

Barrie

DRAFT CITY-WIDE URBAN DESIGN GUIDELINES

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SECTION 01:

INTRODUCTION

1.1 Purpose Of The City-Wide Urban Design Guidelines

Barrie's City-Wide Urban Design Guidelines provide direction for site and building design to communicate a baseline of expectation for development and clarity for the community, stakeholders, developers, and City staff as they work together to achieve design excellence for all new developments across the city.

The City-Wide Urban Design Guidelines are intended to stimulate creative design responses, rather than limit development flexibility or dictate design solutions. Moreover, the intent of the Guidelines is to:

- Communicate design expectations for various building types in different areas of the city.
- Facilitate consistent application of design objectives.
- Foster design excellence and enhance investment throughout the City by encouraging consistently high-quality, sustainable, safe, functional, and attractive development.
- Encourage projects to be appropriate to the City's context and climate.

The City of Barrie ("the City" or "Barrie") is a vibrant, rapidly growing municipality in the heart of Simcoe County. The City's economic prosperity, its built and cultural heritage, natural heritage and features, access to regional destinations and its investments in transit and active transportation all enhance its appeal as a place to live, learn, work and play.

The City-Wide Urban Design Guidelines have been prepared to articulate objectives for placemaking and high-quality urban design throughout the city, and to assist in the implementation of the vision of the City of Barrie's Official Plan. The guidelines provide design objectives and guidelines for buildings, landscape, and site design that will create places for people via human-scaled, well-landscaped and context-driven design and development, which will strengthen the character and quality of the City's streets, open spaces and natural heritage network.

The City-Wide Urban Design Guidelines will provide a clear set of expectations about site design and development for City Staff, the public, and members of the development community, including planners, urban designers, engineers, architects and landscape architects.

1.2 Application Of The Guidelines

The City-Wide Urban Design Guidelines provide guidance for all development throughout the City.

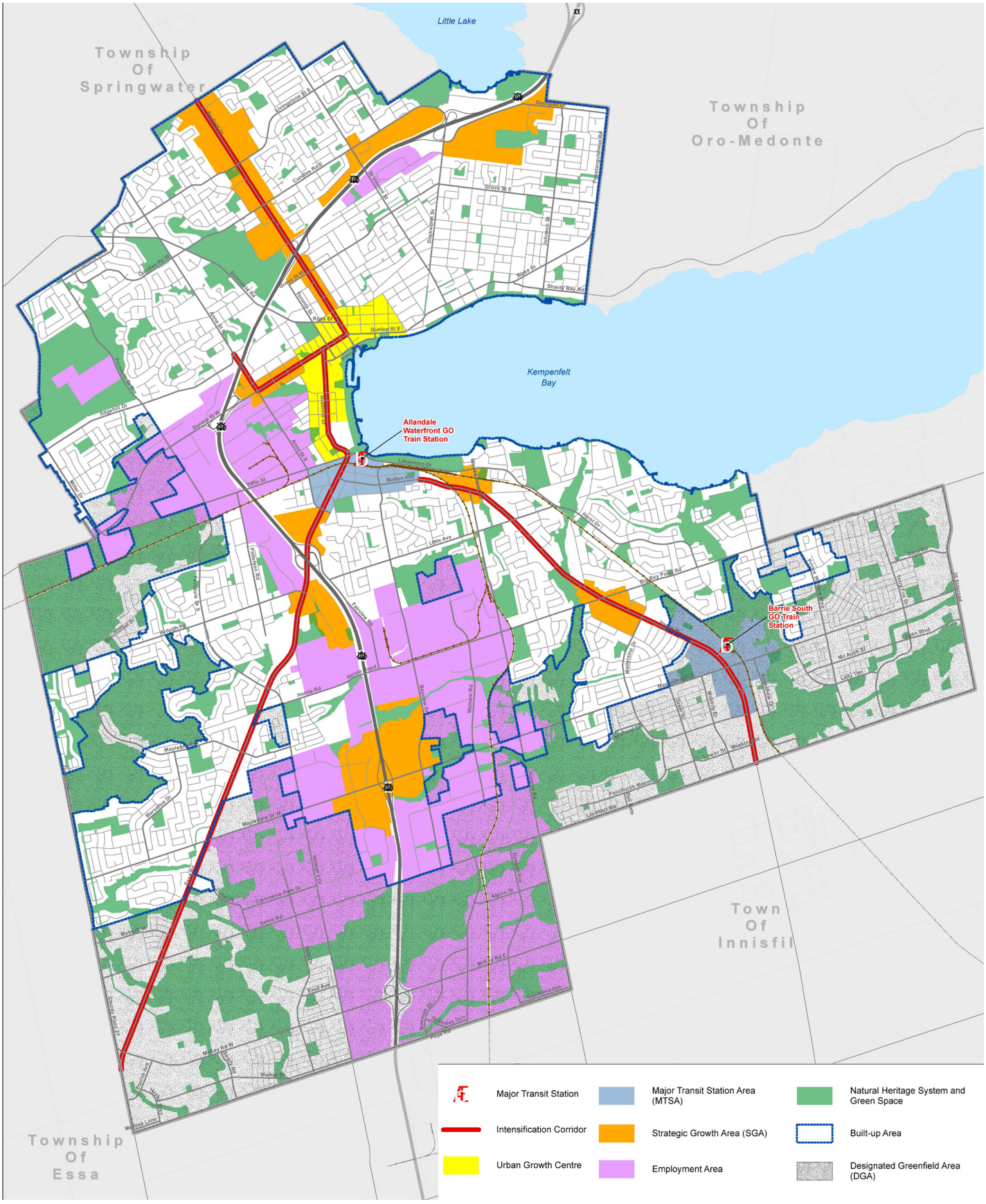
The City-Wide Urban Design Guidelines focus on private development and apply to all building types identified in the Official Plan. These guidelines will be supported by future, separate design guidance documents for the City's Public Realm including streetscapes and public parks.

