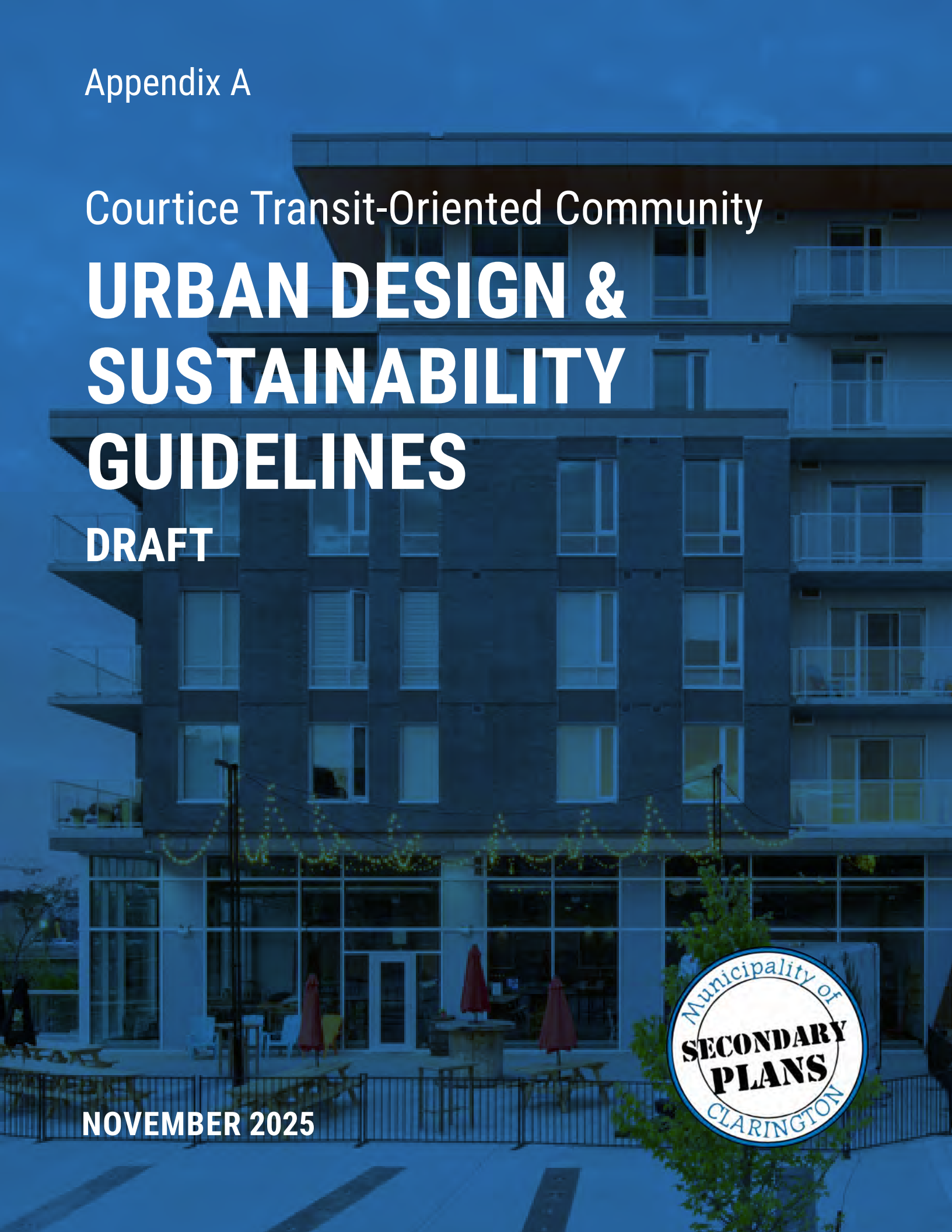
Appendix A

Courtice Transit-Oriented Community

URBAN DESIGN & SUSTAINABILITY GUIDELINES

DRAFT



NOVEMBER 2025

Clarington

URBAN
STRATEGIES
INC .

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1

INTRODUCTION

The Municipality of Clarington is committed to building well-designed urban environments that support sustainability goals, ecomomic prosperity and a high quality of life. This section sets the context for the Courtice Transit-Oriented Community Urban Design and Sustainability Guidelines. It addresses the document's purpose and explains how it is organized and intended to be used.

1.1. Purpose of the Guidelines

The Courtice Transit-Oriented Community (CTOC) is within Courtice's urban boundary, south of Bloor Street, east of Robinson Creek, west of Tooley Creek and north of Highway 401. These Guidelines apply to the CTOC Secondary Plan Area, including the Protected Major Transit Station Area (PMTSA) around the future Courtice GO Station.

The CTOC Urban Design and Sustainability Guidelines (CTOC Guidelines) complement and support the CTOC Secondary Plan. They provide a comprehensive set of design principles and urban design direction applicable to all forms of development to guide the CTOC Area's transformation into a complete, mixed-use, transit-supportive community.

1.2. Structure of the Guidelines

This document contains five main sections:

Section 1: Introduction – provides an overview of the context for the CTOC Guidelines and addresses their purpose, how they are structured and how they are to be used.

Section 2: Vision and Community Structure – describes the vision for CTOC and the key elements that will organize future development. A Demonstration Plan conceptually illustrates the vision, showing one potential outcome of applying the Secondary Plan policies and these Guidelines.

Section 3: Private Realm Guidelines – contains guidelines for various building types, such as high-rise, mid-rise and low-rise, office and industrial buildings.

Section 4: Public Realm – contains guidelines applicable to the street network, active transportation facilities, transit facilities, streetscapes, parks and open spaces, community facilities and environmental protection areas.

Section 5: Green Design Guidelines - provides direction on how development can promote environmental sustainability, with a focus on energy and water conservation and stormwater management.

1.3 How to Interpret and Use the Guidelines

The CTOC Guidelines will help to implement the Municipality of Clarington Official Plan and CTOC Secondary Plan policies and provide greater clarity on policy intentions for urban design, streetscapes, built form and environmental sustainability. The CTOC Guidelines will be used in conjunction with Official Plan policies, Secondary Plan policies, the implementing Zoning By-law and the Municipality of Clarington's General Architectural Design Guidelines in reviewing development applications to ensure a high level of urban design and sustainability is achieved.

Development proposals that differ from the CTOC Guidelines and Architecture Guidelines may still be considered if they meet the intent of the CTOC Secondary Plan and the CTOC Guidelines and Architecture Guidelines. Evaluation will be based on the merits of the development proposal. Where there is conflict between the CTOC Guidelines and the Architecture Guidelines, the CTOC Guidelines shall prevail.

The CTOC Guidelines are intended to be used by the building and development industry in the preparation of development proposals. Municipal staff will refer to the Guidelines in their review of development applications, including Draft Plan of Subdivision, Zoning By-law Amendment, and Site Plan Control applications.

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CTOC VISION AND COMMUNITY STRUCTURE

2.1. Vision

The Courtice Transit-Oriented Community is envisioned to be a unique new green community offering all types of housing to accommodate 29,000 residents, a variety of jobs for more than 8,000 workers, and a full range of amenities.

CTOC will be inclusive. A range of housing choices will be provided, including single-detached and semi-detached houses, townhouses, duplexes, triplexes, and apartment buildings. There will be a significant supply of affordable ownership and rental housing as well as supportive housing to ensure the needs of individuals and families at all stages of life can be met.

CTOC will be diverse. A variety of housing and employment opportunities will help ensure the community is socially diverse. This will be matched with diversity in the built environment—housing at all scales; different styles of architecture; a mix of shops, restaurants and entertainment; and open spaces and indoor facilities for all manner of recreational interests.

CTOC will be vibrant. The design of neighbourhoods, parks and streetscapes and a high-density, mixed-use core will encourage street life, social interactions and community gatherings. Institutional uses, a high-quality public realm and a diverse local economy will support ongoing vitality and attract visitors from across the region.

CTOC will be connected. The future Courtice GO station, adjacent highways and existing arterial roads will connect residents and businesses to destinations and communities across the Greater Toronto Area. An interconnected network of local streets, trails, pathways and bike lanes will make it easy to get around by walking, cycling and taking local transit.

CTOC will be green. The valley lands and forests that surround CTOC will provide a rich green setting for development, and neighbourhood parks scattered across the community will provide a gathering and play space for every neighbourhood. A central park and urban squares will offset the high density of development in the core and provide places for respite, picnicking and events. Environmental design features applied to buildings, open spaces, infrastructure and the community as a whole will help ensure CTOC supports Clarington's Priority Green goals and standards for sustainability.

2.2. Community Structure

The vision, principles, and objectives of the CTOC Secondary Plan are supported by a community structure comprised of the following, as illustrated in Figure 1:

Natural Areas: The valley lands of Robinson Creek and Tooley Creek, tributaries that feed them and forested areas together surround the CTOC Secondary Plan Area, and establish a rich and sensitive green setting for development. As these areas are protected and enhanced, they will become an amenity for future residents and visitors, fundamental to the community's environmental health and social well-being.

Highways: Highways 401 and 418 are not technically within the CTOC Area but nevertheless play a vital role in its physical structure. They help to frame the area, and their presence will influence land uses and the road network. Employment uses in particular will benefit from the visibility and access the highways afford.

Future Courtice GO Station: The growth and prosperity of CTOC will depend on a multi-modal transportation network centred on the future Courtice GO Station. The station and surrounding lands provide a focus for high-density housing, office development and commercial amenities that, together with a pedestrian-friendly public realm, contribute to creating a unique mixed-use district.

Transit Corridor: Courtice Road is a Regional Corridor that will be the primary transportation route to and through CTOC for transit, commercial and personal vehicles. As such, it will be a focus for transit-oriented development and streetscaping that supports active transportation and reinforces Clarington's identity as an attractive, sustainable community.

Green Active Transportation Spine: Between Trulls Road and Courtice Road, a continuous north-south landscaped multi-use path will function as a green active transportation corridor that connects neighbourhoods, parkland and forest in the north half of the PMTSA to the future GO Station and other destinations in the south half. In the long term, the green spine may be extended to the Courtice waterfront via a pedestrian/bicycle bridge over Highway 401.

Parks and Open Space Network: Future residential and mixed-use neighbourhoods will be centred on Neighbourhood Parks, including four significant parks, to ensure most residents are within short walking distance of public green space. In addition, a central "Special Park" will serve all of CTOC and, as a multi-purpose space for events, is expected to be a civic destination for all Courtice residents. Multi-use paths and mid-block connections throughout the community will further contribute to a green framework for development.

High-Density Mixed-Use Core: The core of CTOC, centred on the future GO station, will be the area for the highest densities of development, the tallest buildings and the greatest range of uses. This will be the place to find a variety of options for housing, working, shopping, dining and entertainment. At the edges of the core, development will be less intense to provide a transition to lower scale neighbourhoods.

Urban Residential Areas: North and west of the core, CTOC will comprise mostly low-rise neighbourhoods at varying densities and with a variety of housing types as well as neighbourhood-oriented commercial amenities. Within the PMTSA, medium-density forms of housing will be dominant, while west of Trulls Road there will be a full range of residential types, from detached homes to mid-rise apartment buildings. Interconnected local street networks will connect neighbourhoods to one another and to the attractions in the core.

Employment Areas: South of the rail corridor, areas against Highway 401 will be maintained mostly for industrial uses that benefit from convenient highway access and broaden employment opportunities for Courtice residents. Complementing the Clarington Energy Park, these areas will provide a stable environment for the growth of established and new businesses that diversify Clarington's economy.

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3

PRIVATE REALM GUIDELINES

The private realm encompasses properties that will remain in private ownership and includes both buildings and the sites they occupy. This represents the majority of development areas within the Courtice Transit-Oriented Community. A wide variety of new development is planned, ranging from low-rise to high-rise and containing residential, office, retail, institutional and industrial uses. The design and quality of development will contribute significantly to creating a livable and healthy new community.

3.1. High-Rise and Mid-Rise Mixed Use and Residential Buildings

High-rise and mid-rise buildings are primarily permitted in the Mixed Use Core and Mixed Use Transition Area, where a high population density will support GO service and local businesses. Mid-rise buildings up to six storey are also permitted along arterial roads within the Medium Density Residential Area.

High-rise buildings are generally those above 10 storeys, while mid-rise buildings are generally 5-10 storeys. Both building typologies may contain a mix of uses or solely residential uses, depending on their location. In the Mixed Use Core and Mixed Use Transition Area, high-rise and mid-rise buildings will support the development of a community with the widest mix of uses including residential, office, hospitality, retail, commercial and institutional uses. These building types will form the foundation of this new urban area, and should be carefully designed with a high quality of architecture and to fit with their context, frame the public realm, prioritize pedestrian movement, and be well-integrated with adjacent uses and buildings.

3.1.1. GENERAL SITE AND BUILDING DESIGN

A. Buildings should be oriented towards streets and open spaces to frame the public realm and support pedestrian-friendly environments.

B. Buildings should be designed to fit within the emerging and planned context and mitigate potential impacts of height, massing, and shadow on their surroundings, including nearby lower scale areas, cultural heritage resources, planned open spaces, and existing natural areas.

C. Main building walls should establish a consistent streetwall to create a sense of enclosure and frame the public realm.

D. In the Mixed Use Core and Mixed Use Transition Area, mixed-use buildings should have a consistent setback along the street between 2 and 5 metres to provide space for a wide walking zone, restaurant patios and retail displays, where appropriate.

E. Where residential or office buildings without ground-floor retail or street-related units line a street, the setbacks generally should be 1-3 metres, except where forecourts are appropriate.

F. Where a residential building contains ground-floor units with entrances on the street, a setback of 3-5 metres should be provided for a buffer between the public and private realms and room for stairs, porches and elevated patios.



Mixed-use high-rise building framing the street

G. On large sites with multiple buildings and frontages greater than 150 metres on two intersecting streets, through-block pedestrian connections should be provided to complement and link the existing network of public streets and pathways.

H. Sites should be designed to integrate natural constraints and features on the site, where applicable.

I. Buildings should be located and oriented to maximize energy efficiency, natural ventilation and sunlight penetration and minimize shadow and wind impacts on the public realm and surrounding properties.

J. Building design should include environmental controls such as canopies, awnings, and louvers to regulate sun and wind exposure.

K. Building design should, where possible, incorporate sustainable building features, such as water collection and storage, photovoltaic applications, green roof design, high albedo surfaces and extended eaves for sunshade. Buildings should be articulated with high-quality, sustainable materials and finishes to promote design excellence, innovation and building longevity.

L. Architectural variation, texture, and materiality should be incorporated into the design of buildings to establish community identity and enhance visual interest.

M. Building façades should incorporate bird-friendly design elements, such as sunshades or louvers, visual markers within large glazed areas, and non-reflective glazing, to minimize the potential for bird collisions.

N. On corner sites where the intersecting streets are different types, buildings should be designed to respect



Articulated building frontage with tall ground floor



Ground floor units with flexible design to accommodate various uses over time

and respond to the planned height, scale, and built-form character of both streets.

O. Loading and servicing areas should be located away from streets and major open spaces to maintain a pedestrian-friendly public realm.

P. Vehicular access should be located off secondary streets, where feasible, integrated into the design of the building to mitigate their visual impact on the public realm.

Q. Where high-rise or mid-rise buildings are adjacent to lower-scale buildings, transitions in the form of separation and /or stepped massing should be provided to maintain privacy and mitigate the potential for overlook and shadowing.

R. Building frontages should be articulated, and where appropriate, breaks should be introduced along the streetwall to help break up the perceived mass of longer buildings and to mitigate wind impacts.

