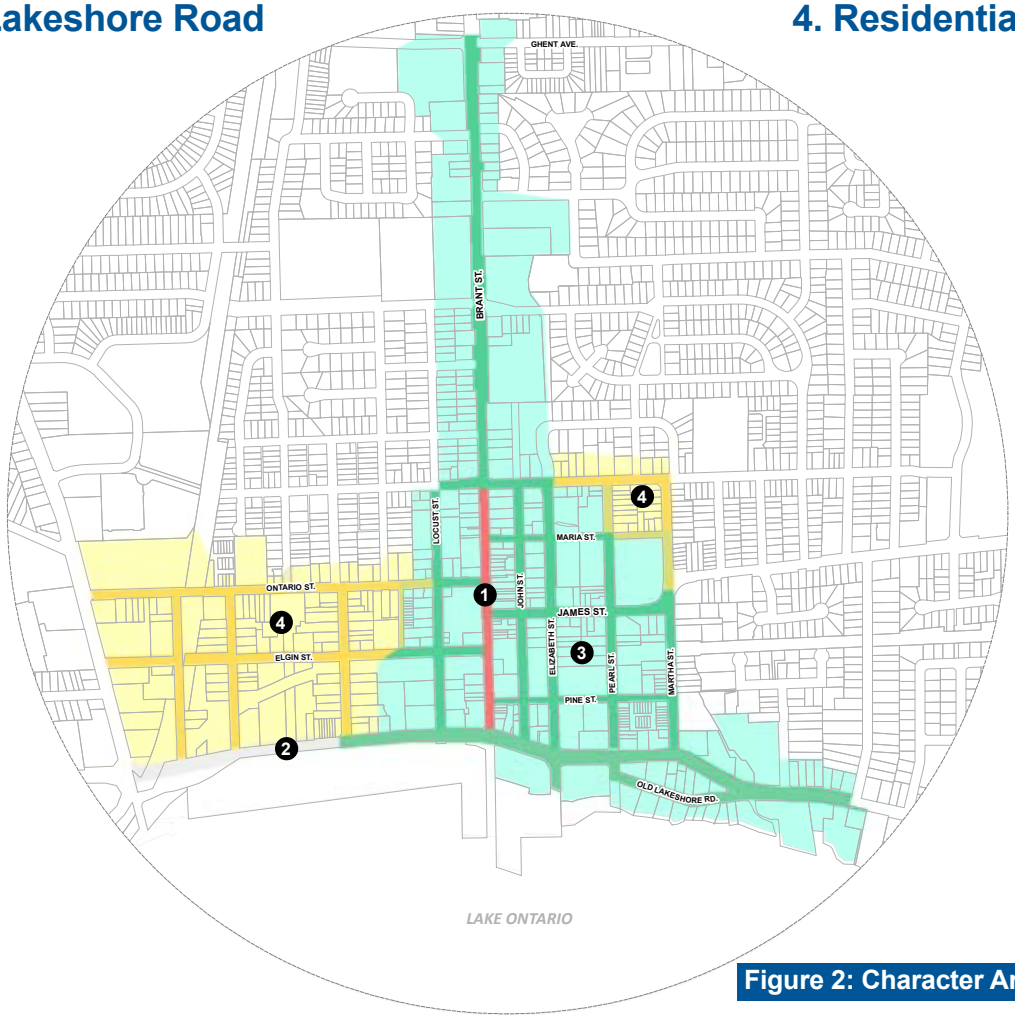


Figure 2: Character Area Map

3. STREETSCAPE GUIDELINES

3.1. Streetscape Anatomy

Streets, and by extension the ‘streetscape’, consist of elements including travel lanes, transit routes, bikeways, greenways, sidewalks, parking and sitting areas, and meeting places. In an urban setting such as the downtown, the design and treatment of its streets is critical to the safe movement of people. As noted above, this document applies only to the boulevard, which consists of up to the following four zones:

Each zone has a role to play in contributing to a high-quality streetscape:



Figure 3: Boulevard zones applied to a portion of Brant Street [east side, looking south of Caroline Street].

Legend

1. The Marketing Zone

2. The Clear Path Zone

3. The Furnishing Zone

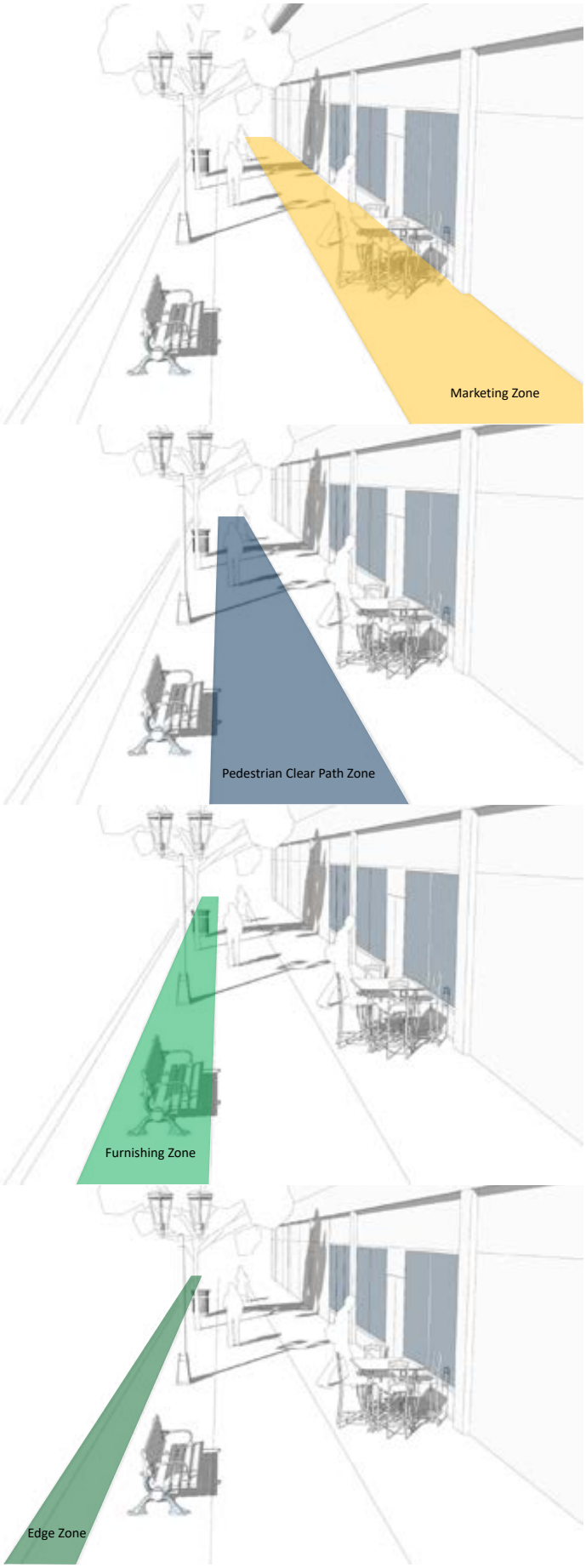
4. The Edge Zone

1. The Marketing Zone: functions as an extension or spill-out of the adjacent building and its uses, whether it is for signage, the display of goods or a café or restaurant patio. This zone is typically located on private property and encourages businesses to use this portion of the boulevard as part of the downtown experience. A minimum 2m wide marketing zone is encouraged along streets that require at-grade retail and service commercial uses.

2. The Clear Path Zone: provides an unobstructed and accessible public path of travel dedicated for pedestrians. This zone ensures a safe and comfortable walking experience and should be a minimum of 1.8m wide [complying with the minimum Accessibility for Ontarians with Disabilities Act (AODA) standards for two-way travel for people using mobility devices]. This width should increase – where space permits – along streets with heavy pedestrian volumes.

3. The Furnishing Zone: defined as the section of the boulevard between the back of curb and the Clear Path Zone. This zone is where street furnishings, trees, and utilities are provided. Typical streetscape furnishings include, but are not limited to, benches, bike racks, bollards, bus shelters and transit stops, pedestrian and traffic signal poles and street lighting, newspaper kiosks, mailboxes, street trees, utilities, and waste receptacles. This zone may also include green infrastructure elements such as bioretention facilities. This zone should be a minimum of 1.2m wide.

4. The Edge Zone: defined as the area immediately next to the Furnishing Zone and edge of roadway. This zone may include a variety of different elements including curb and gutters, corner and mid-block bump-outs, curb extensions, parklets, pop-up installations, green infrastructure, flexible pedestrian spaces, parking, and/or cycling infrastructure. It varies in width depending on which of the above strategies are employed. For example, this zone will generally be a minimum of 0.5m to accommodate a standard or modified curb and wider when accommodating parking as part of a flexible street design.



3.2. Design Priorities

To facilitate the design of the boulevard, the importance of establishing a framework to prioritize the specific zones was identified.

The following Design Priorities provide direction for the preliminary planning, design and implementation of the guidelines contained in this document, particularly in situations where all four zones cannot fit within the existing street geometry. This approach provides a general framework and hierarchy of public space to inform the design decision-making process where street geometry changes are not anticipated or where the boulevard space within the current street design is limited.

Priority 1 Put Pedestrians First

The Clear Path Zone +
The Edge Zone (Min. curb)

Priority 2 Maximize Opportunities for Street Trees

The Furnishing Zone

Priority 3 Support Lively Sidewalks

The Marketing Zone, where appropriate

Priority 4 Provide More Space for People and Trees

The Edge Zone (Enhanced Curb)

3.3. Design Guidelines & Strategies

The new DSG represents a refreshed set of guidelines and material selections for the Downtown. The application and maintenance of which will require a renewed dedication of efforts as the downtown continues to evolve. Guided by a set of design principles set out in Section 2.2 above, this section outlines design guidelines and strategies for streetscape improvements within the boulevard. While some of the design guidelines and strategies offer remedies for changes outside of the boulevard, the use of any of these treatments will be subject to separate street design decision-making processes informed by functional design considerations.