The Guidelines will complement other areas in the city, which may have their own set of comprehensive urban design guidelines or Heritage Conservation District plans. The focus of the City-Wide Urban Design Guidelines, is generally on the City's Growth Areas, where the most change is planned to occur.

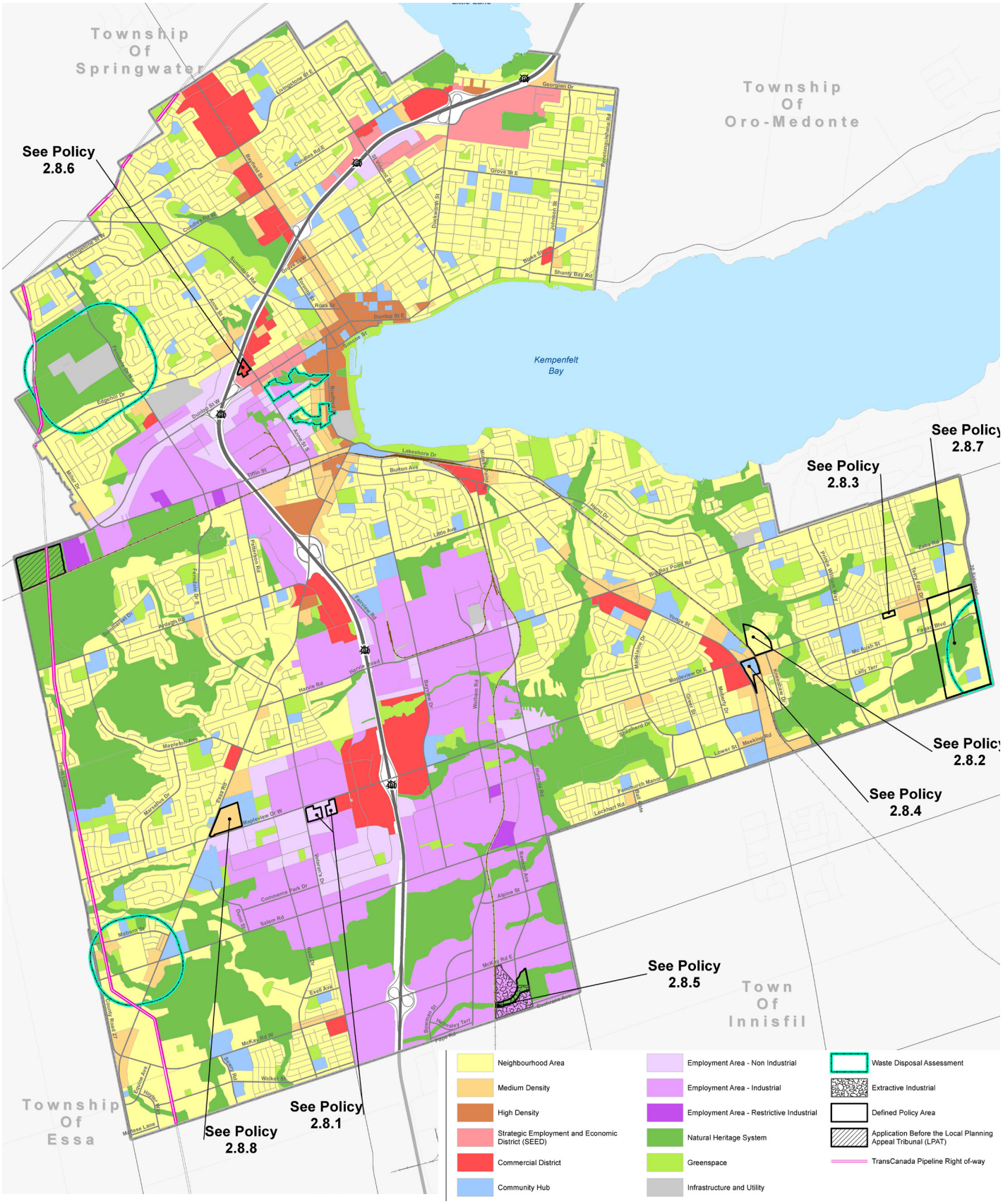
The City-Wide Urban Design Guidelines will complement and support the City's policies and guidelines, including:

- The City of Barrie Official Plan (2023)
- Comprehensive Zoning By-law (TBD)
- Secondary Plans, Area-Specific Plans, and Site-Specific Plans and Guidelines

Where a conflict exists, the direction contained in the Official Plan, Heritage Conservation District Plans, Secondary Plans, or Area-Specific Plans will prevail over the City-Wide Urban Design Guidelines except in special cases where the City may give preference to the City-Wide guidelines.



City of Barrie Community Structure



City of Barrie Land Use Designations

1.3 Document Structure

DESIGN VISION & PRIORITIES

SITE CONTEXT

AREA-SPECIFIC GUIDELINES

- Urban Growth Centre
- Strategic Growth Areas
- Major Transit Station Areas
- Historic Neighbourhoods
- Employment Non-Industrial

SITE & BUILDING DESIGN

General Building Design Guidelines

Building Performance Guidelines

Residential & Mixed Use

- Neighbourhood Area/Infill
- Rowhouse
- Low & Mid-Rise
- High-Rise

Retail, Commercial, and Employment

Community Hub

1.4 How to Use the Document

The City-Wide Urban Design Guidelines ("the guidelines) have been prepared to articulate objectives for high quality urban design for developments throughout the city and implement the design vision of the City of Barrie's Official Plan.

The guidelines build on the design objectives and standards from the Official Plan for site design, buildings and landscapes.

The Guidelines will provide a clear and easy to understand set of expectations about site and building design for City Staff, the public, and members of the development community, including planners, urban designers, engineers, architects and landscape architects.