S. Ground floor heights should be taller than typical residential floor heights to accommodate non-residential uses, or the potential to convert uses in the ground floor over time in areas that permit non-residential uses. Ground floor heights should be at least 4 metres for commercial uses and for programming flexiblity in residential buildings.

3.1.2. MASSING OF HIGH-RISE BUILDINGS

A. High-rise apartment buildings may generally be in the range of 11 to 40 storeys, depending on their location, in accordance with CTOC Secondary Plan policies.

B. High-rise buildings should be architecturally interesting and create a cohesive design composition through their proportion, scale, massing and building materials. These building forms typically feature a defined base or podium that can support and frame the public realm, helping to create an inviting and comfortable pedestrian environment; a middle section, or tower, that can mitigate the perception of bulk and impacts on the public realm; and a top section that creates an interesting skyline.

C. Podiums should have heights that related to the width of the adjacent road right-of-way, generally 3-6 storeys. Above the building base, stepbacks should generally be incorporated to distinguish the tower from the building base. This perception of articulation can also be achieved in alternative ways, including the use of cantilevers, canopies and material changes.

D. The building tower should be designed to ensure access to sky views and daylight, mitigate shadows and adverse microclimate conditions on the public realm and private amenity areas, and maintain privacy for occupants. Measures should include:



Mid-rise buildings with articulated and varied facades

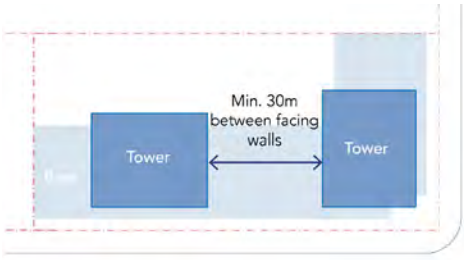


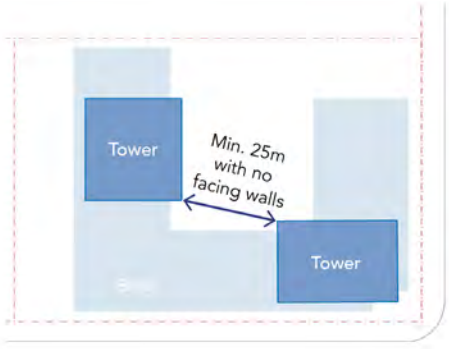
Commercial entrances set back from the pedestrian clearway, with bicycle parking, street furniture and weather protection

i. Staggering towers on a block and across blocks wherever possible.

ii. Floorplates should not exceed 850 square metres for residential buildings. Office buildings may require larger floorplates.

iii. Towers facing one another, partially or entirely, including projections, should be separated by a minimum of 30 metres. Staggered towers should be a minimum of 25 metres apart (see diagrams below).





3.1.3. MASSING OF MID-RISE BUILDINGS

A. Mid-rise buildings generally are those from 5 to 10 storeys, but they may have a height up to 12 storeys, if they front Courtice Road.

B. Mid-rise buildings should be designed as compact, street-related building forms with a strong streetwall and energy efficient massing.

C. Mid-rise buildings longer than 40 metres should break up their mass with offset facades, vertical recesses and/or changes in material or colour. Generally, mid-rise buildings should not exceed 70 metres in length.

3.1.4. FACADES AND ENTRANCES

A. On commercial streets, the base building should include continuous active commercial, institutional or other active uses, with the exception of areas required for lobbies.

B. On secondary street frontages where a commercial character is planned but not yet established, first-floor height and flexibility in the base building structure should be provided to accommodate the transition to active commercial uses over time.

C. Additional setbacks from the property line should be incorporated in strategic locations to accommodate urban squares, seasonal retail and patio space, extensions of the streetscape, public art, and entrances to above-grade uses.

D. Building façades visible from the public realm should be well-articulated and incorporate a rhythm of transparent glass and solid materials, while avoiding blank walls.

E. Principal entrances to commercial units should be designed to be oriented towards and highly visible from the public realm and located at the same level as the sidewalk.

F. For uses above the ground floor, principal entrance(s) should be designed in highly visible locations with direct access from the public realm.

G. Architectural treatments, accent illumination and landscaping may also be incorporated to accentuate building entrances.

H. Ground level residential units directly accessed from the public realm should establish a transition between public and private space through a combination of setbacks, low fencing, stairs, hedges, planters and/or elevated patios.

I. Weather protection elements, such as awnings, canopies, and projecting façade elements, should be incorporated to provide coverage at main entrances, and maintain clear sightlines to ground floor uses and entrances. Where provided, these elements should provide a generous vertical clearance above grade.

J. Balconies and other projections should be architecturally integrated into the structure and detailing of the building. Protruding balconies should not dominate all facades of a tower. Partially or wholly recessed balconies are strongly encouraged.

3.1.4. ROOFTOP ELEMENTS, MECHANICAL EQUIPMENT AND UTILITIES

A. The architectural treatment of the rooftop should be designed to complement the overall building design and integrate penthouses, stair towers, elevator towers and mechanical equipment.

B. Roof-top mechanical or telecommunications equipment, signage, and amenity space, where appropriate, should be integrated into the design and massing of the upper floors of the building and should be screened with durable materials integrated with the design of the building.

C. Mechanical systems and utilities, such as drainage pipes, vents and meters, should be architecturally integrated into the façade and building design and screened from view from the public realm.



Wide and landscaped mid-block connection

3.1.5. PEDESTRIAN CIRCULATION, LANDSCAPING AND AMENITY

A. Landscape design should incorporate trees and a mix of soft and hard landscaping. Existing mature trees should be retained, where possible

B. Clear, direct and accessible walkways should be provided from the sidewalk to the main entrance of buildings.

C. Mid-block pedestrian connections should be provided in blocks over 200 metres long to improve pedestrian permeability and connectivity.

D. Green roofs should be integrated into mid-rise and high-rise building rooftops.

E. Shared private outdoor amenity space should be provided within building sites for residential and some non-residential uses, located at grade and/or on building rooftops.

F. Amenity spaces should be designed to maximize access to sunlight, minimize noise and air quality impacts from site servicing and mechanical equipment, and include elements that facilitate use year-round for people of all ages and abilities. The following features should be considered: high-quality, universally accessible, and environmentally sustainable materials; four-season landscaping; seating; pedestrian-scale lighting; trees and other vegetation; shade structures; weather protection; privacy screening; children's play structures; and barbecue equipment.



Access to parking and servicing areas located to the side of the building and integrated into building envelope



Mixed-use building with screened utilities at the side

G. Where possible, interior amenity spaces should be located adjacent to shared outdoor amenity areas and provide windows and doors for direct physical and visual access between these spaces.

H. Places for pet runs either at the rear or side of the building at-grade or on a shared rooftop space are encouraged.

3.1.6. VEHICULAR CIRCULATION, PARKING, LOADING AND SERVICING

A. Vehicular entrance locations should be minimized in width and consolidated and shared where possible in order to reduce the extent of curb cuts in the streetscape, maximize opportunities for soft landscaping, and reduce potential conflicts with pedestrians along the sidewalk.

B. Wherever possible, vehicular access ramps should be provided from a secondary street and separated from parks, amenity spaces or other open spaces.

C. Vehicular circulation should be located and designed to minimize visual impacts on adjacent properties, pedestrian movement and the public realm.

D. All required vehicle parking should be provided on-site.

E. Underground parking is strongly encouraged, with driveway entrances integrated into the building design and envelope.

F. Surface parking may be located at the rear of buildings and is not permitted in the front or side yard of buildings, with the exception of accessible parking spaces.

G. Above-ground structured parking should be wrapped with residential units or active uses or otherwise integrated into the design of a building to separate parking areas from the public realm.

3.1.7 LOADING AND SERVICING

A. Buildings should be designed to accommodate separated waste stream storage and collection.

B. Waste and recycling collection areas should be located within the building structure.

C. Loading and service areas should be integrated into the building envelope or placed away and screened from any street, park, amenity space or public open space. Screening measures include landscaping and/or solid panel fencing.

D. Utility meters, transformers and mechanical equipment should be located in compliance with utility authority requirements and should be located away from public view and/or screened with landscaping or a decorative wall.

E. Noise attenuation measures should be incorporated into the design of loading and service areas.

3.2. Low-Rise Buildings

Low-rise buildings include a wide range of typologies up to 4 storeys in height, including apartment buildings; street townhouses; stacked townhouses (including back-to-back stacked townhouses); fourplexes, triplexes and duplexes; and semi-detached and detached houses. They contain predominantly residential uses, though they may also contain home businesses, and apartment buildings on main streets may contain compatible neighbourhood-scale commercial uses on the ground floor.

In the Medium Density Residential area of the CTOC, low-rise buildings up to 4 storeys are permitted, including low-rise apartment buildings, stacked townhouses and street townhouses. For clarity, street townhouses are attached side-to-side in blocks of at least three, are typically 3 storeys tall and have rear yards; stacked townhouses are attached side-to-side and may also be attached back-to-back and generally provide balconies, patios and/or rooftop decks rather than rear yards.

In the Low Density Residential area, low-rise buildings up to 3 storeys are permitted, including street townhouses, fourplexes, triplexes, duplexes, semi-detached houses and detached houses.



Low-rise apartments framing pedestrian friendly streets

3.2.1. GENERAL SITE AND BUILDING DESIGN

A. Low-rise buildings should be oriented to public streets and open spaces to frame the public realm and support a safe, comfortable pedestrian environment.

B. Front setbacks along a street should generally align to ensure visual continuity along the streetscape.

C. Building setbacks should be generous enough to enable suitable areas for soft landscaping and provide sufficient soil for mature tree growth. Front yard setbacks should be a 3-5 metres, except where parking is located at the front of a house, in which case the garage should be setback a minimum of 6 metres.

D. Building projections, such as covered porches, balconies and stairs are encouraged and may project into the front yard setback.

E. On long blocks greater than 200 metres, mid-block pedestrian connections should be provided to complement, connect, and extend the existing network of public streets and parks.

F. Sites should be designed to integrate natural constraints and features on the site, where applicable.

G. A variety of lot sizes is envisioned for low-rise building types. This allows for variation in scale, massing and form to create visual interest, while also ensuring a diversity of housing types across CTOC.

H. Vehicular access and loading/servicing areas for multiple-unit developments should be consolidated and located away from the street to maintain a pedestrian-friendly public realm.

I. A variety of architectural expression among publicly exposed elevations is encouraged, including variation in roof lines, architectural styles, and material articulation.

3.2.2. HEIGHT AND MASSING

A. Low-rise apartment buildings longer than 40 metres should break up their mass with offset facades, vertical recesses or changes in material or colour to create visual interest along the streetscape.

B. Blocks of townhouses should not exceed 8 units along the street, and blocks of stacked, back-to-back townhouses should not exceed 16 units.

C. Adequate separation should be provided between townhouse blocks to allow for landscaping, fencing and outdoor storage screened from view. Where no pathway is required between townhouse blocks, 3 metres of separation is generally adequate, where a private pathway to access the interior of the site is provided, the separation should be a minimum of 4 metres.



Design continuity along a block of townhouses



Wood frame construction stacked townhouses fronting onto a park

3.2.3. FACADES AND ENTRANCES

A. Exterior walls of buildings should be articulated through use of bays, gables and porches, or designed to provide visual interest through the use of material changes.

B. Main building or unit entrances should be oriented towards the public realm to improve legibility and contribute to a comfortable pedestrian environment.

- **i.** For stacked townhouses, a separate and clearly articulated main front door for each unit should be provided.
- **ii.** Apartment buildings with shared lobby spaces or entrances should promote visibility and views between interior and exterior spaces. Where possible, main building entrances should be designed to be at-grade with barrier free access from the public sidewalk.
- **iii.** Where provided, upper storey residential apartment units should be accessed via a consolidated lobby.
- **iv.** Ground floor residential units facing streets or public walkways are encouraged to have individual entrances accessing the sidewalk. Front porches or porticos are encouraged, where applicable, to give prominence to grade-related main entrances.
- **v.** All apartment building entrances should be well lit. Natural lighting is encouraged through the use of sidelights, fanlights or door glazing. Wall-mounted down-cast lighting is also appropriate adjacent to building entrances.

C. Architectural elements, primarily at the front elevation or public-facing elevation, should be proportionate. This includes, but is not limited to, window sizes and shapes, balconies, terraces, dormers and rooflines.

D. Large areas of uninterrupted rooftops are encouraged, particularly on south facing facades, to accommodate solar photovoltaic infrastructure.

E. Dwellings on a corner lot, including townhouses, should have side elevations that includes windows and details consistent with the front elevation. Front porches should wrap around the corner of the house.

3.2.4. PEDESTRIAN CIRCULATION, LANDSCAPING AND AMENITY AREAS

A. Landscape design should incorporate trees and a mix of soft and hard landscaping. Existing mature trees should be retained, where possible.

B. Clear, direct and accessible walkways should be provided from the sidewalk to the main entrance of buildings or units.

C. A range of outdoor amenity areas should be incorporated in the design of buildings and sites, as appropriate to the building type. This may include private outdoor amenity areas such as porches, rear yards, terraces and balconies or common outdoor amenity areas such as courtyards, accessible rooftops and forecourts.



Pedestrian pathway between facing blocks of townhouses



Passive house certified low-rise apartment building with soft landscaping in setback areas

D. Private outdoor amenity spaces should generally be provided in the rear; however, balconies and terraces may be provided at the front. Screening elements, including landscaping and fencing, should be provided between the private outdoor amenity spaces or rear yards of neighbouring units.

E. Where privacy fencing is proposed, it should be of high architectural quality and the extent of fencing should be minimized to avoid being an expansive visual barrier.

3.2.5. VEHICULAR ACCESS, PARKING, LOADING AND UTILITIES

A. Vehicular entrance locations to apartments should be minimized in width and consolidated and shared where possible in order to reduce the extent of curb cuts in the streetscape, maximize opportunities for soft landscaping, and reduce potential conflicts with pedestrians along the sidewalk

B. Pick-up and drop-off access should be provided at the rear of apartment buildings, or in layby zones within the on-street parking lane, where provided.

C. All required vehicle parking should be provided on-site.

D. Underground parking for apartment buildings is strongly encouraged. Surface parking may be located at the rear of buildings and is not permitted in the front or exterior side yard of buildings. Rear yard parking should be buffered from private amenity areas.

E. Rear lanes are strongly encouraged to provide access to parking, especially for townhouse developments of more than four units, and may be required for housing that fronts a major road.

F. On corner lots, driveways should be accessed from the lower-classified street.

G. Other than the permitted driveway, paving in the front yard generally should be limited to walkways.

H. Where front yard driveways are provided, they should have sufficient width and length to facilitate vehicle parking, without obstructing adjacent sidewalks or vehicle sightlines.

I. Driveways, parking pads and walkways should be adequately illuminated with low level, pedestrian-scaled lighting.

J. The use of permeable surface materials are encouraged for driveways, parking pads and surface parking areas.

K. Individual unit garages may be provided for townhouses, detached and semi-detached houses.

- **i.** Garage entrances should be incorporated, either flush with or recessed behind the building face, and architecturally integrated into the main building massing.
- **ii.** Where front yard garages are provided, the garage should not dominate the width of the front façade and they should have materials, colour and other design elements consistent with the architecture of the primary dwelling unit.



Detached houses with living space located above the garage

iii. The width of a driveway generally should correspond with the width of the garage.

L. Front garages are encouraged to be expressed as two-storey structures with usable space above to better integrate this structure into the overall design of the dwelling unit.