3.3.1. Accessibility

- All aspects of the streetscape shall be designed to be accessible to persons living with disabilities and must comply with the City of Burlington Design Standards and the Accessibility for Ontarians with Disabilities Act [AODA] and its regulations including the Design of Public Spaces Standards.
- Streetscape designs and plans shall be reviewed for compliance with the AODA in consultation with the City's Accessibility Coordinator.

3.3.2. Pedestrian Crossings

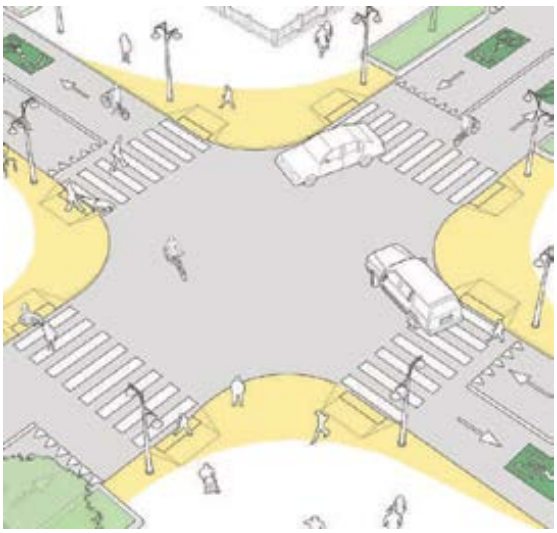
Driveways

- Where driveways cross the pedestrian Clear Path Zone, sidewalks should be continuous and level through the conflict zone;
- The number of driveway access points should be minimized (by limiting curb cuts for new driveways or changes to existing driveways) in areas with high pedestrian volumes such as Lower Brant Street;
- Where existing driveways cross the Clear Path Zone and cannot be relocated or consolidated through redevelopment, they should be narrowed to signal pedestrian priority and maintain a safe and comfortable environment;
- Refer to the City's Tree Planting Guidelines for minimum tree setbacks from driveways.

Intersections

Promote and prioritize pedestrian safety throughout the Downtown by designing intersections that:

- Reduce crossing distances through the provision of corner bump-outs or curb/sidewalk extensions;
- Improve visibility and traffic calming through narrower travel lane widths and smaller corner radii; and
- Use materials and textures that enhance pedestrian priority.





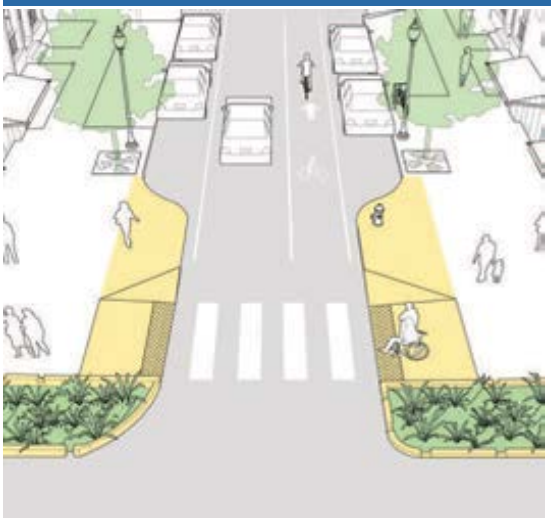
Figures 4 & 5: Examples of gateway and node intersection treatments
Source: NACTO Global Street Design Guide

Corner Bump-Outs

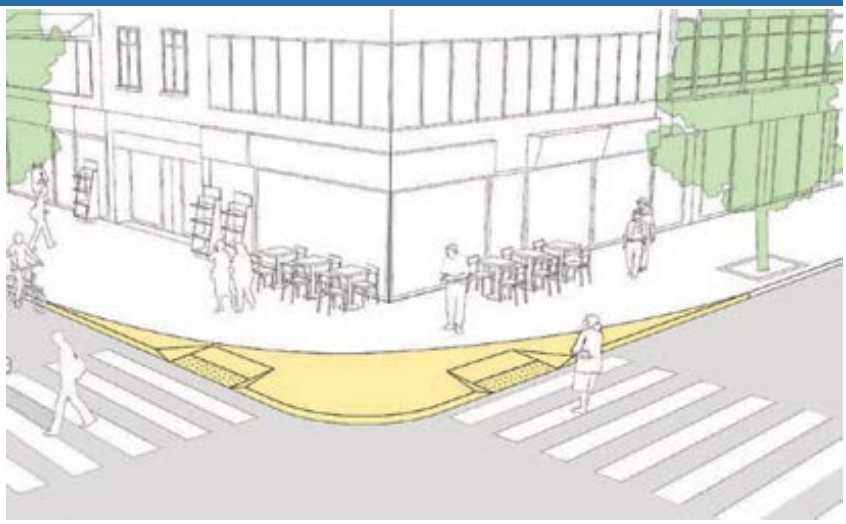
At street corners, bump-outs or curb/sidewalk extensions successfully reduce crossing distances at intersections and physically and visually identify an intersection.

- Where intersection geometry, traffic flows and use of adjoining lands permit, provide corner bump-outs to improve pedestrian comfort and safety;
- For corners where bump-outs are not practical, the use of smaller curb-return radii should be evaluated. Reduced corner radii can achieve many of the above noted objectives; and,
- In addition to reducing crossing distances; increasing visibility, and calming traffic, reclaimed space achieved with corner bump-outs provides more room within the boulevard for waiting areas, curb-side pickup and opportunities to add landscaped areas, site furnishings, public art, or stormwater management features such as bioretention facilities.

Figures 6 & 7: Examples of corner treatments
Source: NACTO Global Street Design Guide



Bump-out scenario



Reduced corner radii scenario

Mid-Block Bump-Outs

Like corner bump-outs, mid-block bump-outs emphasize pedestrian priority and safety; reduce crossing distance and slow vehicular traffic, with the added benefit of creating more direct connections throughout the Downtown. More connections mean more choices for getting around.

Where traffic flows and use of adjoining lands permit, provide mid-block bump outs at all street locations that meet the following criteria:

- Where on-street parking exists at curb edge and can be adopted for bump-out mid-block;
- Where there is no bus stop;
- Where adjacent building uses allow for boulevard expansion into the parking lane;
- Where there is a need to reduce the length of the street block or create better pedestrian circulation; and,
- Where mid-block connections meet the street, provided there are no conflicts with vehicular maneuvering.



Figure 8: Example of a mid-block bump-out treatment
Source: NACTO Global Street Design Guide

KEY STRATEGIES FOR PEDESTRIAN CROSSINGS:

- Identify a hierarchy of intersections including gateway and node intersections and create design guidelines to make them more comfortable and accessible for pedestrians. For example, the intersection of Brant Street and Lakeshore Road should be identified as a priority intersection for a special treatment that strengthens its importance as a gateway to both the downtown and waterfront;
- Explore opportunities to incorporate corner bump-outs along Brant Street, Lakeshore Road, and within the Mixed-use Commercial District;
- Where corner bump-outs cannot be achieved, reduced corner radii, specific to the intersection type and the existing and planned street context, should be considered;
- Explore opportunities for new mid-block bump-out locations along Brant Street, Lakeshore Road, and within the Mixed-use Commercial District.; and,
- Ensure that alignment for people who are blind or partially sighted is considered when configuring pedestrian crossing

3.3.3. Transit Stops

The location and design of transit stops directly impacts the comfort and attractiveness of transit service. The selection of a transit bus stop location should be guided by the safety and comfort of users, while minimizing the delay to transit service. Where on-street parking is permitted, transit platform bump-outs should be considered to improve transit reliability, travel time and accessibility. These curb extensions align the transit bus stop with the parking lane, allowing the transit vehicle to stop and board transit riders without having to leave and re-enter the travel lane, which reduces traffic interactions. These transit bus stops would be designed as per Burlington Transit's Bus Stop Design Standards and will be based on location and space availability.



Figure 9: Example of a transit bump-out
Source: NACTO Urban Street Design Guide

Selection of transit bus stop locations:

- Spacing between stops should be at least 300m to balance between user access and travel time, though it may vary based on context and transit service design;
- Stops should generally be located at intersections close to a pedestrian crossing;
- Stops should be clear of clutter and unobstructed for boarding and dismounting;
- Signalized intersections are ideal locations for bus stops to allow for safe pedestrian crossings, and to ease the experience of route-transfers; and,
- Mid-block bus stops are recommended only near significant pedestrian generators, and where intersections are far away.

- Transit stop design considerations:
- Safety: location, visibility, lighting, and geometry.
- Accessibility: concrete landing pad connection to sidewalk, minimum 2.0m wide landing pad, maximum slope of 2%, and an accessible turning radius as per AODA standards.
- Amenities and Design: bus stop sign poles, concrete landing pad; compliance with Burlington Transit's Bus Stop Design Standards; and,
- Comfort: shelters for weather protection, coordinated street furniture for waiting passengers, facilitating transfers with transit information and real time display screens for bus arrival information.

3.3.4. Flex Streets - Shared Streets

Flexible (“Flex”) streets provide opportunities to widen the boulevard, allowing more room for pedestrian movement during peak times of the year such as summer months or for public events and festivals. The design elements used for flex streets help control and slow vehicles, allowing for the boulevard and parts of the roadway [typically on-street parking lanes] to read as one space and adapt to a variety of conditions. Key components of flex streets include, but are not limited to, the use of bollards, flexible on-street parking configurations, pavement materials and modified curbs.

Shared streets are similar to flex streets but are designed and intended to provide pedestrians with more freedom of movement such that they become the dominant user. Vehicular transportation is “controlled” through reduced lane widths, generous sidewalks and clearly delineated open spaces. The key difference between flex and shared streets is using a curb-less street environment, which places all users and elements of the streetscape on one plane, allowing for unrestricted movements of pedestrians between the boulevard [pedestrian zone] and roadway [shared zone]. As with flex streets, a key component of shared streets is the strategic use of distinguishing pavement materials, bollards and other elements. These design elements increase safety for vulnerable users, as they inherently require that vehicles move slowly through them.

Flex and Shared Streets may be appropriate in urban contexts that experience, or are planned to support, higher pedestrian volumes and lower vehicle volumes and speeds.



Flex Street in Kitchener; King St.



Shared Street in Toronto; Market St.

KEY STRATEGIES FOR FLEX/SHARED STREETS:

- Explore the opportunity for a shared street design on the segment of Brant Street between Ontario and Elgin Streets. This core section of Brant Street has high pedestrian flows and is often closed for special events and festivals. The entire space could become accessible and barrier free through a curb-less design, which would allow for temporary and seasonal traffic closures and support the use of this key node as a grand plaza connecting Civic Square to the 'Elgin Promenade';
- Explore the opportunity to convert all or parts of Lower Brant Street to a flex street and/or shared street; and
- Explore other opportunities in the Downtown to develop flex and/or shared streets – streets with narrower right-of-way widths such as Pine Street.

3.3.5. Tree Planting

Street trees make up the clear majority of the municipally owned urban forest and provide incredibly important and measurable benefits that are vital to the overall health of our community. Successfully establishing and maintaining the urban forest requires careful planning and foresight. Innovative technologies are making the challenge of growing large, healthy street trees in highly urbanized areas feasible.

As the downtown streetscape is redeveloped, street tree planting will play a prominent role. Planting design will be implemented as per municipal and industry best practices and follow the City of Burlington's Tree Planting Guidelines.

In general, the goal is to plant the largest tree for the available above ground space, while looking at all constraints including, but not limited to, overhead restrictions, soil composition, soil volume, and visibility.

Species Selection

- Street trees need to withstand tough conditions and be tolerant of drought, salt, wind, and soil compaction;
- Species selection shall consider required offsets, potential conflicts, maintenance requirements, and the existing and planned site conditions;
- Above ground and below ground conflicts will also inform appropriate species choices; and,
- Species will be chosen based on their ability to thrive in urban conditions, their status as native or non-invasive, and their ability to contribute to the diversity and resiliency of the City's urban forest.

Soil Volume

- Minimum required soil volumes will range based on tree species and planting layout. For preliminary design purposes, anticipate a typical minimum of 30m3;
- Minimum soil volumes will be achieved by utilizing adequately sized trench planting installations, structural soils, breakout zones, or structural soil cell technology throughout the downtown; and,
- In hard surfaced urban areas, structural soil cells will be required. Structural soil cells can be configured to accommodate almost any space and contribute to our resilient urban forest by providing a space for adequate volumes of soil that are protected from compaction.

For additional information refer to the City's Tree Planting Guidelines.

Tree Placement

- Tree spacing will vary depending on the desired size and form of the tree species at maturity;
- The species of trees chosen will inform plant spacing and soil volume;
- Trees will be planted in the Furnishing Zone to ensure the Clear Path Zone is maintained; and,
- Trees will not be planted where they may impede visibility at intersections and crosswalks.

KEY STRATEGIES FOR TREE PLANTING:

- Recommended street trees will be context-sensitive and based on the size, form, and canopy coverage desired within each of the Character Areas; ensuring diversity of species along the streetscape.





3.3.6. Planting

Planting beds, open tree pits, rain gardens, raised planters and trenches present additional opportunities for vegetation and bioretention facilities throughout the downtown. While movable planters and hanging baskets can add an infusion of colour and an additional layer of visual interest to the streetscape using annuals.

- Green infrastructure such as bioswales, planting beds, rain gardens, raised planters and connected tree pits and trenches are permitted within the Edge and Furnishing Zones to ensure that the Clear Path Zone is maintained for safe pedestrian flows;
- Along retail streets, the Marketing Zone may contain movable planters; and
- Planting material should be chosen for its ability to withstand the climate, visual interest throughout the year, and for ease of maintenance.

Left: Integrated bench design; centre: movable planters; right: hanging baskets

KEY STRATEGIES FOR PLANTERS:

- Explore opportunities to add planting throughout the downtown in locations where sight lines are not restricted.
- Collaborate and partner with the Downtown Business Association on annual planting, maintenance and hanging basket programs.







Left: Integrated bench design; centre: movable planters; right: hanging baskets

3.3.7. Stormwater Management

Stormwater management allows us to minimize flooding risks in our city. There is opportunity to feature Low Impact Development (LID) stormwater management designs and mitigation measures into the reconstruction and renewal of the downtown streetscape. LID design concepts for on-site infiltration include the use of bioretention facilities, permeable pavers, and utilizing stormwater to irrigate tree pits.

The Downtown Stormwater Quality Control Plan is a program that will help to inform where and how best to utilize techniques to improve stormwater quality with a treatment train approach, ensuring cleaner water reaches Lake Ontario.

KEY STRATEGIES STORMWATER MANAGEMENT:

- Explore the opportunity to use stormwater from sidewalk to passively irrigate street trees and planting areas using open tree pits, permeable pavers, and trench drain systems [with inlet valve controls to ensure trees are not inundated with salt during thaw periods]; and
- Explore the opportunity to use corner bump-outs and planting areas that utilize trenches as bioretention facilities collecting, cleansing and infiltrating stormwater run-off from the adjoining streets.

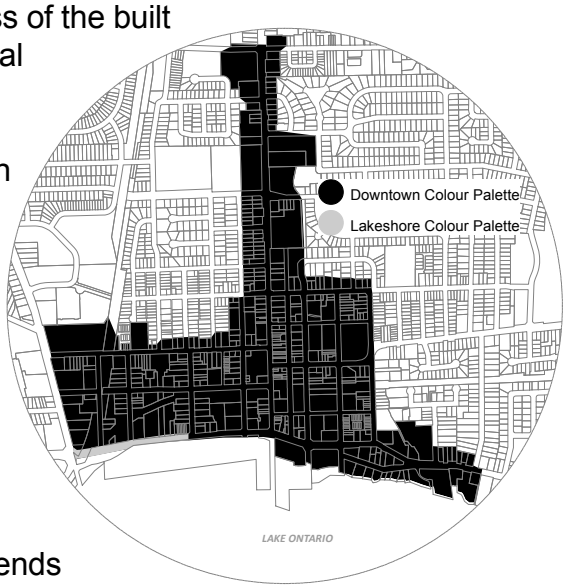




Examples of Low Impact Development techniques within the Furnishing and Edge Zones

3.3.8. Colours & Finishes

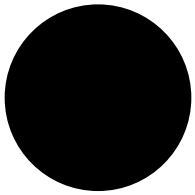
A unifying colour ties all elements together and allows the richness of the built environment to take centre stage, highlighting existing architectural heritage and diverse storefronts. All metal components within the Downtown furnishings selections shall be painted with a glossy black finish except for furnishings along Lakeshore Road between Maple and Burlington Avenues, which will be painted grey.

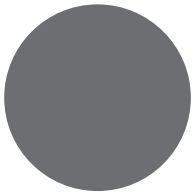


Lakeshore Road has a unique character defined in part by its relationship to the waterfront. Past streetscape design schemes have included grey painted streetlight poles and fixtures. The DSG proposes that these streetlights be maintained and expanded upon by painting all streetscape elements along Lakeshore Road between Maple and Burlington Avenues grey.

To align with the above Design Principles, the DSG also recommends the use of wood for bench seats and other complimentary streetscape components such as waste receptacles.

DOWNTOWN FURNISHING COLOURS + FINISHES:


Unifying Black


Lakeshore Grey


Wooden Well-Being

3.3.9. Lighting

Lighting can be a defining feature of any street to create a unique identifier and contribute to its character and sense of place.

- Light standards should maintain a pedestrian scale with fixtures that are four to five metres in height above the ground plane. Where taller light standards are necessary, poles should be used for placement of pedestrian-scaled light fixtures positioned over the boulevard;
- Light poles and fixtures should be placed on centre in either the Edge or Furnishing Zones and never obstruct the pedestrian Clear Path Zone;
- Spacing will vary to achieve the appropriate level of lighting for the area based on right-of-way widths and functional design considerations, and will require verification by a qualified electrical engineer at the time of detailed design;

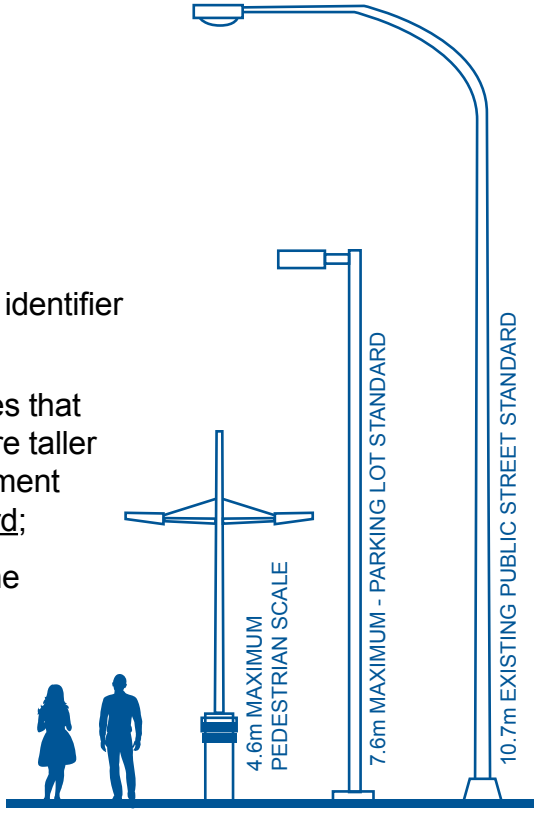


Figure 10: Pedestrian-scaled lighting – defines the street as a space for people

- If necessary, light fixtures may be installed on traffic signal poles to ensure that the intersections are adequately lit; and,
- Light poles on character streets should be prioritized to accommodate and support accessories such as banners, hanging baskets, irrigation for baskets, signage and electrical outlets for events, and to reduce the number of poles within the streetscape. Where feasible, strapless accessories or mounting straps to match the colour of the poles should be used to enhance the visual quality of the streetscape.