M. Front double-car garages are encouraged to have two separate openings and two doors. Single doors for double car garages should be articulated vertically and horizontally to give the appearance of two doors. Windows are encouraged, to avoid a blank-wall effect.

3.2.6. LOADING AND UTILITIES

A. Utilities should be concealed or buried. Where not possible, utilities should be integrated into the architectural composition of buildings or screened from public view to minimize their visual impact on the public realm.

B. Utilities and servicing areas should be located so that they do not interfere with existing trees, mature tree growth or landscaping.

C. Garbage and recycling storage areas should be located at the side or rear of buildings and in rear laneways where provided. Where not possible, garbage and recycling storage areas should be screened from public view.

3.3. Office Buildings

Office buildings will be critical to CTOC's development over time as a complete community with a significant number of jobs and a variety of employment opportunities. Office uses are permitted throughout the Mixed Use Core and the Mixed Use Transition Area, as well as within the Business District. Within the Business District, permitted building heights range from 2 to 10 storeys, while taller office buildings are permitted in the Mixed Use Core and Mixed Use Transition Area.

3.3.1. GENERAL SITE AND BUILDING DESIGN

A. Within the Mixed Use Core and Mixed Use Transition Area, office space may be accommodated in the podiums of mixed-use buildings that include residential towers or in standalone office buildings that may or may not have retail and commercial service uses on the ground floor.

B. Within the Business District, an urban character should be developed, through measures that include compact building forms, building placement along street edges, consistent streetwalls, and parking and servicing located at the rear of buildings, away from the public realm.

C. Office buildings should be oriented towards streets and open spaces to frame the public realm and contribute to pedestrian-friendly streetscapes.

D. The facades of standalone office buildings may be set back further from the property line than residential and mixed-use buildings to allow for generous soft and hard landscaping and tree planting on site edges.

E. Sites should be designed to integrate natural constraints and features on the site, where applicable.

F. Building design should, where possible, incorporate sustainable building features, such as water collection and storage, photovoltaic applications, green roof design, high albedo surfaces and extended eaves for sunshade.

3.3.2. HEIGHT AND MASSING

A. Office buildings should use articulation or changes in materiality to break up their perceived mass and create visual interest.

B. Floor to floor heights should be a minimum of 4 metres to allow for flexibility of use and tenancy over time.

C. Rooftop mechanical and other equipment should be integrated into the overall building massing and design and screened from public view.



Mixed use office building framing the street

3.3.3. FACADES AND ENTRANCES

A. Building facades should contain a high degree of transparency and working windows to allow for views and access to natural ventilation and daylight for employees.

B. Building entrances and lobbies should be visually prominent, have pedestrian access directly from a public street and include weather protection.

C. Building signage should be designed to be compatible with the overall building design

D. Units designed for mixed uses, including institutional, retail, and services uses are encouraged on the ground floor of office buildings.

3.3.4. PEDESTRIAN CIRCULATION, LANDSCAPING AND AMENITY AREAS

A. Landscape design should incorporate trees and a mix of soft and hard landscaping. Existing mature trees should be retained, where possible.

B. Amenity areas, such as forecourts, courtyards and plazas should be incorporated into site design to provide gathering, outdoor seating and break areas for building employees. Amenity areas may be located at-grade or on rooftops.



Stand-alone office building with a landscaped forecourt and clear pedestrian circulation



Office building with restaurant on ground floor and amenity terraces for building users above grade

C. Pedestrian walkways should connect building entrances to parking areas, nearby transit shelters and adjacent developments.

3.3.5. VEHICULAR CIRCULATION, PARKING, LOADING AND SERVICING

A. Provide separation between vehicular routes (especially truck access/loading) and pedestrian routes on-site to avoid conflict and distinguish pedestrian routes from driving surfaces.

B. Structured parking, loading and waste storage areas are encouraged to be integrated into the building design, particularly within the Mixed Use Core and Mixed Use Transition Area.

C. Where loading and waste storage areas are located at-grade and outside a building envelope, they should be screened, separated from vehicle and pedestrian traffic, and located in interior side yards or rear yards.

D. Surface parking areas, where provided, should be located to the rear of buildings and should be designed to incorporate areas of soft landscaping, and clear, safe pedestrian routes.

E. Buildings should be designed to accommodate separated waste stream storage and collection.

F. Pick-up and drop-off access and short-term delivery areas should be provided at the side or rear of buildings, or in lay-by zones within the on-street parking lane, where provided.

3.4. Industrial Buildings

Industrial buildings will be located within the Light Industrial and General Industrial land use designations. Light industrial uses are also permitted within the Business District. Industrial buildings generally have large footprints and may be up to 4 storeys in height.

When located within the Business District, light industrial buildings will follow the guidance in Section 3.3 and should be designed to be compatible with, and sensitive to, the variety of uses permitted in that area.

3.4.1. GENERAL SITE AND BUILDING DESIGN

A. In general, industrial buildings should be located to frame public streets, with parking, loading, servicing and other functions located to the side or rear, with the exception of short-term visitor parking and delivery drop-off, and accessible parking.

B. Buildings should be massed and located to provide visual and physical separation from adjacent uses, allow for landscaping and screen mechanical and service areas.

C. Administration, office or retail components of industrial buildings should be located along the primary street edge and should be designed to address the street and provide direct pedestrian entry from the street or customer/visitor parking areas.

D. Building facades may be set back further from the property line to allow for generous soft and hard landscaping and tree planting along site edges. Generally, front yard setbacks should be a minimum of 6 metres and a maximum of 18 metres where front yard parking is provided.

E. Sites should be designed to integrate natural constraints and features on the site, where applicable.

F. Building design should, where possible, incorporate sustainable building features, such as water collection and storage, photovoltaic applications, green roof design, high albedo surfaces and extended eaves for sunshade.

G. Industrial sites consisting of multiple buildings should consider establishing a micro-grid system using renewable and low-carbon sources of energy.



Highly transparent facade with administrative space, accessible parking and bicycle parking located at main building entrance

3.4.2. FACADES AND ENTRANCES

A. Establish well-defined main entrances oriented to the public road, with weather protection.

B. Building facades containing office or retail components should contain a high degree of transparency and working windows to allow for views and access to natural ventilation and daylight for employees.

C. Building signage should be designed to be compatible with the overall building design and character.

3.4.3. PEDESTRIAN CIRCULATION, LANDSCAPING AND AMENITY AREAS

A. Landscape design should incorporate trees and a mix of soft and hard landscaping. Existing mature trees should be retained, where possible.

B. The edges of industrial sites should incorporate soft landscaping, attractive fencing and tree planting to act as a visual screen. Landscape buffers should be a minimum of 3 metres wide.

C. Employee and visitor amenities should be located in convenient locations, close to building entrances.

D. Clear, direct and accessible walkways should be provided from the public sidewalk to the main entrance of buildings.



Naturalized stormwater management feature integrated into industrial site design



Clearly delineated walkway through a parking area

E. Pedestrian walkways should connect building entrances to parking areas, nearby transit shelters and adjacent developments.

F. Green infrastructure should be incorporated within industrial sites, where feasible, including Low-Impact Development (LID) practices such as using native and drought resistant vegetation; minimal maintenance design; bioswales; and impervious paving materials in appropriate locations.

3.4.4. VEHICULAR ACCESS, PARKING, LOADING AND SERVICING

A. Provide separation between vehicular routes (especially truck access/loading) and pedestrian routes on-site to avoid conflicts and distinguish pedestrian routes from driving surfaces.

B. Surface parking areas should be designed to incorporate areas of soft landscaping, and clear, safe pedestrian routes.

C. Loading and waste storage should be enclosed within the building envelope. Where this is not possible, they should be screened, separated from vehicle and pedestrian traffic, and located in interior side yards or rear yards.

D. Vehicular circulation areas should be designed to manage dust and mud tracking where appropriate.

E. Outdoor storage, where permitted, as well as utilities and mechanical systems, should be screened with walls or landscaping.

4

PUBLIC REALM GUIDELINES

The public realm is comprised of interconnected places and spaces that are available for use by everyone for everyday life – streets, parks, other open spaces, multi-use paths and trails, and community facilities. The public realm collectively will play a crucial role in defining the structure, identity and character of CTOC. A successful public realm consists of well-designed spaces that provide engaging places for social interaction and community life, support commercial vitality, encourage outdoor activity, and maintain the ecological well-being and hydrological function of the community.

4.1. Road Network and Block Pattern

The layout of roads and blocks provides the framework for development and circulation patterns, for all modes of travel. The following guidelines apply to the design and layout of all existing and planned roads within the CTOC community.

A. Roads should be designed to reflect complete street design principles, balancing the needs of all users.

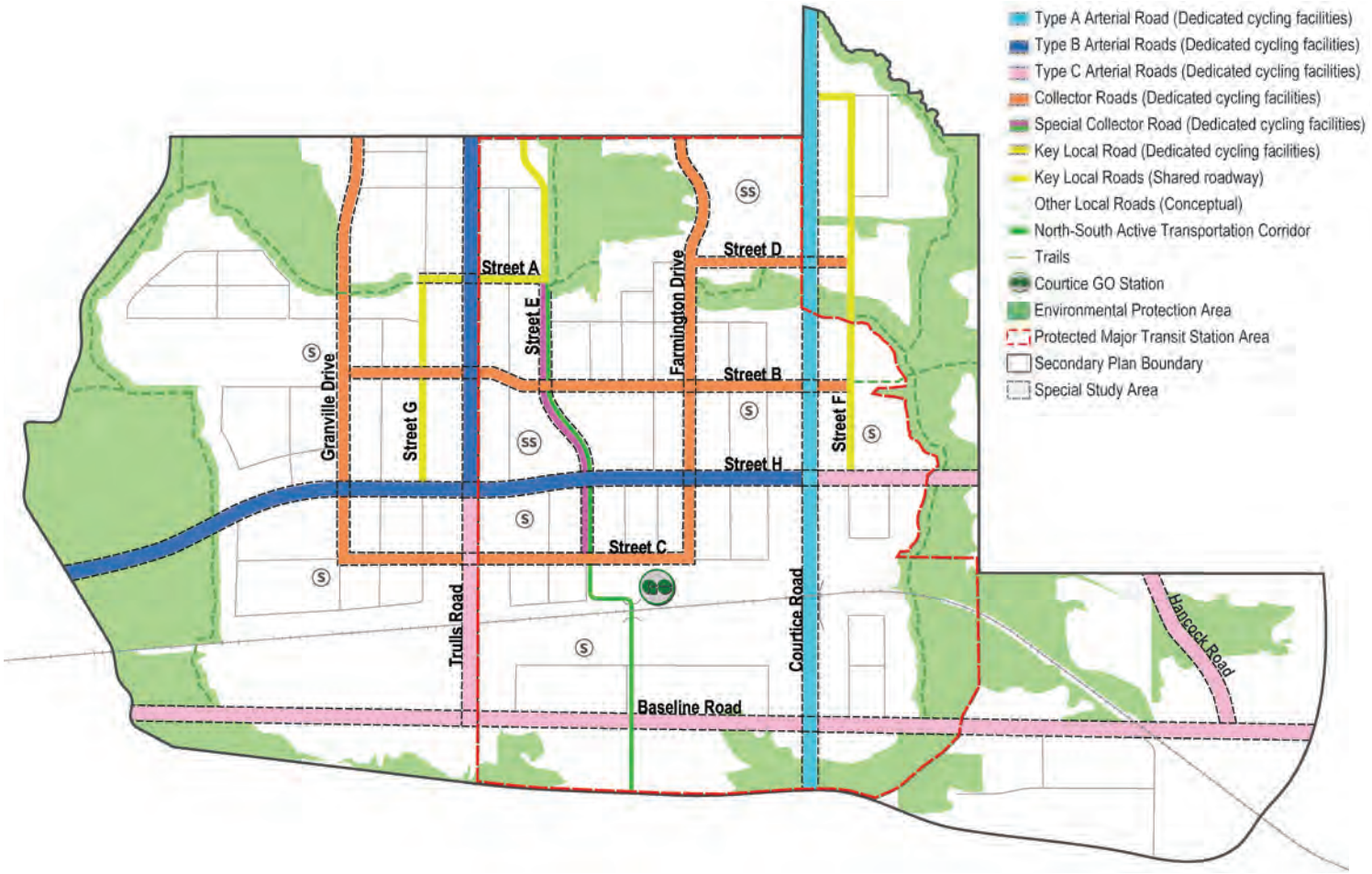
B. Roads should form an interconnected network and grid pattern across the CTOC Area. Figure 2 conceptually illustrates how local roads can contribute to a grid network; however, it is not intended to be prescriptive with respect to the layout of local roads, with the exception of Key Local Roads.

C. Blocks should generally have a maximum length of 300 metres. Where block lengths exceed 200 metres, mid-block pedestrian connections should be provided.

D. Variation in block sizes is encouraged where they facilitate the development of a mix of building typologies.

E. Cul-de-sacs are generally discouraged as they reduce connectivity, increase walking distances and typically result in streetscapes dominated by driveways and garages. Where cul-de-sacs are unavoidable, pedestrian connectivity should be prioritized.

F. Rear laneways are encouraged throughout the CTOC Area to provide for access to parking, servicing and loading off public streets.



Road and Active Transportation Network

4.2. Road Hierarchy

The transportation network in CTOC will take a complete streets approach to support a vibrant, walkable, mixed-use community and facilitate the efficient movement of pedestrians, cyclists, transit and private vehicles.

The road network will prioritize connectivity and supporting a comfortable public realm. The road hierarchy consists of the following street types, with typical cross-sections shown in the following pages:

- Arterial Roads
- Collector Roads
- Local Roads
- Key Active Transportation Connections
- Rear Lanes

In addition to Key Active Transportation Connections, the broader active transportation network consists of:

- Other multi-use paths
- Bike lanes
- Sidewalks
- Trails

The guidelines in this section should be read in conjunction with Section 3: Private Realm Guidelines to understand the relationship between the transportation network and intended built form.

A. Roads within the CTOC Area will all be designed to balance the needs, safety and comfort of all users, while being designed to prioritize safety for the most vulnerable users.

B. The width of the right-of-way dedicated to vehicular movement should be minimized, offering ample room for cycling and pedestrian infrastructure as well as planting and furnishing areas.

C. Landscaping should allow for adequate soil volumes for mature street tree growth within and on both sides of the public right-of-way.

D. Boulevard landscaping should consider opportunities to incorporate low impact development features, including road-side bioswales, rain gardens or the use of permeable pavers, where appropriate.

E. Permeable pavers should not be used for the public sidewalk or portions of other public space with high pedestrian traffic.

F. Curb extensions or bump-outs may be provided at key intersections with higher pedestrian volumes.



Local Road and streetscape alongside an urban institutional use



Road and streetscape designed to prioritize pedestrian movement in mixed use urban area



Example of grid pattern of streets and blocks



4.2.1. ARTERIAL ROADS

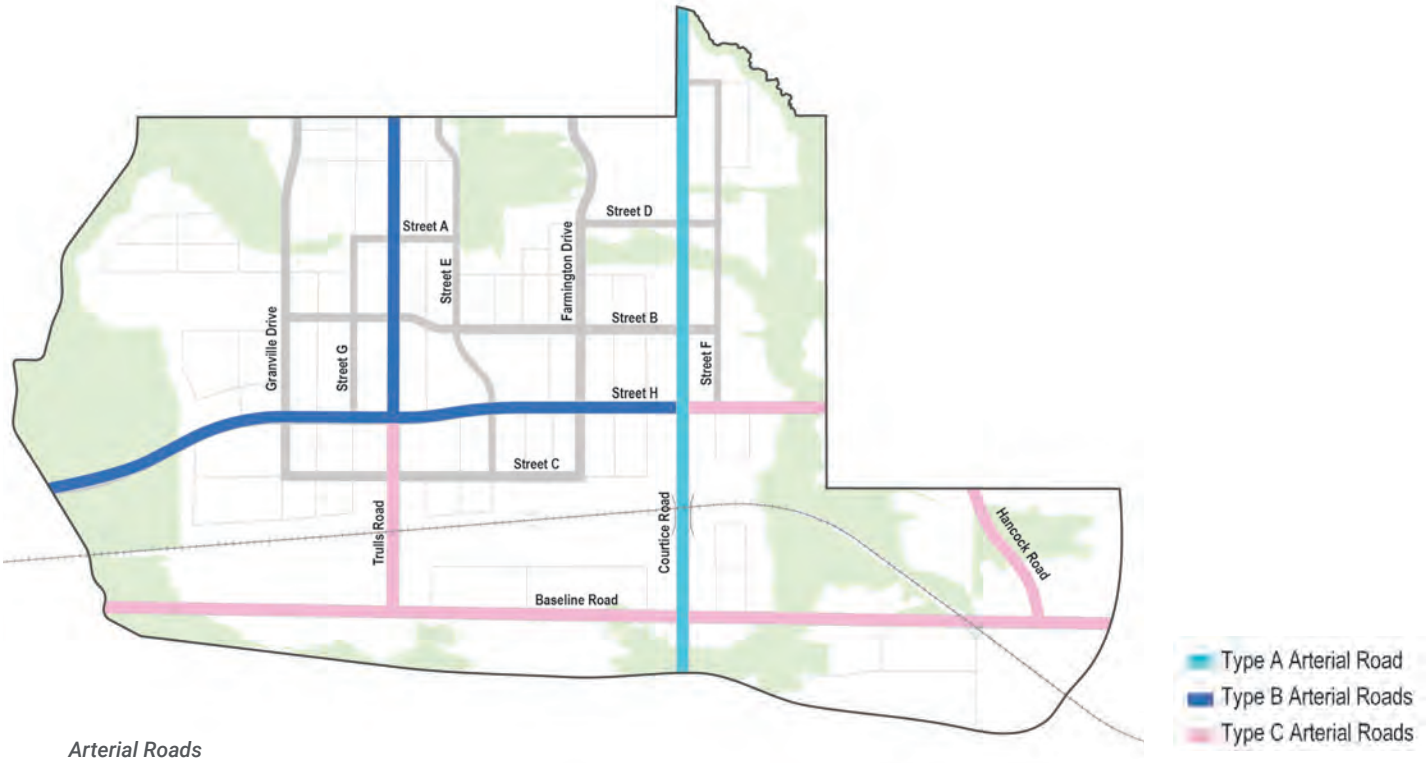
Arterial Roads are intended to support high-density, mixed-use developments, as well as office and employment lands in the south of the CTOC Area. Arterial Road design must ensure a balance between the efficient movement of vehicles and transit and the comfort and safety of pedestrians and cyclists. Given the role of Arterial Roads to move vehicular traffic efficiently to and through the community, driveway access from Arterial Roads shall be restricted except where unavoidable.

The following guidelines generally conform to the Region of Durham's Arterial Corridor Guidelines for Regional Corridors and provide further guidance to achieve complete streets and the intended character and public realm for the different road types.

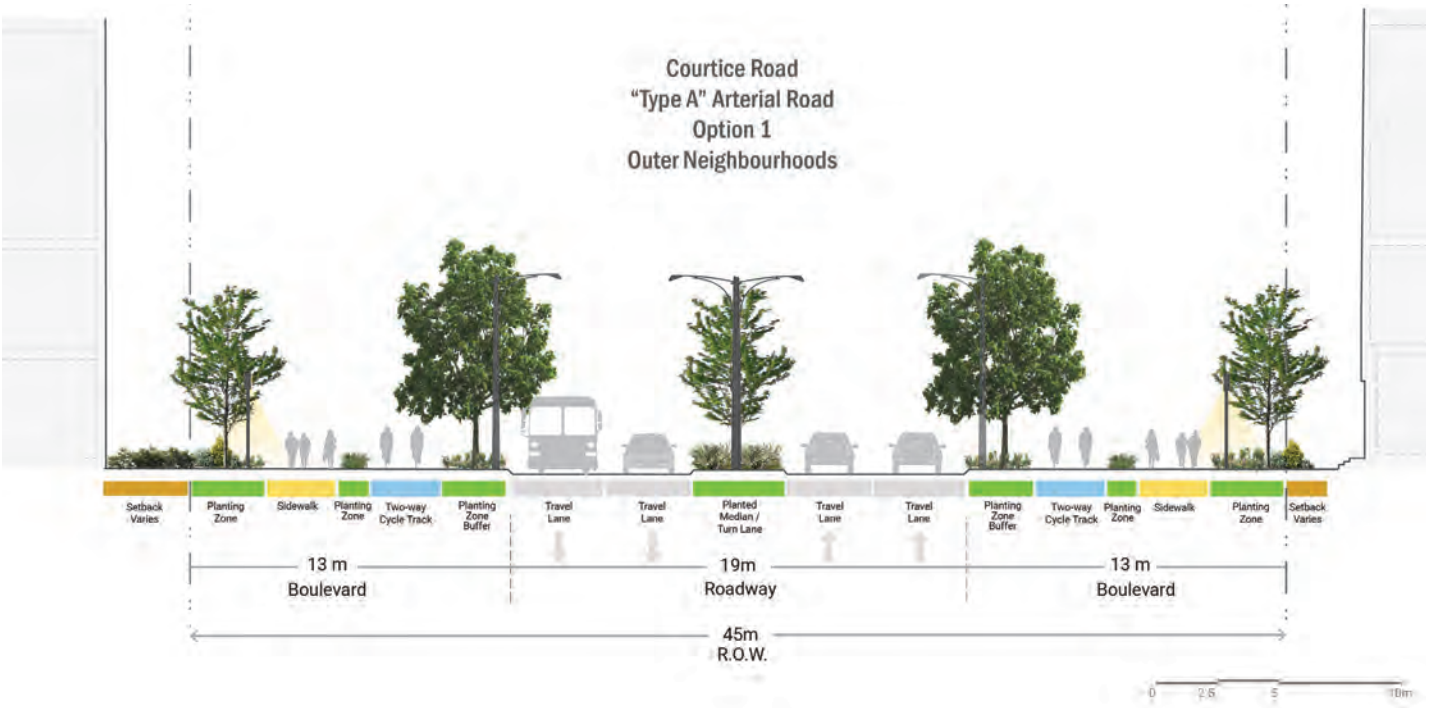
TYPE A ARTERIAL (COURTICE ROAD)

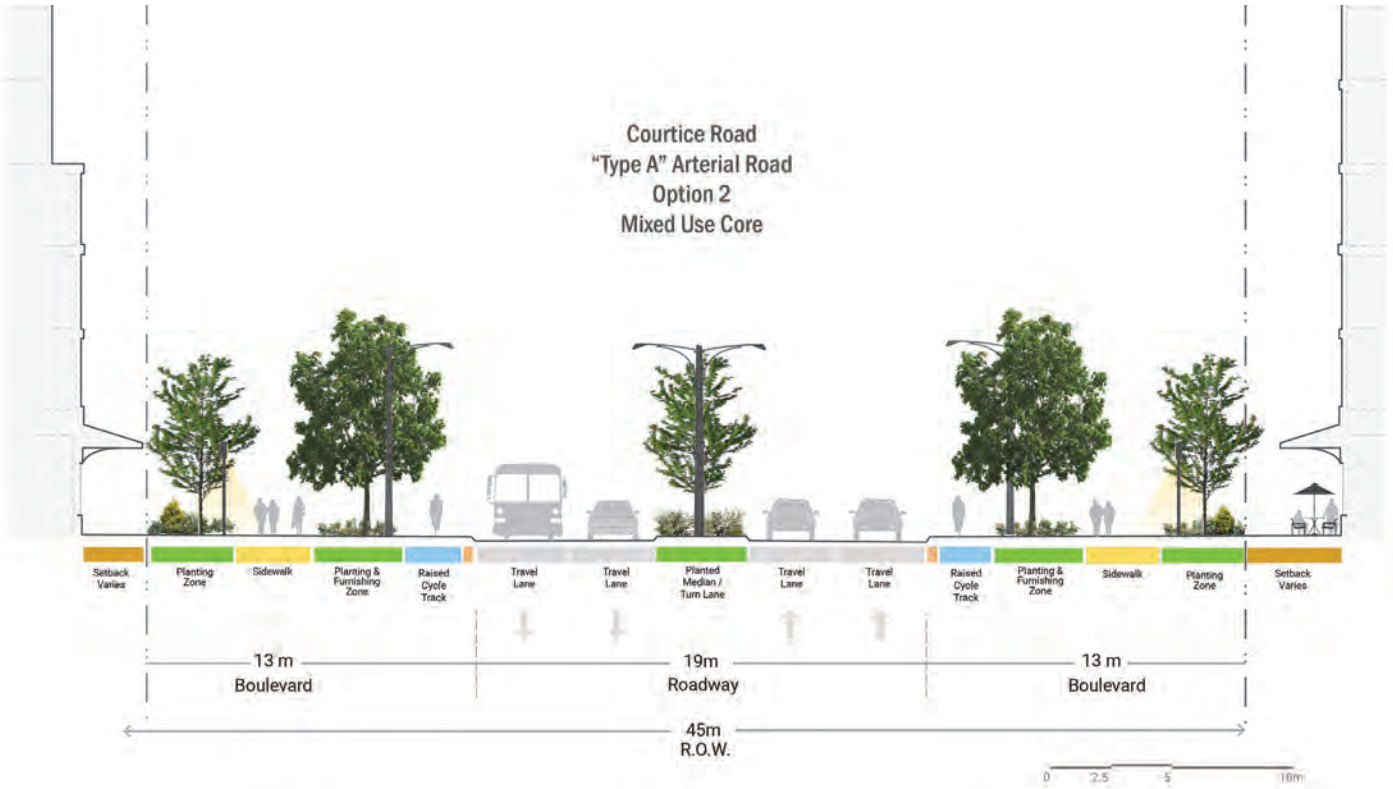
Courtice Road is identified as a Type A Arterial, providing a direct north-south connection through the community, from Highway 401 and the waterfront to Southeast Courtice, Bloor Street and beyond. Courtice Road will have a right-of-way width up to 45 metres to accommodate two vehicular lanes in each direction, turning lanes where required, cycling facilities, sidewalks, street trees and other plantings.

As shown in the Option 1 cross-section on the facing page, Courtice Road should have bi-directional cycle tracks (bike paths) on both sides, separated from a sidewalk by a planting strip. This will allow cyclists to travel north or south without having to cross an intersection. Alternatively, as shown in the Option 2 cross-section, one-way cycle tracks can be located adjacent to the curb to provide further separation from pedestrians. This option may be appropriate where the road travels through commercial areas, but it is less preferred.



Arterial Roads

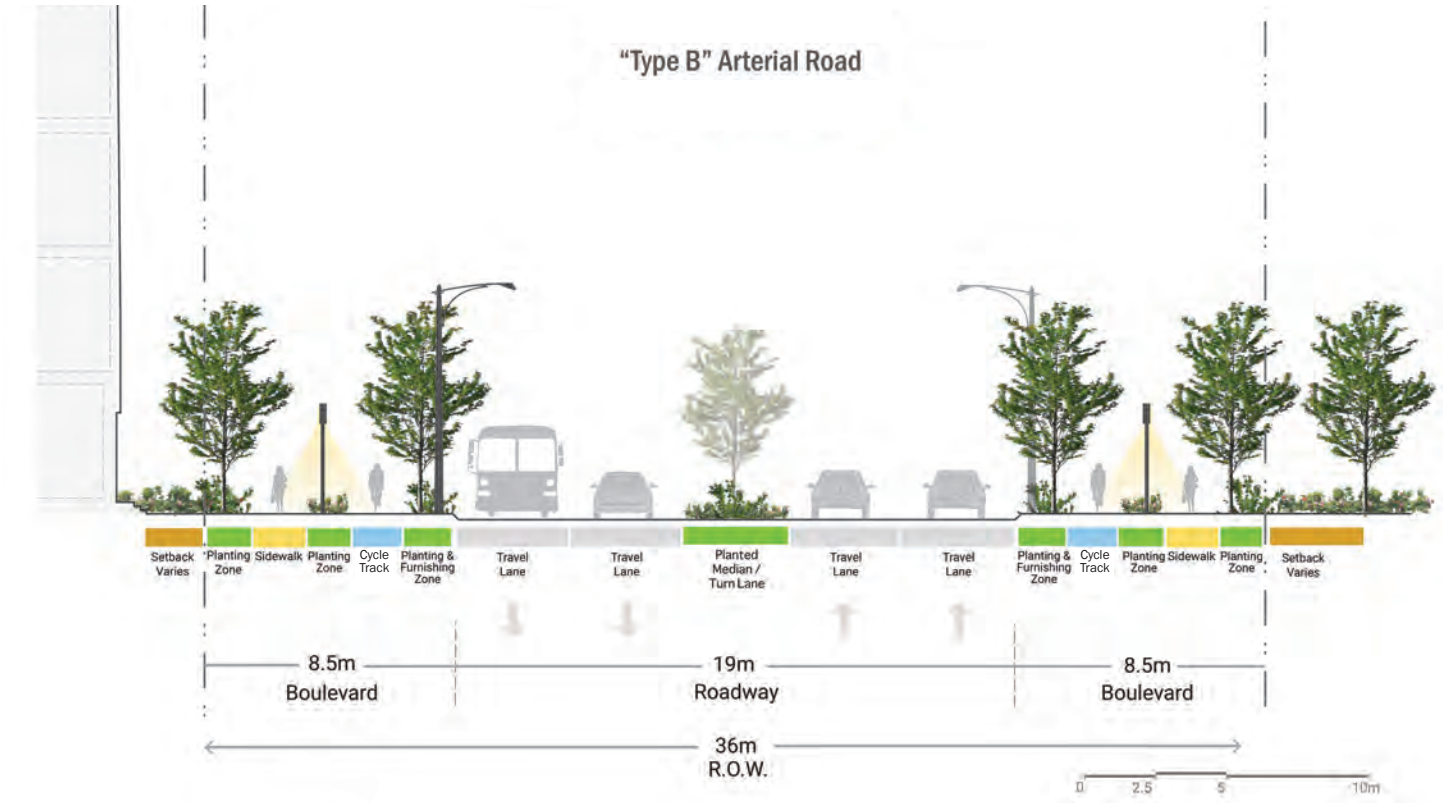

Courtice Road
"Type A" Arterial Road
Option 1
Outer Neighbourhoods
Setback Varies
Planting Zone
Sidewalk
Planting Zone
Two-way Cycle Track
Planting Zone Buffer
Travel Lane
Travel Lane
Planted Median / Turn Lane
Travel Lane
Travel Lane
Planting Zone Buffer
Two-way Cycle Track
Planting Zone
Sidewalk
Planting Zone
Setback Varies
13 m
Boulevard
19m
Roadway
13 m
Boulevard
45m
R.O.W.
0
2.5
5
10m


Courtice Road
"Type A" Arterial Road
Option 2
Mixed Use Core
Setback Varies
Planting Zone
Sidewalk
Planting & Furnishing Zone
Raised Cycle Track
Travel Lane
Travel Lane
Planted Median / Turn Lane
Travel Lane
Travel Lane
Raised Cycle Track
Planting & Furnishing Zone
Sidewalk
Planting Zone
Setback Varies
13 m
Boulevard
19m
Roadway
13 m
Boulevard
45m
R.O.W.
0
2.5
5
10m



TYPE B ARTERIALS

Street H and Trulls Road north of Street H are identified as Type B Arterials that act as major connections through the community and the wider Courtice area. Type B Arterials will feature a right-of-way width up to 36 metres, including two vehicular lanes in either direction, street trees, plantings and sidewalks on both sides. The boulevards will be wide enough to also accommodate dedicated bike paths on both sides; alternatively, multi-use paths could replace the sidewalks and bike paths.