For additional information refer to the City's Street Lighting Specifications and Design Manual.





3.3.10. Public Art & Culture

To further reflect on the local history and cultural heritage of the Downtown, the DSG supports opportunities to incorporate public art for beauty, interest, animation and weather protection as part of the streetscape.



- Promote functional public art through customized site furnishings including, but not limited to, benches, bike racks, bus shelters, fencing, waste receptacles and tree grates that comply with the design principles and guidelines of this document;
- Incorporate temporary and permanent public art installations into the streetscape. The Furnishing Zone and portions of pedestrian crossings may provide adequate space for such installations; and,
- Provide supporting infrastructure to install art that can illuminate otherwise dark urban areas and plazas, or locations not suitable for street trees or plantings.

3.3.11. Boulevard Treatments

High-quality materials are both attractive and economical over the long term. They will last longer and better withstand the impacts of heavy urban use and climate. A palette of high-quality materials for downtown streets will redefine the public realm. The DSG proposes a simplified palette of colours, paving materials and patterns for all Downtown boulevards.





Concrete Paving

The use of concrete is practical from both an economical and functional perspectives and provides a uniform and universally accessible surface.

- All Clear Path Zones are to be made of cast-in-place concrete with a broom finish to ensure a safe, comfortable and universally accessible surface treatment.

Concrete Unit Pavers

Precast concrete unit pavers are utilized as a visual feature element in the streetscape. These pavers provide a comfortable pedestrian environment and help with accessibility and wayfinding. Unit pavers provide an added benefit of being easily removed and reset if required.

- Precast concrete unit pavers should be used in the Furnishing Zones along Brant Street, Lakeshore Road, and within the Mixed-use Commercial District, where feasible;
- Unit pavers should be overlaid on a solid concrete base to avoid uneven heaving; and
- Must comply with the City of Burlington Accessibility Design Standards [flush, narrow grout line, no chamfering, etc.]



KEY RECOMMENDATIONS FOR BOULEVARD TREATMENTS:

PAVING MATERIALS

	Lower Brant Street & Lakeshore Road	Mixed-use Commercial District	Residential Districts
Clear Path Zone	Concrete (no colour, no pattern) Min. 1.8m (6') wide	Concrete (no colour, no pattern) Min. 1.8m (6') wide	Concrete (no colour, no pattern) Min. 1.8m (6') wide
Furnishing Zone	Unit pavers; where there are street trees Min. 1.2m (4') wide	Unit pavers; where there are street trees Min. 1.2m (4') wide	Soft paving (grass, mulch, sod) Min. 1.2m (4') wide
Edge zone	Concrete (no colour, no pattern); saw cut joints offset from back of curb Typ. 0.5m (20") wide	Concrete (no colour, no pattern); saw cut joints offset from back of curb Typ. 0.5m (20") wide	Concrete (no colour, no pattern); saw cut joints offset from back of curb Typ. 0.5m (20") wide

3.3.12. Streetscape Elements

A common suite of streetscape furnishings will provide a unique identity for the Downtown as well as each of its Character Areas. The DSG recommends a consistent and simple approach to furnishings to balance built heritage with new downtown developments, while the deliberate placement of furnishings will encourage safer and more comfortable pedestrian circulation. The Downtown streetscape furnishings include benches, bollards, bicycle infrastructure, lighting, and waste receptacles.

- All streetscape elements should be placed in the Furnishing Zone to allow for an uninterrupted Clear Path Zone, except for benches in the Marketing Zone and road safety elements such as parking metres, sign, street and traffic light poles in the Edge Zone, where the street geometry does not have enough space to allow for a Furnishing Zone; and
- Streetscape furnishings should be placed a minimum of 0.6m from the curb side of the Furnishing Zone, including benches, bollards, bus shelters, bike racks, and waste receptacles.

Bollards

- Bollards should be used where deemed appropriate to separate pedestrian zones from potential conflicts
- Bollards may be used to close off and delineate flex and shared streets for seasonal uses and during special events and festivals that share the street;
- Spacing between bollards should provide at least 1 metre of clear width to meet minimum accessibility requirements but never be wider than 1.5 metres to protect against the minimum width of a vehicle; and,
- Designs should avoid linking bollards with chains or ropes.

Seating

- Where feasible, seating to be spaced 30m apart to improve the accessibility of streets and promote an age-friendly downtown;
- Place benches a minimum 0.6m from back of curb;
- Benches should be located under tree canopies where possible to provide shade and comfort;
- Benches shall be accessible;
- Informal seating [e.g. low walls, temporary or permanent art installations] may also be incorporated into other elements in the Furnishings Zone such as tree pits or raised planter edges;
- Where seating is oriented parallel to the curb, it should face toward buildings when located in the Furnishings Zone, or away from buildings when located in the Marketing Zone;
- Where space permits, benches in the Furnishing Zone should be perpendicular to the curb;
- In corner bump-outs, benches should be organized to create social spaces;
- Seating incorporated into building forms, such as seatwalls, may be used as an alternative to free-standing benches;



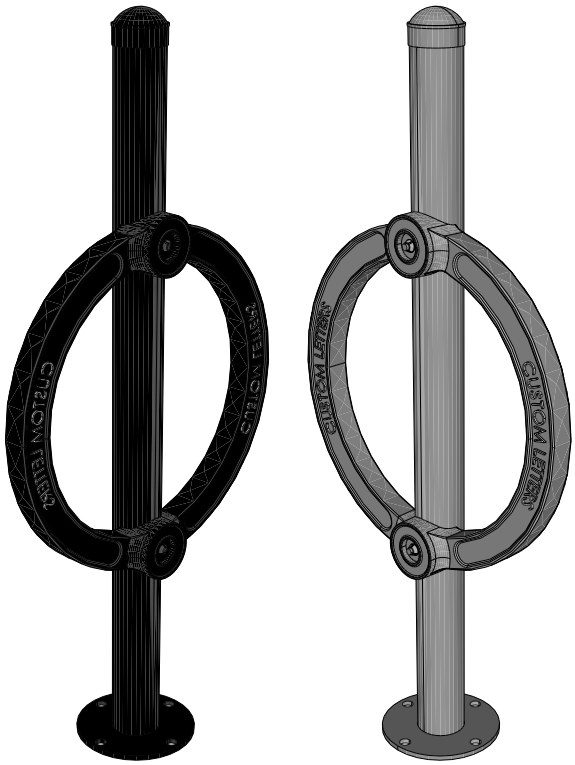
- Where locations provide a visual connection to a landmark or other amenity, it may be appropriate to vary from these guidelines to take full advantage of a street's setting. For example, seating may be oriented towards a view or vista, rather than towards a street when doing so would provide an additional amenity; and,
- Wooden bench seats promote use during all four seasons. For example, wooden seats provide a warmer material for users in the autumn and winter, especially when facing south to capture sunlight, while also providing a cooler surface in the spring and summer whereas metal can get very cold or hot depending on the season.

Bus Shelters

- Bus shelters to be placed within the Edge and Furnishing Zones;
- Placement and size of bus shelters must comply with applicable AODA standards;
- Consider provision of heated shelters for winter weather protection;
- Ensure design and location does not obstruct sightlines for oncoming vehicular traffic;
- Consider provision of real time display screens for bus arrival information; and
- Design bus shelters for ease of snow-clearing and to minimize ice hazards.

Bike racks

- Provide at regular intervals throughout the Downtown;
- Where possible, bike racks should be placed near lighting;
- Bike racks shall not be placed within 1.8m of a tree;
- The traditional post-and-ring design is preferred as larger bike racks impede pedestrian movements and snow clearing; and,
- Should never be placed where a bicycle would impede the pedestrian Clear Path Zone.



Waste receptacles

- Waste receptacles should be placed at regular intervals throughout the downtown;
- Placement should maintain minimum setbacks from other furniture and tree pits of 0.9m and 0.3m respectively; and,
- Where possible incorporate repositories for cigarette butts and pet waste.









Typical square tree grate to be used in the Furnishing Zone



Expandable tree grate

Tree Accessories

Tree grates and guards shall be provided only where young trees are planted in spaces where they may be vulnerable to damage, or where a natural surface planting area is not appropriate. Requirements for these accessories will be accessible and be determined on a case-by-case basis.