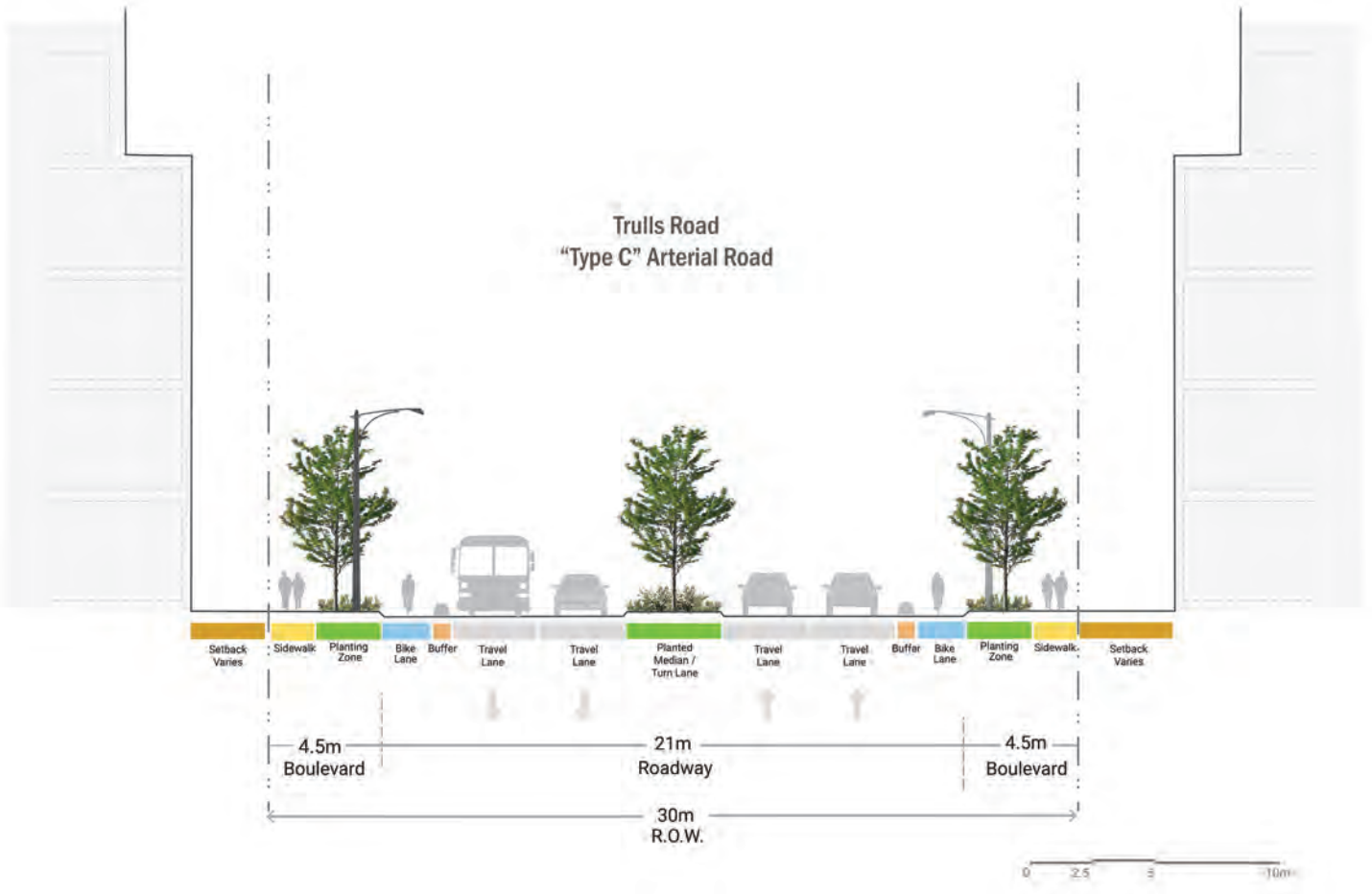


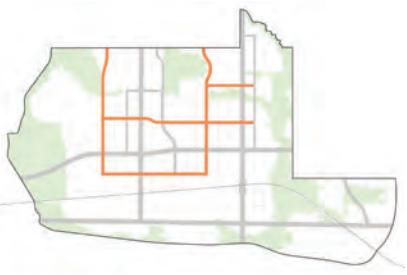


TYPE C ARTERIALS

Baseline Road, Trulls Road south of Street H, Street H east of Courtice Road and Hancock Road will be Type C Arterials. These roads will feature a right-of-way width up to 30 metres, which will accommodate two vehicular lanes in either direction, street trees, plantings and sidewalks on both sides, and bike lanes. There will also be an opportunity to accommodate a landscaped median, which can give way to turning lanes at intersections.

Raised separators should be included to enhance safety for cyclists; alternatively, raised cycle tracks at the curbs could replace on-road bike lanes, increasing the boulevard widths to approximately 6 metres. Multi-use paths on both sides can also be considered.





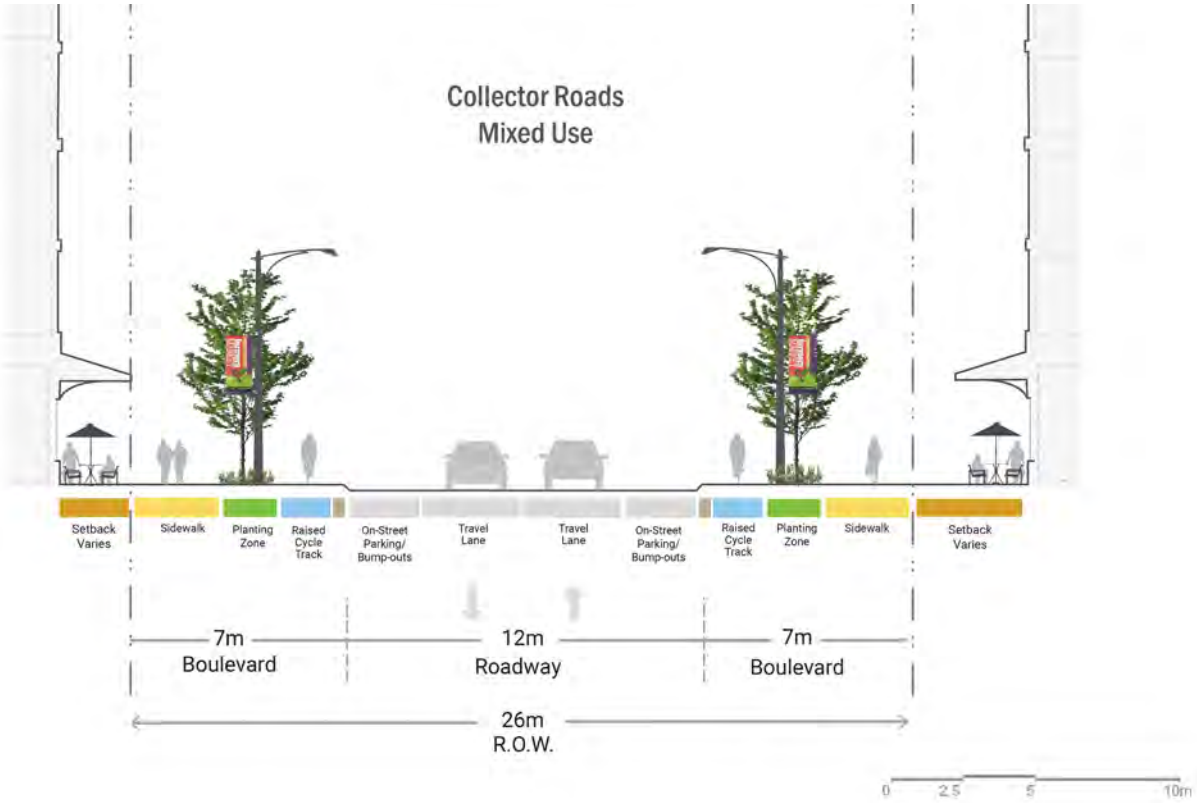
4.2.2. COLLECTOR ROADS

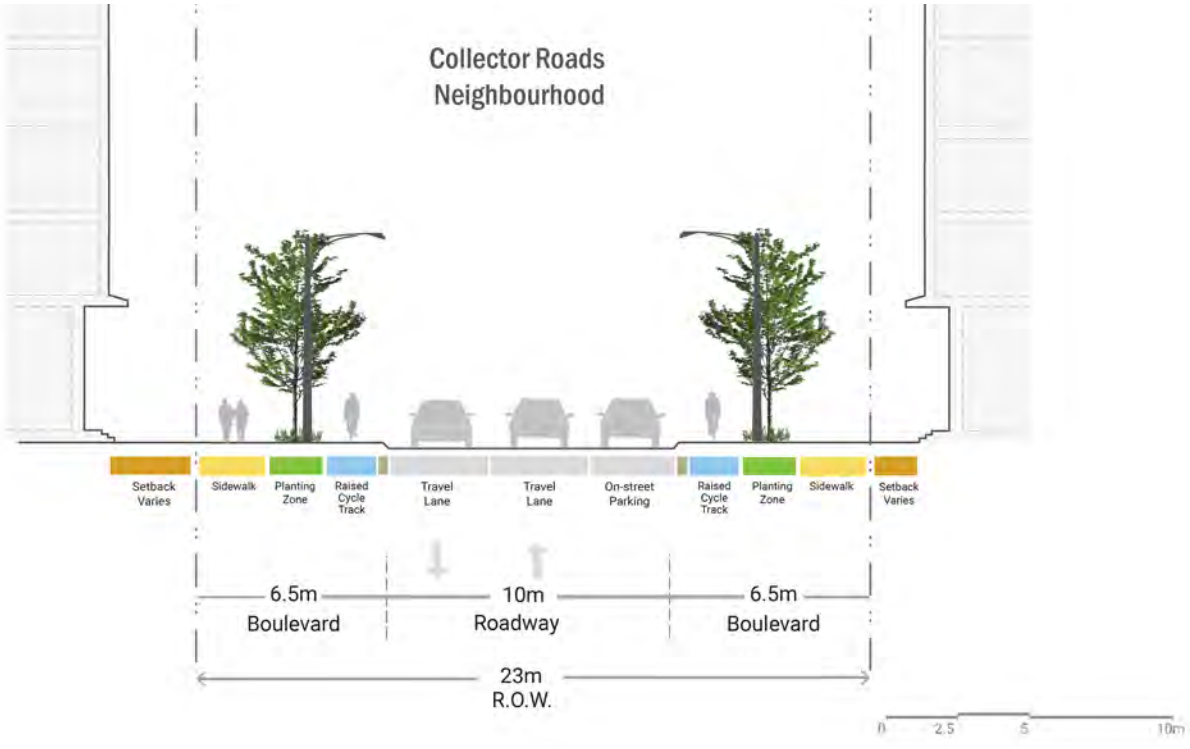
Granville Drive, Farmington Drive, and Streets B, C and D will function as Collector Roads, providing connections between Arterial Roads and Local Roads. Collector Roads will feature right-of-way widths of 23-26 metres and will have a single travel lane for traffic in each direction.

Two types of Collector Roads are planned for CTOC. Neighbourhood collectors should have a right-of-way of 23 metres to accommodate a 10-metre roadway with space for on-street parking on one side. Boulevards of approximately 6.5 metres should accommodate on both sides a raised cycle track near the curb, a landscape strip for street trees and a sidewalk.

Mixed-use collectors will be sections of Collector Roads where commercial uses are planned in the Mixed Use Core and Mixed Use Transition areas. The should have a right-of-way of 26 metres to accommodate parking on both sides within a 12-metre roadway. Boulevards of approximately 7 metres should be similar to those of neighbourhood collectors but with slightly wider sidewalks.

On both neighbourhood and mixed-use collectors, bump-outs should be incorporated, particularly at intersections, to accommodate additional landscaping, street furniture, bio-swales and transit shelters, and to calm traffic.


Collector Roads
Mixed Use
Setback Varies
Sidewalk
Planting Zone
Raised Cycle Track
On-Street Parking/ Bump-outs
Travel Lane
Travel Lane
On-Street Parking/ Bump-outs
Raised Cycle Track
Planting Zone
Sidewalk
Setback Varies
7m
Boulevard
12m
Roadway
7m
Boulevard
26m
R.O.W.
0
2.5
5
10m


Collector Roads
Neighbourhood
Setback Varies
Sidewalk
Planting Zone
Raised Cycle Track
Travel Lane
Travel Lane
On-street Parking
Raised Cycle Track
Planting Zone
Sidewalk
Setback Varies
6.5m
Boulevard
10m
Roadway
6.5m
Boulevard
23m
R.O.W.
0
2.5
5
10m



4.2.3. SPECIAL COLLECTOR ROAD

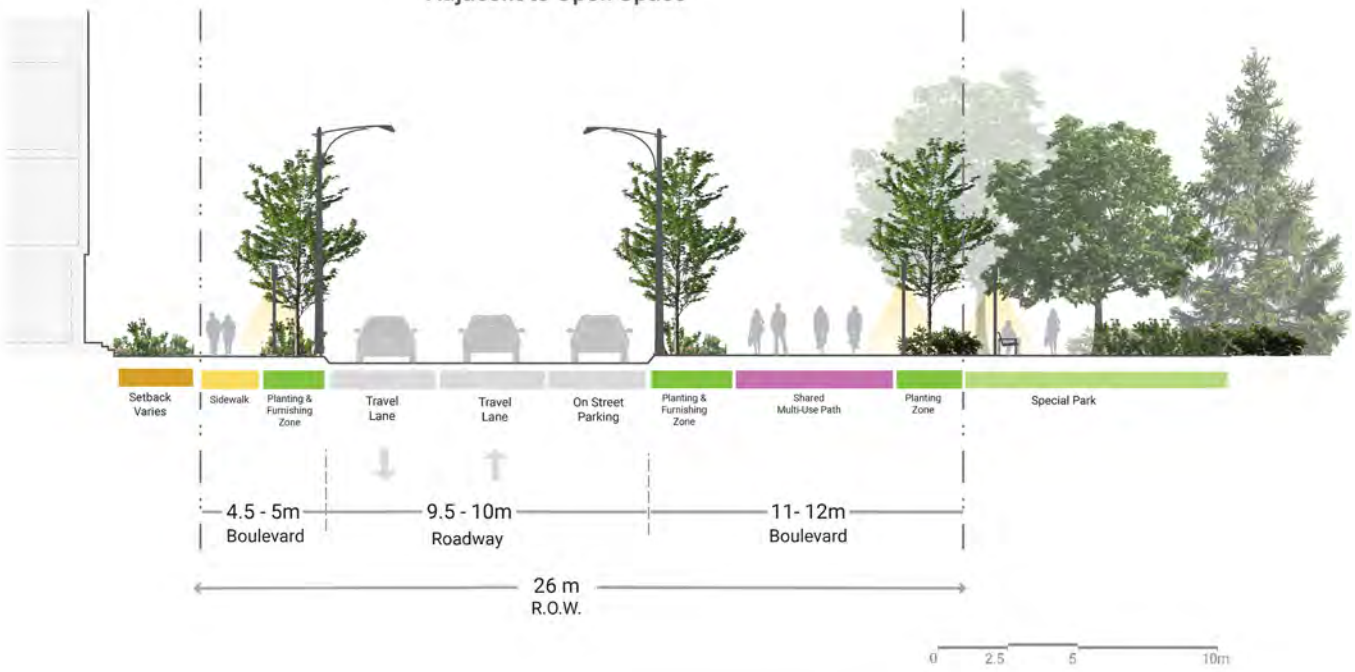
Street E will play a special role in CTOC as a Collector Road for drivers and cyclists and a landscaped green north-south spine providing direct connections to the future Courtice GO Station and ultimately to the Courtice Waterfront. Street E should have a right-of-way of 26 metres to accommodate a roadway of 9.5-10 metres, which will provide space for parking parking on one side, and boulevards of 4.5-5 metres on the west side and 11-12 metres on the east side. The wider east boulevard will accommodate a multi-use path of 5-6 metres between two rows of trees and other landscaping. Benches and other pedestrian amenities should also be provided in the landscape zones. Driveways crossing the multi-use path should be avoided.

Where Street E is adjacent to parks or other public open spaces, the path may meander and be partially located within the open space. Striping or differentiated paving should be used to delineate zones for pedestrians and cyclists.

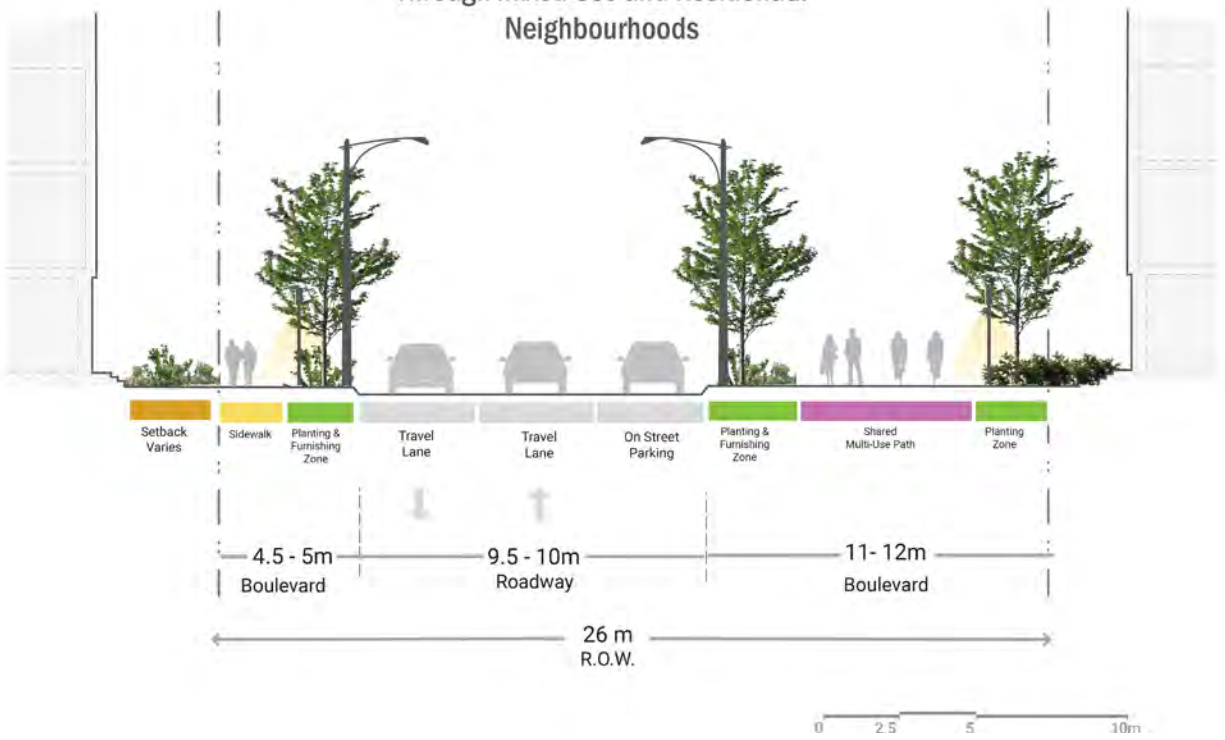


Wide multi-use path adjacent to road

Special Collector Road Adjacent to Open Space



Special Collector Road Through Mixed Use and Residential Neighbourhoods



4.2.4. LOCAL ROADS

Most development in CTOC will be directly accessed via Local Roads, which will be designed to create intimate, low-speed, pedestrian-priority streetscapes that encourage walking and allow cyclists to share the roadway with vehicles. An interconnected grid-like network of Local Roads will be designed to weave together the community with short walkable blocks. Most Local Roads will require a right-of-way of 18-20 metres to accommodate underground utilities, a single travel lane in each direction and parking on one side. Both sides will have sidewalks and preferably street trees.

Local Roads in areas of medium-density and high-density housing, particularly where commercial uses are clustered may require on-street parking on both sides of the street, in which case the right-of-way should be a minimum of 20 metres.

Key Local Road A, also identified as a Key Active Transportation Connection, should have a right-of-way of 22-23 metres to accommodate dedicated cycling infrastructure. The design of this road should be guided by the cross-section for neighbourhood Collector Roads.



Local road in a low-density neighbourhood



Local road in a high-density neighbourhood

4.2.5. REAR LANES

Rear Lanes support safe and attractive public streets by providing access to driveways, garages, loading and servicing and other back-of-house uses away from the street-facing frontage. Public Rear Lanes also provide alternative pedestrian routes through a community and, in areas of street townhouses and detached and semi-detached houses, may facilitate additional dwelling units, i.e., laneway housing.

A. Rear Lanes should allow for two-way vehicular travel and incorporate a setback on either side of the right-of-way to the adjacent garage or parking pad.

B. Rear Lanes should be prioritized where development fronts onto an Arterial or Collector Road and for townhouse developments.

C. Rear Lanes should provide access for service and maintenance vehicles for required uses as deemed necessary by the Municipality. They may include enhanced laneway widths and turning radii to accommodate municipal vehicles, including access for snowplows, garbage trucks and emergency vehicles.

D. Loading areas for apartment, office and mixed-use buildings should be accessed from Rear Lanes, wherever possible.

E. Lanes shall be clear of overhead obstructions and shall be free from overhanging balconies and other encroachments.

F. Rear Lanes should be graded to channelize snow-melt and runoff.

G. The design of Rear Lanes should incorporate appropriate Low-Impact Development measures, including permeable paving where sufficient drainage exists.

H. Appropriate lighting should be provided to contribute to safety in Rear Lanes for all users.



Rear lane providing access to servicing at the rear of a mid-rise building



Rear lane serving medium-density development

4.2.6. BROADER ACTIVE TRANSPORTATION NETWORK

The CTOC Secondary Plan Area will promote the use of alternative modes of transportation through specific infrastructure designed to create a comfortable, well connected and safe environment. The active transportation network is intended to be inclusive for all users and abilities, encompassing pedestrian, cycling and trail networks.

A. The active transportation network will be interconnected and complement the road network to minimize travel distances for pedestrians and cyclists.

B. Sidewalks, cycling infrastructure and trails should be located to connect major destinations, neighbourhood facilities such as parks and community facilities, the GO station and transit stops.

C. Infrastructure should promote improved safety and visibility of vulnerable road users.

D. Pedestrian-activated signals or crosswalks should be provided at major crossings or signalized intersections.

E. Planting and furnishing zones within the road right-of-way should be designed to act as a buffer between different modes of movement, while maintaining clear sight lines and visibility.

F. Planting and furnishing zones within the road right-of-way should provide space for pedestrian amenities such as seating, transit shelters and active transportation facilities such as bicycle racks.

G. Active transportation facilities should be designed to facilitate winter maintenance, including snow storage.

H. Wayfinding methods that include signage should be implemented to direct users at key intersections, landmarks, and attractions.

I. The active transportation network should connect to and through both the public and private realms, incorporating mid-block connections and privately owned but publicly accessible spaces.



On-road cycling facility with a physical buffer

CYCLING INFRASTRUCTURE

J. Where shared multi-use paths are provided for cycling, a generous width of at least 3 metres should ensure safety for all modes of movement.

K. Dedicated cycling facilities should be separated from vehicular traffic and pedestrian zones with planting and/or furnishing zones, curbs or other physical buffers.

L. Signage and clear design treatments should indicate routes of travel for cyclists and whether facilities are shared with other users.

SIDEWALKS

M. Sidewalks should provide a well-defined, clear, predictable, and unobstructed path.

N. Sidewalks should be designed to serve all users including but not limited to children, elders, and those with accessibility needs. Grading and sloping should be minimized to facilitate ease of movement.

TRAIL NETWORK

O. Trails should be seamlessly incorporated into the active transportation and open space network.

P. Trails are generally permitted to be located within Environmental Protection Areas, subject to guidance in Section 4.7.

Q. Trails should be designed to avoid, minimize or mitigate disturbance to sensitive natural areas.

R. Trails should have multiple access points, clear wayfinding and demarcated entrances.

S. Amenities for trails, including but not limited to parking, washrooms, furniture, waste and recycling bins, signage, interpretive facilities, and lighting, are encouraged.

T. Trails should be a minimum width of 2 metres to provide barrier-free access.

U. Where trails are for multiple types of users, trails should be sized appropriately and clear signage should be provided to indicate shared or dedicated uses.

V. Trail materials should be sensitive to the preservation and protection of the surrounding natural heritage, while being designed to accommodate maintenance equipment, where required.

W. The design and construction of trails shall comply with universal accessibility standards.



Trails with mapping and a rest area

4.3. Streetscapes

Streets are more than transportation routes; they serve as places for economic activity, social interaction and community identity. Streetscape design considers the character of a street and the functions of its components within the built form and landscape setting.

Guidance in this section focuses primarily on mixed-use streets with active ground-floor uses, except where otherwise noted.

4.3.1. BUILDING INTERFACE ZONE

The building interface zone accommodates the transition between the public and private realms. Generally, the interface zone along a mixed-use street will be 1-3 metres wide.

A. A continuous streetwall of building facades should be established and maintained to provide a sense of enclosure and a backdrop to pedestrian activities.

B. Primary building facades and entrances should be oriented directly towards streets.

C. Patios and outdoor retail displays should be designed and constructed to be compatible with the surrounding streetscape elements and architectural qualities of abutting buildings. These features should not obstruct pedestrian movement.

D. Canopies and awnings should be incorporated into building facades to provide weather protection for pedestrians.

4.3.2. PEDESTRIAN ZONE

The pedestrian zone is intended for predictable, continuous, unobstructed, and barrier-free movement. The width of the pedestrian zone depends on various factors, including the function of the street, the width of the roadway, and the volume of pedestrian traffic.

A. Sidewalks should be at least 1.8 metres wide in residential areas, and at least 2.3 metres wide in mixed-use areas.

B. Continuous, unobstructed, and barrier-free sidewalks should be provided on both sides of all streets.

C. Special paving materials or painted asphalt/concrete should be used to highlight pedestrian zones and crossings at intersections, and to generally enhance streetscapes.

D. Where warranted, curb extensions should be incorporated at intersections and mid-block locations to expand the pedestrian zone, shorten crossings, provide additional pedestrian queuing space, and accommodate transit facilities.

4.3.3. PLANTING AND FURNISHING ZONE

The planting and furnishing zone helps to create an inviting, comfortable pedestrian environment and allows for soft landscaping and tree planting to mitigate the urban heat island effect, enhance biodiversity and support stormwater management. It also provides a buffer between the pedestrian zone, cycling facilities and the roadway.

A. Street trees should be native and non-invasive species, well suited to harsh urban conditions and of medium to large stature. Seed-dropping plants along barrier-free paths should be avoided, and pollinator species are encouraged.

B. Adequate soil volumes, good soil structure, proper drainage and, where possible, irrigation should be provided to support the long-term health of street trees. Where street trees are desirable in locations with limited surface areas, soil cell systems should be used.

C. Where warranted, the installation of street trees with continuous soil trenches, advanced rooting techniques where soil volume targets cannot be achieved with traditional planting methods, and/or drainage systems is recommended.

D. Street tree should be planted to avoid conflicts with utilities and located far enough away from obstructions and building faces to all for growth to maturity.

E. A flexible tree planting spacing rhythm or pattern should be established to adapt to the function of the streetscape. Where possible, groupings of street tree plantings should be integrated without impeding transit facilities, pedestrian circulation and street furniture.

F. Planting beds should be incorporated into street tree planting areas or designed as stand alone greening features.

G. Street furniture and wayfinding elements should be used to support a comfortable environment, reinforce a sense of place and aid navigation.

H. Streetlight standards that include fixtures for the both roadway and sidewalk should be selected to minimize the number of poles needed for adequate lighting.

I. Where warranted, supplemental pedestrian-oriented lighting standards should be incorporated to illuminate primary walkways and wider sidewalks.



Pedestrian clearway and coordinated street furnishings alongside an Urban Square and mixed use building



Generous and distinctive pedestrian, planting and furnishing zones in a mixed use area as well as curb extensions

J. Municipal standards will guide street lighting, emphasizing downward illumination to reduce light pollution and preserve dark night skies.

K. Public bicycle parking facilities should be located within the planting and furnishing zone, close to transit stops, building entrances, and parks and open spaces. Where space permits and activity levels warrant, these facilities can be located within the building interface zone.

L. The integration of public art into streetscape elements should be considered.

M. Transit stops and shelters should be located in convenient and barrier-free locations, and should consider passenger pick-up and drop-off.

N. Transit shelters and seating should be provided at all transit stops on Arterial Roads and at transit stops at the intersections of two Collector Roads.

4.3.4. CURB ZONE

The curb zone accommodates utilities and provides for pedestrian movement between parked vehicles and the pedestrian path. The pedestrian and planting/furnishing zones may encroach into the curb zone when additional buffering is needed in high traffic areas or where an extension of the pedestrian environment is necessary.

A. Utilities and their associated equipment should generally be located underground.

B. Above-ground utilities, where required, should be integrated within the streetscape design or screened from view from the public realm.

C. Barrier-free curb ramps with detectable warning surfaces should be provided at all intersections.

4.4. Transit Facilities Zone

The Transit Facilities Zone surrounds the GO Station and will act as the central location for major transit facilities and supportive uses associated with station. It will include the GO Station itself, a bus terminal, commuter parking areas, pick-up and drop-off facilities, active transportation infrastructure, and complementary open spaces. The design of elements in this zone will prioritize transit, pedestrian and cycling movement.

4.4.1. STATION AREA LAYOUT AND ORIENTATION

The orientation and layout of station facilities should be reflective of GO Transit's access priorities and establish a clear structure around which movement and access occurs. Achieving the optimal layout and orientation of facilities within the station area is crucial to support station functions and enable the Transit Facilities Zone's full potential over time.

A. A well-structured station area should be created with the station building as the main organizing element.

B. The station area should be designed to provide obvious wayfinding, through the use of transparent building materials, clear sightlines and highly visible signage.