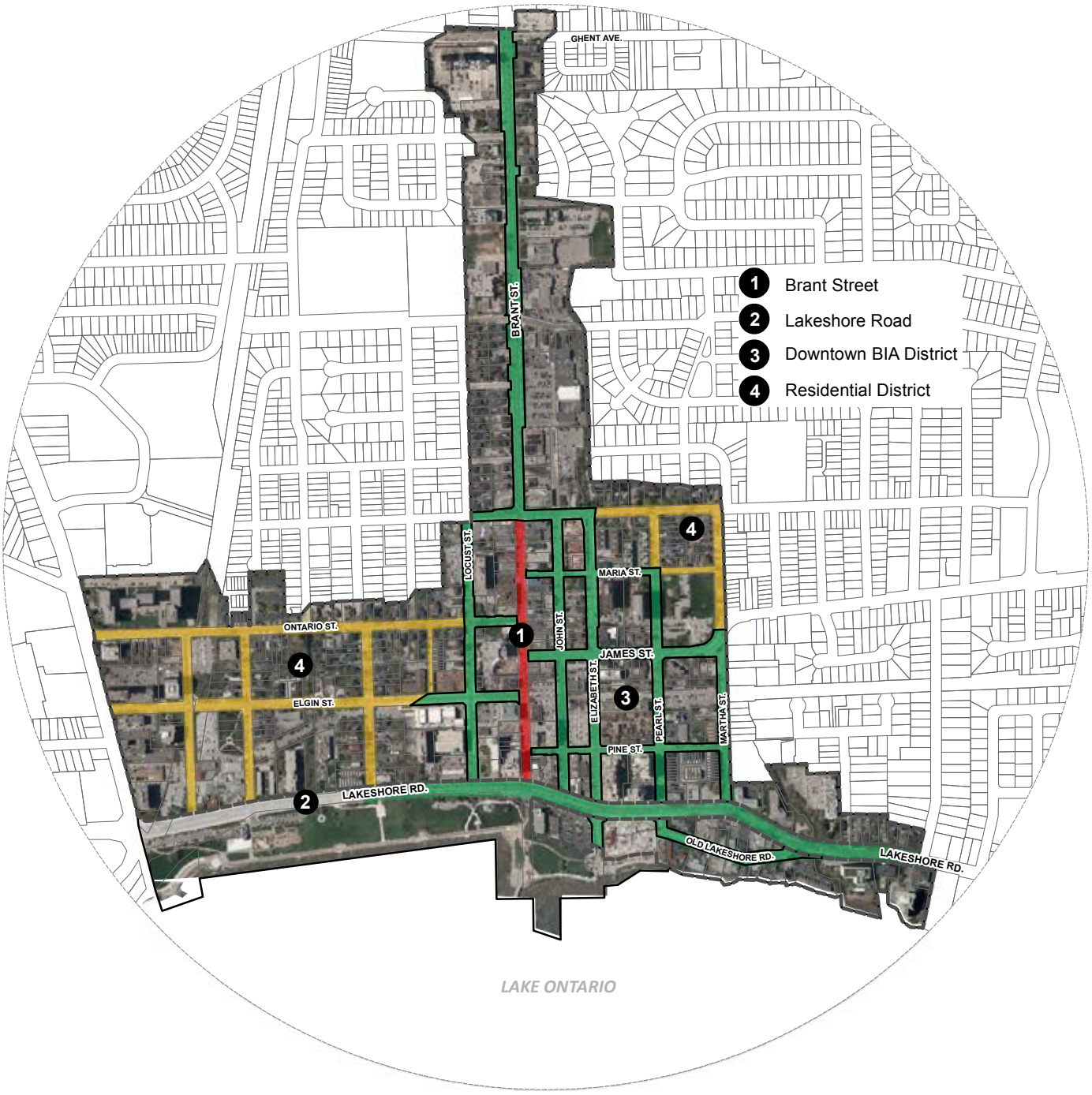
- Tree grates must be compliant with the appropriate AODA regulations;
- Where tree grates are deemed necessary, generally within the furnishing zone surrounded by hardscape, expandable grates will be required;
- Grates should provide inlets, openings or be designed to incorporate the provision of tree aeration and irrigation, and electrical outlets; and,
- Where applicable, tree grates shall match tree drains.

KEY STRATEGIES FOR STREET ELEMENTS:

- Remove all unnecessary elements not specified in this document;
- Use only furnishings that meet the design guidelines outlined in this document;
- Adhere to furnishing placement criteria set out in this document; and,
- Explore the use of multi-stream waste receptacles, including designs with built-in cigarette butt disposal and pet waste, where appropriate throughout the downtown.

3.4. Character Areas (Streets & Districts)

The DSG organizes the downtown into the following Character Areas:



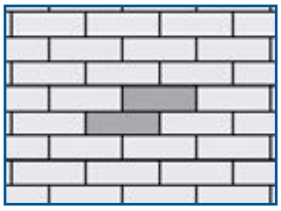
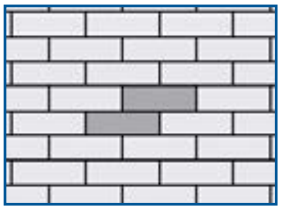
Lower Brant Street

Brant street's character as a main street and spine of the Downtown has been well established. Within the study area this is most notable as it changes from a traditional main street in the historic core to a conventional arterial corridor – north of Caroline Street – the result of development patterns, land uses and public right-of-way widths. Brant Street is at its narrowest in this 'lower' segment, which contributes to its walkability and pedestrian appeal supported by the existing built form character, active edges, on-street parking, street trees, pedestrian-scaled lighting, and an elaborate paving scheme. For the DSG, Lower Brant Street is deemed to be special and celebrated as a Character Street. The paving and furnishing recommendations intend to reinforce this notion.



RECOMMENDATIONS FOR LOWER BRANT STREET

PAVING MATERIALS

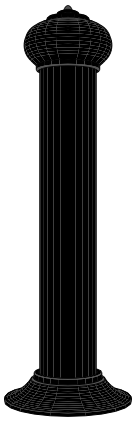
	Marketing	Clear Path	Furnishing	Edge
Hardscape Materials	Concrete paving	Concrete Paving	Concrete unit pavers	Barrier or modified curbs
Score pattern	Scored (saw cut) in a 1.5m rectangular pattern.	Scored (saw cut) in a 1.5m rectangular pattern.		
Laying pattern	Running Bond 		Running Bond 	

FURNISHING SELECTIONS *A functional public art alternative is encouraged for all furnishing selections

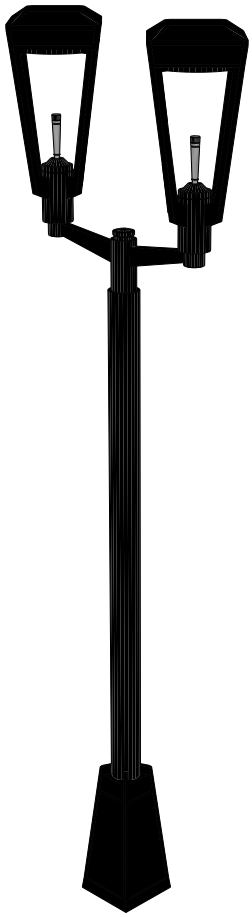
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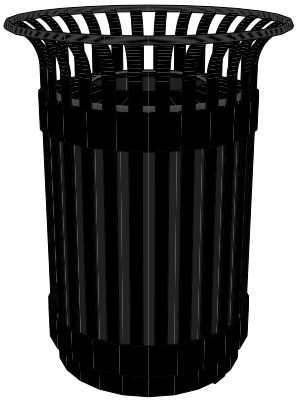
Bollard



Lighting



Waste



Bike Rack



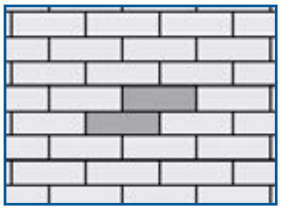
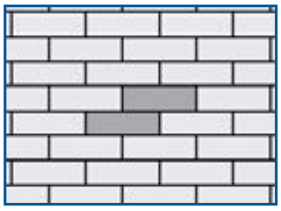
Lakeshore Road

In the Downtown, Lakeshore Road runs parallel to the shoreline from Maple Street to Smith Avenue and plays a critical role in connecting the waterfront lands to the rest of the Downtown. The lands south of Lakeshore Road include key city assets such as Discovery Landing, Spencer Smith Park, the waterfront promenade, and the Brant Street Pier. The intersections of Lakeshore Road and Maple Avenue, Brant Street, and Smith Avenue are important gateways to the Downtown and provide a sense of arrival and an opportunity for unique identifiers. Lakeshore Road is also a key transit corridor.



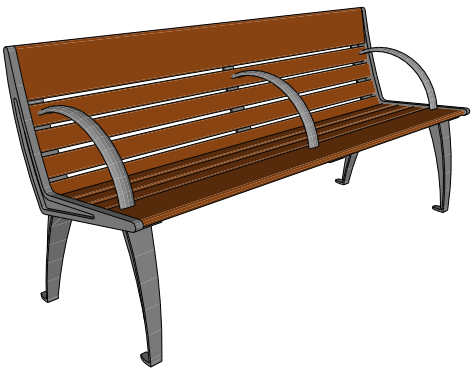
RECOMMENDATIONS FOR LAKESHORE ROAD

PAVING MATERIALS

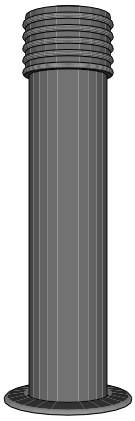
	Marketing	Clear Path	Furnishing	Edge
Hardscape Materials	Concrete paving	Concrete Paving	Concrete unit pavers	Barrier or modified curbs
Score pattern	Scored (saw cut) in a 1.5m rectangular pattern.	Scored (saw cut) in a 1.5m rectangular pattern.		
Laying pattern	Running Bond 		Running Bond 	

FURNISHING SELECTIONS *A functional public art alternative is encouraged for all furnishing selections

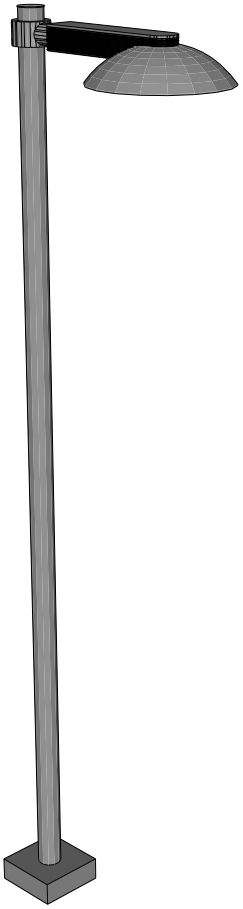
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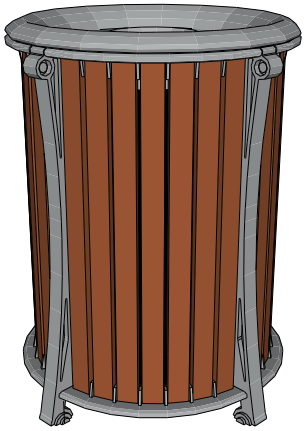
Bollard



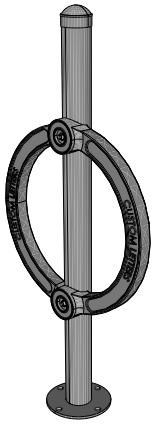
Lighting



Waste



Bike Rack



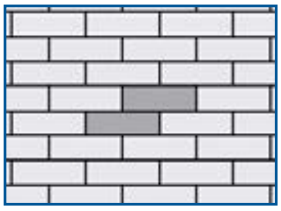
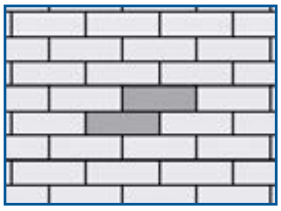
Mixed-Use Commercial District

Bisected by Lower Brant, the Mixed-Use Commercial District includes Brant Street between Caroline and Ghent, Lakeshore Road between Burlington and Smith Avenues and extends westerly to include Locust Street and parts of Ontario Street and Elgin Street, and easterly to include parts of Caroline, Maria, John, Elizabeth, Pearl, Martha, James, and Pine Streets as well as Old Lakeshore Road. This area offers a mix of uses including cultural, entertainment, residential, and commercial retail. It includes key transit access to the Downtown via the John Street transit station and features Village Square and its unique character.