C. A clearly defined pedestrian plaza should be provided at the entrance to the station building. The plaza should act as the primary receiving area for pedestrians entering the station by foot, bike, bus or car. In the event that the station straddles both sides of the rail corridor, a pedestrian plaza should be provided on each side of the tracks.

D. Bus loops and passenger pick-up and drop-off areas (PPUDOs) should be located adjacent to the pedestrian plaza.

E. Landscaping should be incorporated to ensure that the station area is both attractive and comfortable for users and supportive of functional considerations such as stormwater management and snow removal and storage.

4.4.2. STATION BUILDING

A. The station building, designed as a visible landmark, should serve as the central focus for all transit-related activity in and around the broader station area.

B. As the principal interface between the user and various connecting transit services, the station building should display the highest level of pedestrian/passenger amenity and supportive services.



Station integrating multiple modes of movement and clear signage

C. The station building should be highly transparent, with extensive use of glass to provide clear sightlines between all elements of the station area, especially passenger waiting areas associated with train, bus, and PPUDO facilities.

D. The station must be designed for universal access.

4.4.3. SUPPORTING PEDESTRIAN MOVEMENT

A. Sidewalks and pedestrian pathways should be designed to be safe, clearly identifiable, and dedicated routes that are comfortable for pedestrians of all ages and abilities.

B. Pedestrian waiting areas should be designed and located to provide direct, easy pedestrian access to and from the station building.

C. Pedestrian waiting areas should be designed to maximize the comfort of waiting passengers and provide the information and resources needed to support customers and facilitate their journeys onward.

D. A clearly defined network of dedicated pedestrian pathways throughout the station area, capable of serving both walk-in users and drivers walking between their cars and the platform area, should be created.

E. Outdoor pedestrian access between the platform area and street level should be provided throughout the platform area where feasible. Retaining walls and fencing should be used sparingly unless it is being used to address operational or safety concerns.



Sheltered waiting and bicycle parking areas



Secure bicycle locker

F. Pedestrian routes within the Transit Facilities Zone should be separated from vehicular traffic routes and should be organized to create continuous direct connections between the station and area destinations.

G. Buffer zones should be provided between pedestrian routes and roadways/parking lots.

H. Vehicular routes should be designed to slow traffic and maintain clear sight lines to ensure safe pedestrian movement.

I. Pedestrian crossings should be designed to be highly visible, obstacle-free, seamlessly integrated into the pedestrian path system and designed to minimize crossing distances.

J. Crossings should be located where they can act as a direct continuation of the pedestrian path network, and should be signalized where appropriate.

K. Curb cuts should be installed at all street-level crossing points to ensure fully accessible crossings and to maintain a consistent grade for the length of the crossing.

L. Where required, pedestrian overpasses and underpasses should be designed to:

- **i.** Create clear, generous pedestrian routes that enable users to see from one side of the connection through to the other.
- **ii.** Incorporate generous lighting or use of skylights where appropriate to enhance a sense of safety
- **iii.** Provide weather protection.

4.4.4. ENHANCING ACCESS FOR CYCLISTS

Providing priority access and enhanced amenities for cyclists within the station area is an important strategy towards redistributing the modal split and reducing the need for expensive parking. Stations should promote and enhance the cycling experience by providing secure and convenient bicycle routes and secure bicycle parking facilities with a range of supportive amenities.

A. Multi-use paths should be extended into and through the station area and be sited where they will not interfere with the function and safety of passenger waiting areas or pedestrian pathways.

B. Clear and visible cycling wayfinding signage should be provided along adjacent arterials to direct cyclists towards the appropriate points of access.

C. Where the use of stairs is unavoidable along bicycle access routes, a bicycle ramp should be provided and alternative stair-free routes should be marked.

D. Dedicated, sheltered bicycle parking should be provided within the pedestrian plaza, the station building or a separate bike parking structure.

E. Bicycle parking should be located in areas where conflicts between pedestrians and cyclists will be minimized.

F. Supportive amenities such as air pumps, drinking fountains, and repair stands next to bicycle parking areas are encouraged.

4.4.5. SUPPORTING LOCAL TRANSIT

A. Station area planning should accommodate a bus terminal close to the GO station and allow for its expansion over time.

B. A generous and clearly marked pedestrian route should be provided between the bus terminal and the GO station that avoids crossing vehicular routes.

C. Canopies and other forms of weather protection should be provided for waiting passengers, as well as an appropriately sized, enclosed heated area for all-season use.

4.4.6. ACCOMMODATING TAXIS AND RIDE SHARING

A. Access to taxi service within the GO station should be provided to integrate transportation networks, allowing passengers without vehicles direct access to destinations beyond walking distance from the station or beyond the reach of local transit service.

B. Taxi stands should be located adjacent to the station plaza to enhance pedestrian accessibility and visibility.

C. The taxi drop-off and pick-up location should ideally be abutting the pedestrian plaza or a raised sidewalk to ensure passenger safety when disembarking the vehicle.

D. The taxi area should be designed for one-way traffic flow, with adequate room for stacking.

4.4.7. COMMUTER PARKING

A. Surface parking may be provided within the Transit Facilities Zone as an interim use and should be designed to be replaced over time by structured parking or other uses.

B. Where surface parking is provided, it should be designed to establish clear pedestrian pathways to and from the station building and pedestrian plaza.

C. Surface parking areas should be designed to include clear and dedicated pedestrian routes as well as landscaped areas throughout that can accommodate mature tree growth.

D. Where surface parking areas are oriented perpendicular to the rail corridor, lots should be located on either side of the primary access drive, lined with sidewalks and pedestrian amenities. Where surface parking areas are oriented parallel to the rail corridor, a clear pedestrian path should also be created running along the "bottom" of the lot between the rail corridor and the parking areas.

4.5. Parks and Open Spaces

The parks and open space system is a fundamental organizing element for the CTOC Area and serves a critical role in providing recreational amenities, green spaces, play areas and connectivity throughout the community. Parks and open spaces will contribute to the area's identity and will be strategically located to ensure convenient access for all residents and employees within the CTOC Area. A hierarchy of parks and open spaces throughout CTOC will support a balanced distribution of facilities and activities across the area.

4.5.1. GENERAL GUIDELINES

A. The CTOC Secondary Plan identifies the location and general size and configuration of four Neighbourhood Parks and a central "Special Park". The precise location, size and configuration of other Neighbourhood Parks and Parkettes will be determined through plans of subdivision.

B. Park sizes will be as follows:

- **i.** Special Park: Minimum 2.5 ha
- **ii.** West Neighbourhood Park: Minimum 2.5 ha
- **iii.** North Neighbourhood Park: Minimum 2.0 ha
- **iv.** East Neighbourhood Park: Minimum 1.5 ha
- **v.** Central Neighbourhood Park: Minimum 1.5 ha
- **vi.** Other Neighbourhood Parks: Minimum 1.0 ha
- **vii.** Parkettes: 0.5 to 1.0 ha
- **viii.** Urban Squares: less than 0.5 ha

C. Parks should be located and oriented to be:

- **i.** Uninterrupted by major physical barriers, such as rail lines, roads, and other physical barriers that restrict access;
- **ii.** Accessible by transit, bicycle and walking;
- **iii.** Highly visible with prominent public street frontages;
- **iv.** Connected to other parks, open spaces, and natural features through the active transportation network.

D. Parks should be designed to maintain existing natural features, topography and trees.

E. Where buildings or structures that support the function of parks and open spaces are proposed within parks and open spaces, they should be sited and designed to:

- **i.** Incorporate public amenities, including year-round public washrooms and public art, to enhance the user experience;
- **ii.** Enhance open space linkages, public access, visibility and effective use of the park or open space.

F. Parks should include furnishings such as benches, seating, tables and secure bicycle parking. These elements should be coordinated in their design and built of durable, low-maintenance materials.

G. Where possible, locate furnishings in or near natural shade or integrate shade structures to support comfort and year-round usability. Select materials and finishes that minimize heat absorption and improve thermal comfort during warmer months.

H. Parks should incorporate universal design principles and provide for a range of activities for people with disabilities.

I. Parks should be designed to incorporate best practice principles of sustainable design, including natural heritage enhancement, naturalized stormwater management features, use of native plant species, incorporation of environmental education features and use of low maintenance and energy efficient facilities and landscapes. The reclamation of stormwater to assist in the ongoing maintenance of plantings within the park is encouraged.

J. Plantings should generally consist of hardy and non-invasive native species and provide a transition between park green space and natural areas, where relevant.

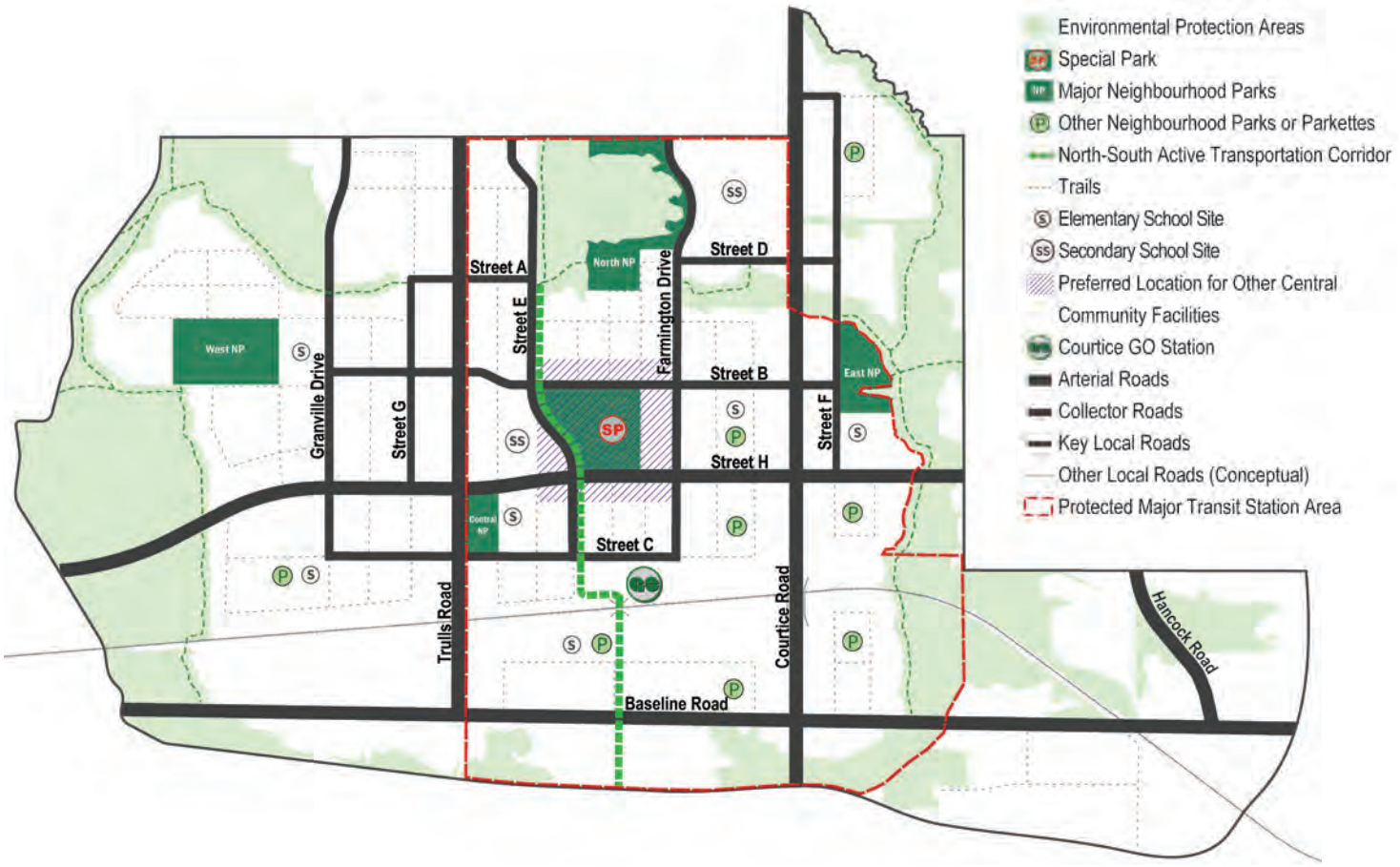
K. Public art should be integrated into the design of park facilities or landscape features, including pieces/elements that interpret the area's history and geography.

L. Utility infrastructure should be located away from park and open space frontages.

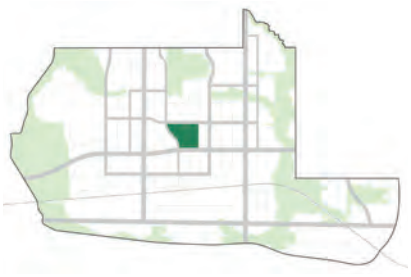
M. Alternative methods of screening or integrating utility services may be considered, including covers, wraps or public art features, in compliance with utility authority requirements.

N. Where development is proposed adjacent to parks and open spaces, it should:

- **i.** Be sited and designed to minimize shadows on the park or open space.
- **ii.** Be oriented to maximize public access and views to such spaces.
- **iii.** Present a primary façade to the park or open space.
- **iv.** Buffer private amenity space with low fencing, hedges, pathways and, where appropriate, grade changes.



Parks and Community Facilities Plan



4.5.2. SPECIAL PARK

The Special Park will be a prominent outdoor space in the heart of CTOC. It will be designed and programmed as a multi-purpose space that accommodates a range of outdoor activities and community events.

A. The Special Park will have street frontage on at least three sides to ensure it is highly visible and accessible and park users feel safe.

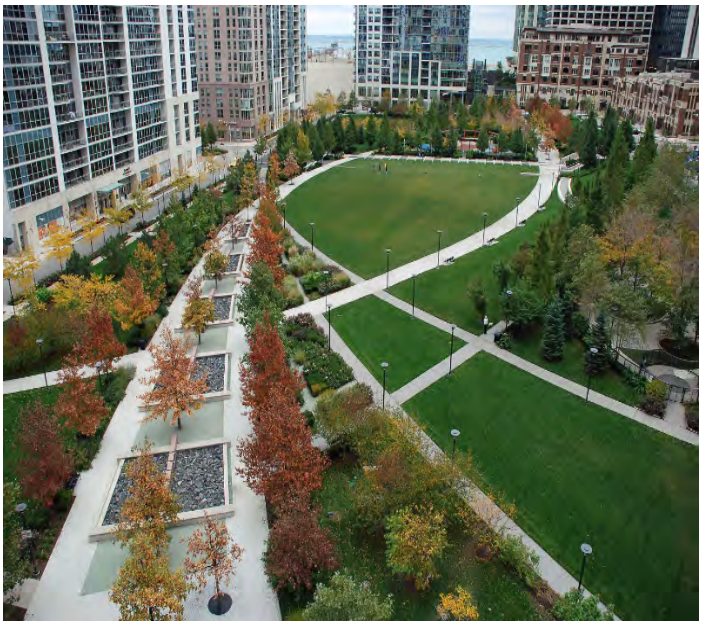
B. Most of the park should be vegetated with trees, lawns and gardens. Hardscaped areas should be integrated to support casual gatherings, special events, and seasonal food vendors/kiosks

C. For maximum programming flexibility, the park should not include baseball diamonds, soccer pitches or other sports fields. Grassy areas, however, should allow for casual games.

D. A playground for children of all ages should be included, and small dog park may also be considered.

E. Smaller recreations facilities, such as a skating rink, a splash pad, a basketball court, tennis/paddle board courts (maximum 2) and a skateboard park may be considered

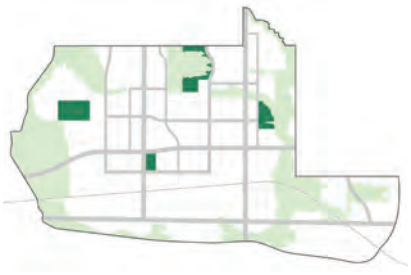
F. The park may also include a community facility, such as a recreation centre, club house or library, provided the building and any associated parking/servicing areas do not occupy more than approximately 20% of the park.



Central multi-purpose park serving a high-density neighbourhood



Community park integrating gathering spaces, gardens, lawns and a library



4.5.3. NEIGHBOURHOOD PARKS

Neighbourhood Parks serve as social and recreational focal points of a neighbourhood, generally located within a 5-minute walk from the majority of residents. These parks play a key role in shaping each community's unique identity through distinct design and landscaping. They provide a balance of active and passive uses, such as children's playgrounds, skateboarding facilities, basketball courts, multi-use play courts, unlit sports fields, and social gathering spaces. Neighbourhood Parks meet the needs of the local community, and in some instances, may accommodate facilities serving the broader Courtice or Clarington community. Where possible, Neighbourhood Parks should be coordinated with elementary school sites to maximize efficiency and shared use.

A. At least 50% of a Neighbourhood Park's boundary, excluding where any portion of the boundary abutting an Environmental Protection Area, must abut a public street.

B. Neighbourhood Park programming should include a diverse range of both passive and active recreational uses, and have flexibility to accommodate new uses and facilities over time.

C. The North, West and East Neighbourhood Parks should be designed as an extension of and entry point to adjacent natural heritage areas, integrating trail connections and trailhead elements, such as waste bins, signage, maps and seating.

D. Neighbourhood Parks should be designed to accommodate year-round use and should complement the amenities of nearby parks and open spaces.

E. Neighbourhood Parks are the most appropriate locations for dog parks.



Neighbourhood park with passive amenities and children's play areas



Neighbourhood park with skating rink

4.5.4. PARKETTES

Most parkettes will serve many of the same functions as Neighbourhood Parks but in a smaller area, and some may play a critical connecting role within the broader open space network.

F. Parkettes should generally be centrally located with visible road frontage and defined entrances to create a highly visible and local gathering area for the neighbourhood.

G. Parkettes should have frontage on at least two streets and may be located mid-block.

H. Parkettes should generally be designed to:

- **i.** Be connected to buildings and sidewalks with landscaped pathways;
- **ii.** Create barrier-free environments for all users and adapt to both short and long-term needs of users;
- **iii.** Support year round use and prolong the daily and seasonal life of the space through illumination and weather protection;
- **iv.** Provide a comfortable microclimate for pedestrians, including maximum sunlight access.

Parkettes should include grassy areas for casual recreation and may be appropriate for court sports, such as basketball, tennis or paddleboard.



Parkette featuring a playground and diverse plantings



Parkette featuring seating, gardens and play elements

4.5.5. URBAN SQUARES

Urban Squares are more intimate gathering spaces that generally will be most appropriate in the high-density areas of CTOC, where they will provide relief from the massing of buildings and contribute to a vibrant public realm. They will create opportunities to expand the public realm of streets, providing room for relaxation in green space, socializing and outdoor dining.

I. Urban Squares should have unique identities that enhance the character of an area. Fundamental elements, all of which should have a coordinated design and be durable, should include seating, lighting, trees and soft landscaping, low impact development features, public art, or other amenities that encourage casual use and gathering.

J. The preferred location for an Urban Square will be at the corner of a block for maximum visibility and access. Mid-block squares with frontage on just one street or which extend through a block, however, may also be considered where they will be enlivened on all sides by restaurants, retail space or an office building lobby.

K. Buildings adjacent to an Urban Square should front it with active ground-floor uses to give the space life and help make it feel safe. Restaurant patios should be allowed to encroach on the public space of the square.

L. Grade-related residential units may front an Urban Square provided they are appropriately set back 3-5 metres to accommodate a buffer between the private and public realms.

M. Urban Squares generally should feature mostly hardscaping to accommodate intensive use but should also incorporate significant greenery for beauty, shade and stormwater management. At a minimum, there should be trees and planting beds, and grassy areas should be considered.

N. Seating will be a critical element in Urban Squares. In addition to benches, movable chairs and tables should be considered where squares are surrounded by retail and/or office uses.



Urban square with feature paving, seating and raised planters



Urban square with skating rink



Crosstown Elementary School (Vancouver)



School with delineated drop off areas and pedestrian circulation

4.6. Schools and Other Community Facilities

Community facilities are crucial to healthy and complete communities. These may include schools, recreation centres, child care centres, libraries and shared multi-purpose spaces.

Based on the projected CTOC population, up to six elementary schools and two secondary schools may be required in the CTOC Area. Other specific community facilities will respond to the community's needs as it grows. The clustering of facilities into community hubs for efficiencies and convenience will be encouraged.

A. Elementary schools generally will be located centrally within neighbourhoods, with frontage on a Collector Road or Key Local Road, as identified in the CTOC Secondary Plan. Secondary schools generally will be located on Arterial Roads.

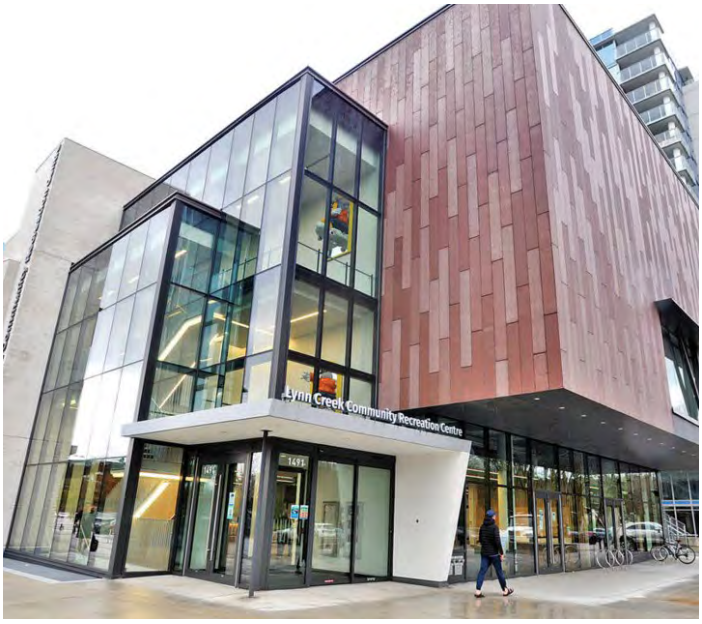
B. Elementary schools and recreation centres are encouraged to be co-located with Neighbourhood Parks or Parkettes to facilitate the sharing of open space and reinforce such facilities as civic spaces.

C. Alternative standards for schools will be encouraged to ensure their form is compatible with the vision for CTOC and uses land efficiently. The standards should optimize the use of land by promoting multi-storey school buildings and minimizing parking and pick-up/drop-off areas.

D. Community facilities are encouraged to connect, wherever possible, to active transportation systems to enhance overall connectivity.

E. Where possible, partnerships between private landowners and public agencies, boards and commissions to achieve the integration of schools and other community facilities within mixed-use developments will be encouraged.

F. Podium schools will be encouraged, particularly in higher-density and mixed-use contexts. These schools should be integrated within multi-storey buildings, with school functions located on lower levels and outdoor play areas accommodated through innovative design solutions, such as adjacent open spaces, terraces, or other areas designed to school board standards for accessibility and safety.



Community centre with a gymnasium, multi-purpose rooms, an automated library and a daycare



Wildflower meadow providing a buffer between an environmental protection area and nearby houses

G. Community facility design shall prioritize pedestrian connectivity and be accessible by various modes of transportation, including walking, cycling, and transit, with a specific emphasis on enhancing pedestrian safety. Elements which contribute to safety shall include:

- **i.** Visibly marked pedestrian crossings with appropriate lighting and signage;
- **ii.** Clearly delineated cycling connections should be provided from adjacent cycling lanes or multi-use paths to the facility;;
- **iii.** Pedestrian-oriented light standards to illuminate parking areas, driveways, and walkways;
- **iv.** Walkways to and through parking areas to provide routes separated from vehicle movements to reduce conflict points;
- **v.** Vehicular parking areas at the side or rear of the building, with the exception of accessible parking;
- **vi.** Pick-up and drop-off where it will minimize impacts on the pedestrian realm.

H. Public buildings should achieve the highest standard of urban design and architectural quality, incorporating sustainable building features.

4.7. Environmental Protection Areas

Environmental Protection Areas are recognized as the most significant components of the community's natural environment and include natural heritage features, hydrologically sensitive features, lands within the regulatory flood plain of local watercourses and hazard lands associated with valley systems.

A. While connectivity through Environmental Protection Areas is encouraged, trails should be directed outside of sensitive areas or to vegetation protection zones, and creek crossings should be minimized.

B. Where parks, trails and adjacent development connect to Environmental Protection Areas, their interface, access, and usage should be managed in a way that preserves the area's ecological integrity and adheres to the policies and guidelines of the Central Lake Ontario Conservation Authority (CLOCA). Vegetation protection zones are to be restored and enhanced.

C. Developments adjacent to Environmental Protection Areas should optimize public exposure and views to them through the provision and incorporation of parks and trails to provide access and additional linkages to the natural heritage system.

D. Development, including the road network, will consider drainage patterns and topography around Environmental Protection Areas, including limited watercourse crossings.

5

GREEN DESIGN GUIDELINES

The green design guidelines are intended to support environmental sustainability in the CTOC Secondary Plan Area through green building design, resource conservation, alternative energy sources, site and building performance, and conservation of natural areas. Progress toward achieving a low-carbon community relies on a holistic "green design" approach to infrastructure, buildings and landscapes.

5.1. Energy and Water Conservation

Buildings and sites in the CTOC Secondary Plan Area should be designed to be energy and water efficient, rely on renewable and electric sources of energy, and conserve energy, water and other resources. Green development will help to reduce pollution and address climate change by reducing carbon emissions.

A public district energy (DE) system to service CTOC, specifically the Mixed Use Core and Mixed Use Transition, may be implemented for efficiencies, cost savings and reduced carbon emissions in powering, heating and cooling buildings, in which case, future development would be required by the CTOC Secondary Plan to connect to the DE system (or be DE ready if development precedes the system being in place). The guidelines below should be considered whether DE is implemented or not.



Bioretention area along a local street

A. Buildings should be designed with high performance envelopes.

B. Energy efficiency should be promoted through site and building designs that provide opportunities for passive design strategies and maximize the potential for passive solar and natural ventilation.

C. South facing roofs should be designed to accommodate solar panels by maximizing flat expanses of roof with no penetrations or articulated rooflines.

D. Low-carbon and sustainable material alternatives should be considered for the proposed structure or envelope of buildings.

E. Green building material standards should be considered to reduce the impact on the environment and ensure materials are purchased/obtained from responsible ethical sources; and, where possible, materials should be sourced from certified local businesses.

F. Buildings should incorporate energy saving measures such as window shading, daylight design, daylight sensors, heat recovery ventilation, high efficiency mechanical equipment, and energy efficient appliances and lighting.

G. Building systems should be set up to automatically turn off major lighting after hours or close blinds once the sun has set to reduce energy use and minimize interference with the flight patterns of migratory birds.

H. Buildings should be designed to use water efficiently through such measures as ultra-low flow fixtures, waterless urinals, dual flush toilets, and grey-water recycling.

I. Buildings should use electric sources of hot water heating as well as water heat recovery technologies.

J. If a DE system is not implemented, renewable energy sources for all or some of a building's energy, heat and cooling needs is encouraged. If not integrated at the time of construction, provisions for future installations should be considered.

K. Renewable energy use to reduce electric energy supply in the public realm, such as solar-powered lighting for trails and parks and open spaces, is encouraged.

L. Green roofs should be considered for office, industrial and multi-unit residential buildings. Where green roofs are not provided, reflective or light-coloured roofs should be incorporated for medium and high density residential buildings in order to reduce solar heat absorption and energy demand.

5.2 Landscapes and Stormwater Management

Development in the CTOC Secondary Plan Area should incorporate landscapes and stormwater management techniques that manage all stormwater on-site and reflect natural processes. Naturalized site and public realm design serves to facilitate runoff infiltration and promote sustainability by providing habitat and enhancing ecosystem functions, thereby contributing to the community's overall environmental health.

A. Low-Impact Development techniques are encouraged, such as naturalized stormwater management ponds, bioswales, infiltration trenches, vegetated filter strips, and permeable materials to manage stormwater.

B. Landscaping should feature native and adaptive, non-invasive species that are drought-tolerant and require little or no irrigation. It should reflect natural plant associations to minimize maintenance, create natural habitats for bird and pollinator species, and enhance biodiversity.

C. Landscaped areas should be located to optimize the potential of water infiltration.

D. Bio-retention areas, both on publicly and privately-owned lands, are encouraged to capture and treat stormwater runoff, where feasible. They can be integrated into a range of landscape areas including medians and boulevards. A variety of planting and landscape treatments should be employed to provide wildlife habitat.

E. Stormwater facilities should be designed as significant landscape features that provide neighbourhood amenities while achieving functional objectives related to stormwater flow moderation and water quality.

F. Stormwater management ponds should be designed to blend with the natural landscape, featuring grading for natural and variable side slopes and curved contours. Inlet and outlet structures should be concealed through a combination of planting, grading, and natural stone to create a seamless integration with the surrounding environment.

G. Stormwater management ponds should be accessible to pedestrians and cyclists via trails that are part of, or provide connections to, the broader trail network.



Naturalized stormwater pond with trail

H. Stormwater management ponds should be integrated, wherever feasible, with parkland and treated as an extension of the parks and open space system. They are not permitted within Environmental Protection Areas.

I. Where development is adjacent to a stormwater management pond, access for maintenance shall be provided.

J. Where there is a need to discourage public access to areas around the perimeter of the stormwater management ponds, living fences and barrier planting should be used in place of, or to visually disguise, fencing.

K. Stormwater channels may be designed with meandering and naturalized slopes in designated parks including the Central, West, North and East Neighbourhood Parks.

L. Vegetated filter strips are preferred, where feasible, to treat runoff from roads, roof downspouts and low traffic parking areas, and can be used for snow storage.

M. Bioswales are encouraged, where feasible, particularly for treating road runoff outside high-density urban areas.



Rain garden within streetscape



Green roof on rooftop terrace

N. Designated snow storage areas should be provided through the CTOC Area to limit the entry of salt and other substances into the stormwater sewer system. They are encouraged to be in filter strips and bioswales.

O. Rainwater harvesting systems are encouraged, where appropriate, and should incorporate treatment technologies to improve the quality of rainwater before and/or after storage while also accounting for both insufficient and excessive rainfall.

P. Rainwater collection for reuse within buildings and/or for irrigation purposes is encouraged wherever possible.

Q. Rain gardens are encouraged to detain, infiltrate and filter runoff discharge from roof leaders. They should be installed in areas where soil permeability is high and designed to complement the landscape, on a base of granular material and with tolerant plant material.

R. Green roofs are encouraged throughout the CTOC Area, to absorb rainwater and reduce stormwater runoff, provide additional insulation to the building envelope, and create habitat for wildlife. The use of native, low-maintenance plant species is encouraged, and biodiverse green roofs should be considered to support pollinator species where possible.

S. Permeable paving and other pervious surface materials for hard landscaping and on-site parking may be considered to maximize water groundwater infiltration and water quality treatment.