RECOMMENDATIONS FOR THE MIXED-USE COMMERCIAL DISTRICT

PAVING MATERIALS

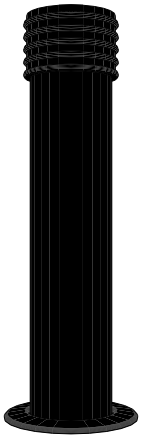
	Marketing	Clear Path	Furnishing	Edge
Hardscape Materials	Concrete paving	Concrete Paving	Concrete unit pavers	Barrier or modified curbs
Score pattern	Scored (saw cut) in a 1.5m rectangular pattern.	Scored (saw cut) in a 1.5m rectangular pattern.		
Laying pattern	Running Bond 		Running Bond 	

FURNISHING SELECTIONS *A functional public art alternative is encouraged for all furnishing selections

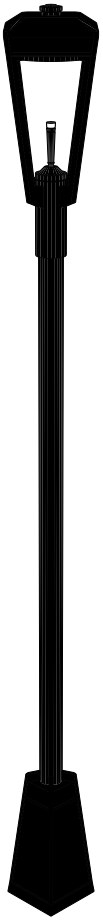
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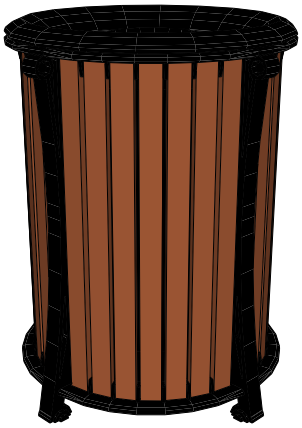
Bollard



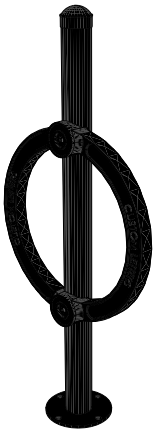
Lighting



Waste

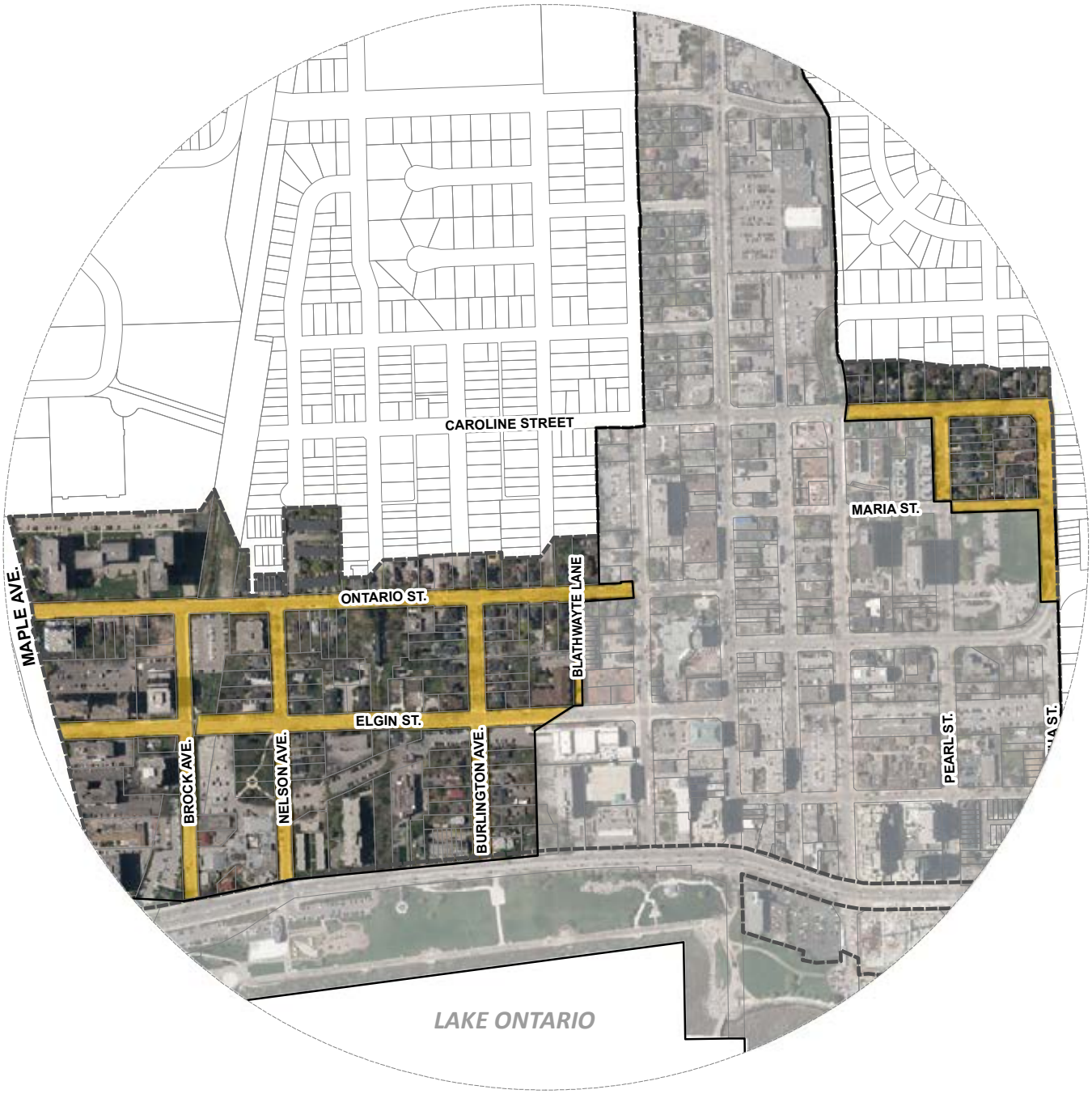


Bike Rack



Residential Districts

The areas within the established neighbourhoods of St. Luke's and Emerald and the higher density housing on the fringes of the historic core makeup the Residential Districts. In most cases, these streetscapes add to the Downtown's overall character and sense of place. These city blocks are narrow, and traffic moves slowly, providing residents with a short walk and easy access to the downtown and all its offerings. With limited development potential within this district, the recommended furnishings and materials intend to conserve the established residential quality and heritage character of these neighbourhoods, whilst complimenting Lower Brant Street as a key Character Street.



RECOMMENDATIONS FOR RESIDENTIAL DISTRICT STREETS

PAVING MATERIALS

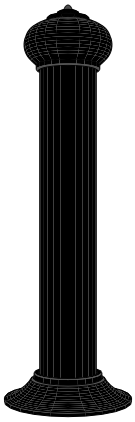
	Marketing	Clear Path	Furnishing	Edge
Hardscape Materials	NA	Concrete Paving	N/A	Barrier concrete curbs

FURNISHING SELECTIONS *A functional public art alternative is encouraged for all furnishing selections

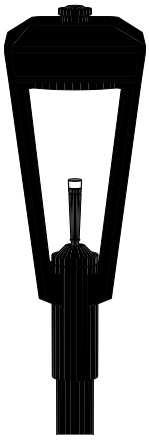
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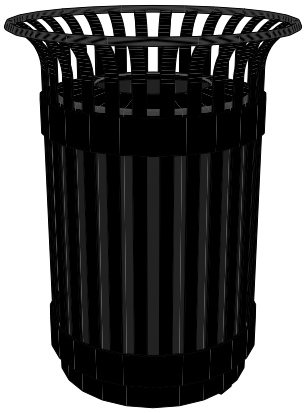
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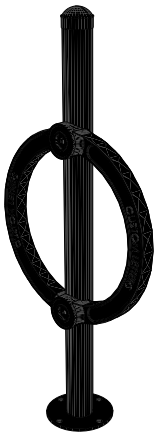
Lighting



Waste**



Bike Rack**



**These furnishing selections will be limited on streets with adjacent low density residential land uses

4. IMPLEMENTATION

4.1. Updated Streetscapes

The implementation of the DSG will occur gradually over time through either one or both of the following instruments:

Private Sector Development

New developments in the downtown will require streetscape improvements and may require enhanced streetscape elements through negotiated public realm improvements

Public Sector Development

Downtown public realm improvements will be planned and implemented in accordance with the capital investment and budget framework, and aligned with the city's approved Asset Management Plan. The timing of implementation will be coordinated with public space improvements and other road right-of-way works with consideration of funding, available resources, and prioritization of other city projects. A complete list of all forecasted street-related capital improvements is published annually in the 10-year capital budget and forecast.

4.2. Downtown Streetscape Implementation Team

The City will establish a multi-disciplinary interdepartmental staff working group that will be responsible for the design, review, and implementation and monitoring of all public sector streetscape improvements. This group will also be responsible for identifying implementation opportunities and providing advice to the capital budget committee on public realm investments related to infrastructure, public service and transportation facilities throughout the downtown. Operational impacts to budgets must also be presented for consideration as part of any implementation strategy. The team will be coordinated jointly by the Departments of Community Planning and Transportation Services and meet at least once a quarter [and more frequently as required]. This team should include representation from Arts and Culture, Asset Management, Roads, Parks and Forestry, Parking Services, Site Engineering, Sustainability, Traffic Services, Transit, Transportation Planning – Functional Design, and Urban Design as well as the City's Accessibility Coordinator Design and Construction, Stormwater Management.

For private sector development applications, streetscape plan review will occur through established planning processes such as site plan approval.

Accessibility for Ontarians with Disabilities Act [AODA]

There is a legislated requirement through the AODA Design of Public Spaces Standards to seek public consultation on specific accessibility aspects regarding the design of outdoor public spaces.

People living with disabilities can provide valuable input to designers and decision-makers regarding their diverse needs, identify potential barriers in proposed design and provide insight on how to remove existing barriers in the built environment.

As stated in the legislation, the city is required to consult with the public, people with disabilities and the Burlington Accessibility Advisory Committee when constructing new or redeveloping existing rest areas in the exterior path of travel, exterior paths of travel, on-street parking, recreational trails, and outdoor play spaces.

With respect to the DSG an exterior path of travel is a sidewalk or walkway intended to provide a functional route from Point “A” to Point “B” and is usually not intended to provide a leisure experience. The city will seek input on the design and placement of rest areas along exterior paths of travel. On-street parking refers to parking spaces that are located on a street or roadway rather then in a separate parking lot area. It most often consists of parallel parking. The city will seek input on the need, location and design of accessible on-street parking spaces.



4.3. Transition

Implementation of the DSG is a long-term plan. In the interim, opportunities for low cost treatments can be explored to help transition the downtown streetscape to its long term desired state. This reinforces the asset management goal of an optimized replacement schedule and maximizes investment value.

The Downtown Streetscape Implementation Team will identify such opportunities on a case-by-case basis and seek alignments where possible with other initiatives in the downtown. Other strategies will include seeking available grants and funding from upper levels of government to accelerate implementation of the DSG.





From pilot to permanent: shared street in Halifax; Argyle Street
Opposite page: demonstration of the shared street concept during the pilot period; Above right and left: Argyle Street (post-construction) as transformed from a conventional street to a shared street that prioritizes pedestrians through its design.

GLOSSARY

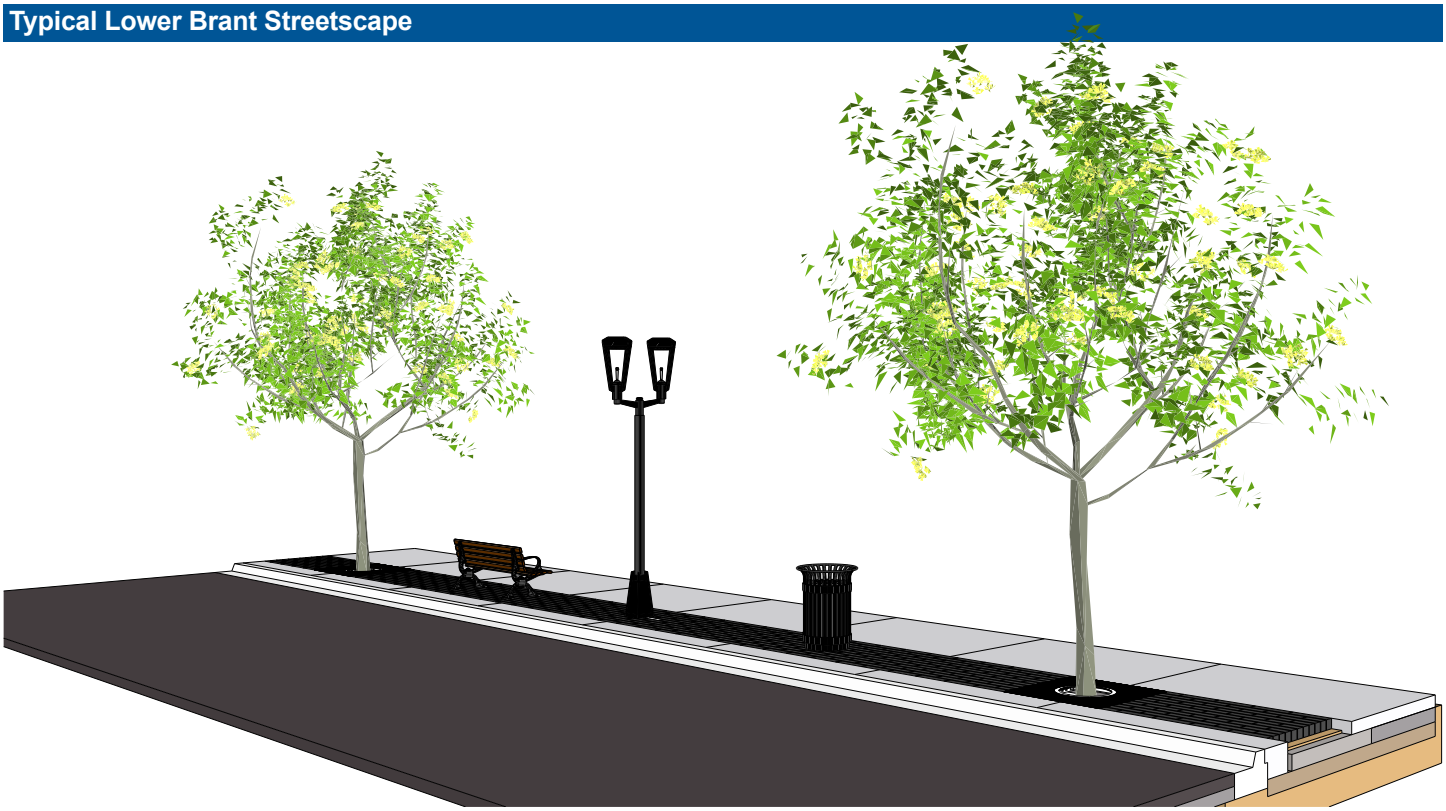
Accessible	Describes the design of street or portion thereof or streetscape elements that complies with the City of Burlington Accessibility Design Standards [ADS].
Bioretention Facilities	Refers to a concave landscape area that allows stormwater runoff from impervious urban areas such as roofs and sidewalks to be absorbed. This reduces the rainwater runoff by allowing stormwater to soak into the ground.
Boulevard	The boulevard is the area between edge of the curb and the front property line or building face.
Green infrastructure	Natural and human–made elements that provide ecological and hydrological functions and processes. Green infrastructure can include components such as storm water management systems, street trees and permeable surfaces.
Pedestrian Scale	The proportional relationship of the physical environment to human dimensions, acceptable to public perception and comprehension in terms of the size, height, bulk, and/or massing of buildings or other features of the built environment.
Infrastructure	Physical structures [facilities and corridors] that form the foundation for development. Infrastructure includes: sewage and water systems, septic treatment systems, stormwater management systems, waste management systems, electric power generation and transmission, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.
Living assets	Natural and human–made elements that provide ecological and hydrological functions and processes. Living assets can include streetscape elements such as street trees and may include green infrastructure assets such as bioswales and rain gardens.
Permeable Pavers	A pavement surface consisting of strong structural materials having regularly interspersed void areas which are filled with pervious materials, such as sod, gravel or sand, but not including traditional interlocking concrete pavers or pavers that are not specifically designed to increase infiltration.
Public Realm	All spaces to which the public has unrestricted access, such as streets, parks and sidewalks. Refers to spaces under City ownership including streets, boulevards, parks, and public buildings and structures.

Public Service Facilities	Land, buildings and structures for the provision of programs and services provided or subsidized by a government or other public body, such as social assistance, recreation, police and fire protection, health and educational programs, and cultural services. Public service facilities do not include infrastructure.
Right-of-Way	The part of the street that is publicly owned and lies between the property lines.
Roadway	The space between the two boulevards that can be designed to carry various modes of transportation and their ancillary facilities.
Structural Soil Cell	Refers to modular plastic or steel units designed to support loads to prevent compaction of soils. Each unit is connected to create a trench/ area where the tree roots can grow. They are to be placed in and around the root ball of a tree.
Stormwater	Rainwater from ground surfaces, roads, roofs, paved areas etc. and usually carried away by drains. It is further defined as storm runoff, snowmelt runoff, or surface runoff and drainage.
Stormwater Management	Stormwater management is the mechanism for controlling stormwater runoff rate and quantity for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.
Transportation Facilities	Includes roads, bike lanes, sidewalks and multi–use paths.

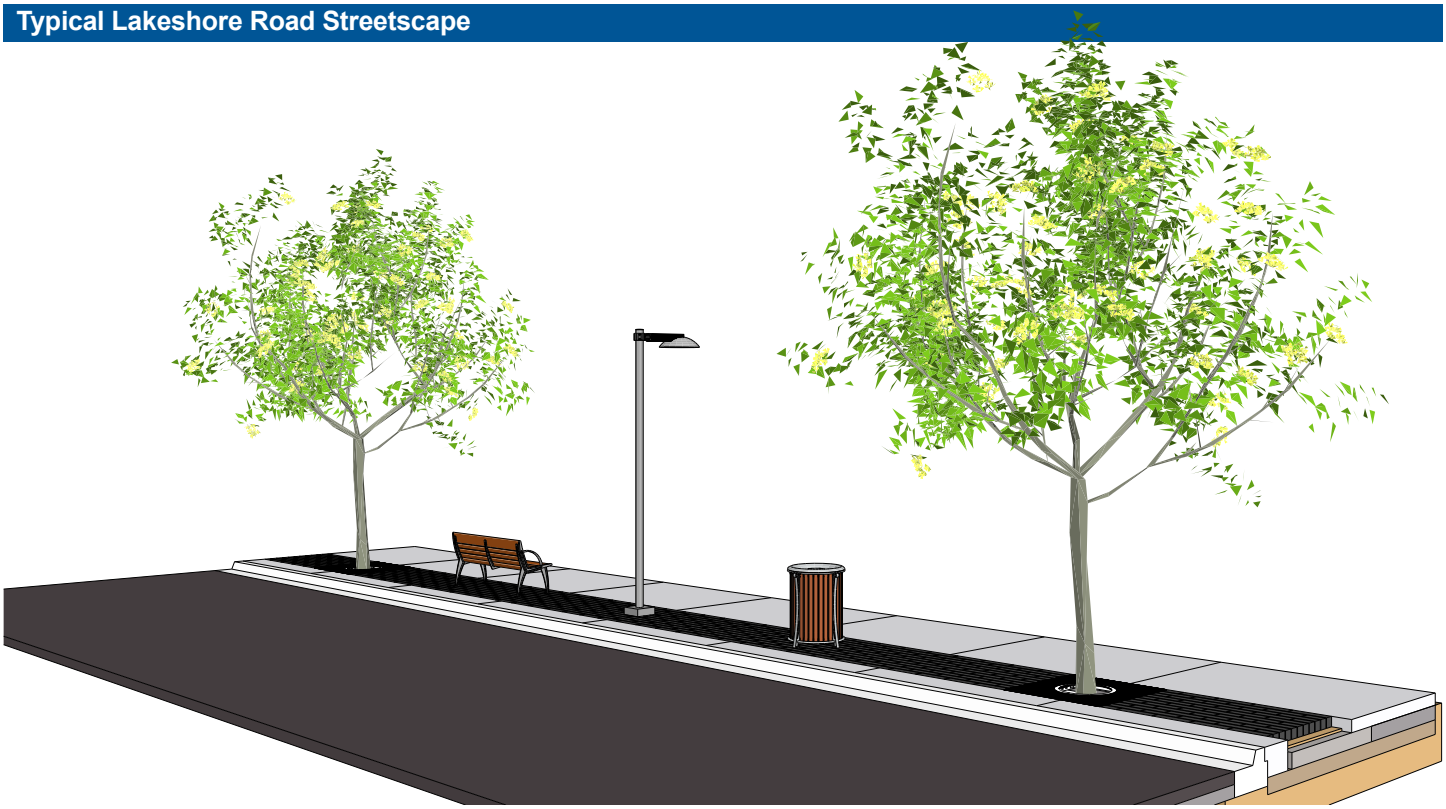
APPENDIX A

The following conceptual designs demonstrate the streetscape plans for each character area where the existing street design would allow for the minimum recommended widths (for the Clear Path, Furnishing, and Edge Zones).

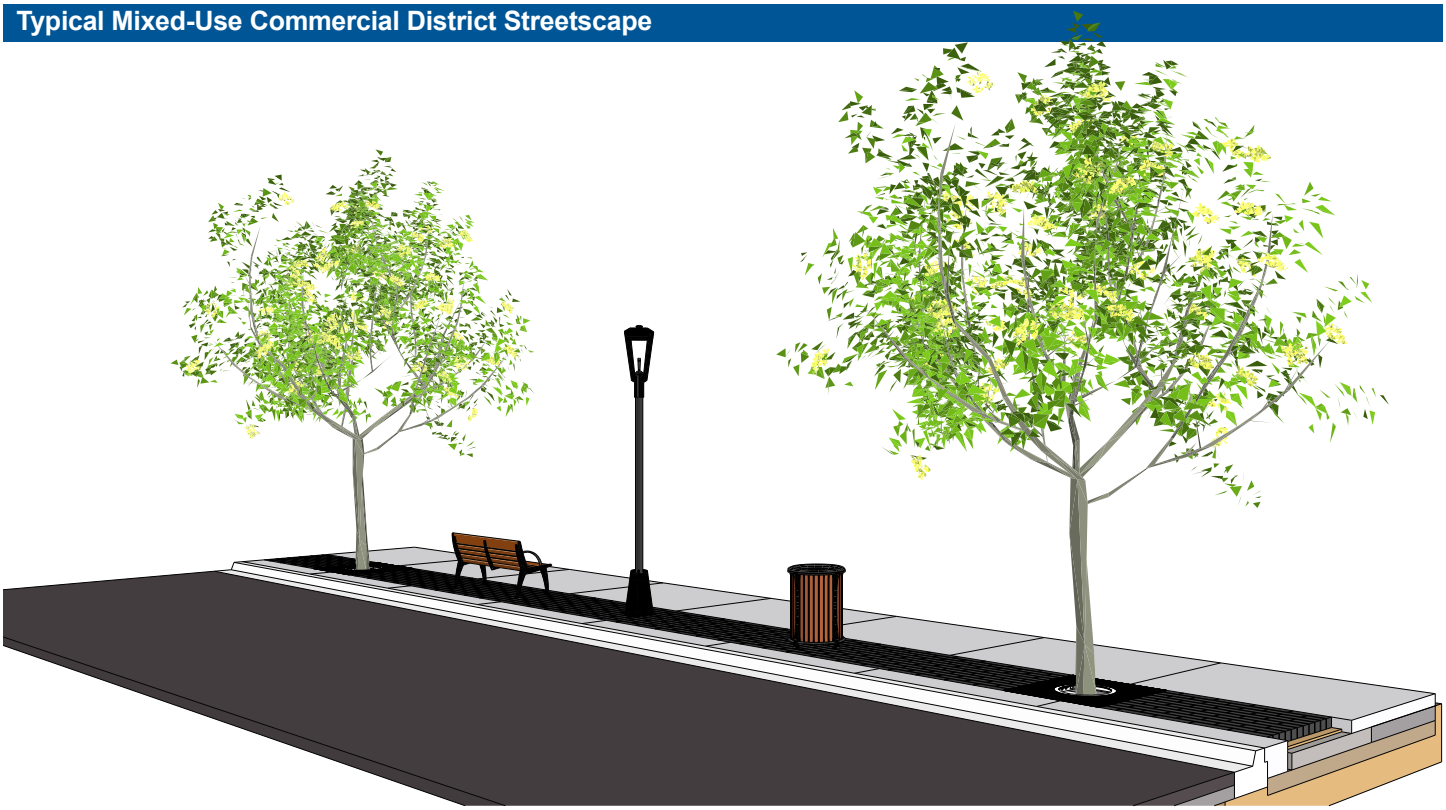
Typical Lower Brant Streetscape



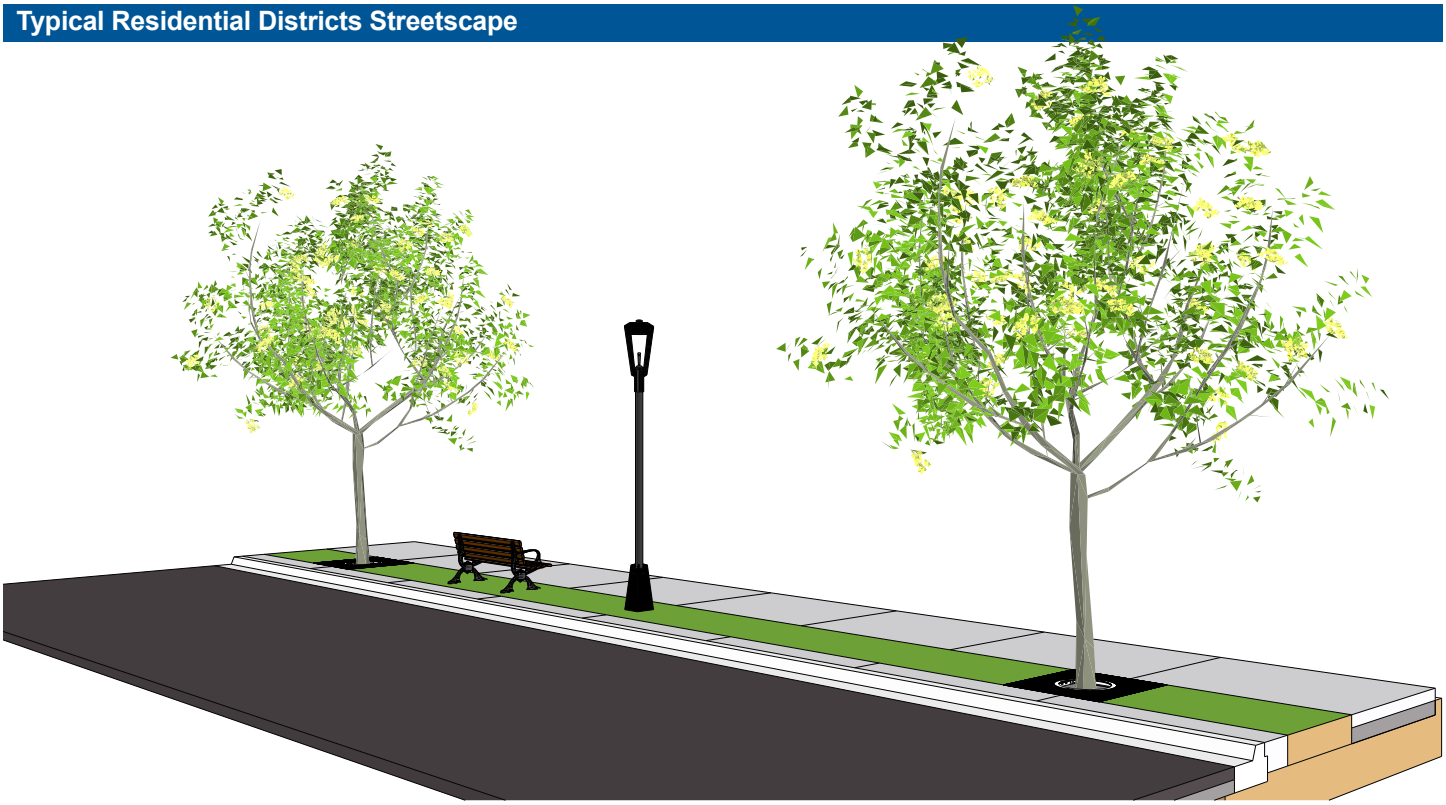
Typical Lakeshore Road Streetscape



Typical Mixed-Use Commercial District Streetscape



Typical Residential Districts Streetscape





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