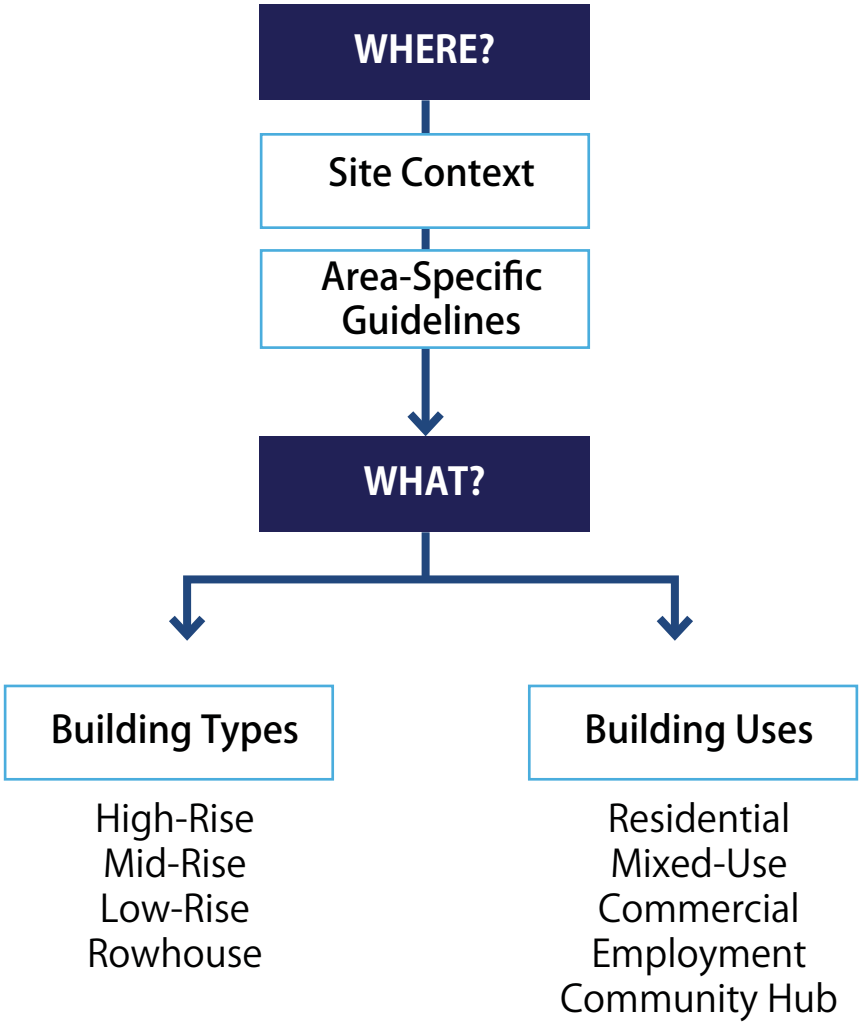
The City's Official Plan identifies several growth areas in its Community Structure, and applies land use designations which include various development standards and permitted building types. To effectively use the guidelines, begin by identifying and understanding the Official Plan's policies related to your site.

The City's Zoning By-law and City-Wide Urban Design Guidelines act as the implementing tools for the Official Plan's vision.



1.4.1 Guiding Your Development

Once an understanding of applicable Official Plan and Zoning By-law policies and standards has been established, the City-Wide Urban Design Guidelines will help to establish design directions for new developments based on where they are located and what type of building is being proposed:



1.4.2 Reading a Guideline

The guidelines generally consist of four elements:

- A design element or topic
- The overall design intent and objective of the guidance
- Directional guidelines to achieve the objective(s)
- Supporting images/graphics

Supporting Graphic

Topic

Intent

Design Guidance and Direction



A well designed building envelope with efficient window to wall ratios and activated ground floor.

5.1.1 Building Envelope

Design Intent: to design building envelopes to reduce energy demand and maximize occupant health and comfort, while maintaining visual appeal and interest.

Guidelines:

1. For an efficient building envelope, provide consideration and appropriate design and specification for the following:
   - Passive solar design techniques
   - Weathertight detailing
   - Thermal insulation
   - Natural daylighting and shading
   - Natural ventilation
   - External noise control
2. Design buildings with a simplified massing and fewer complex junctions to minimize building envelope heat loss.
3. Use simple shifts in massing and changes in exterior colors and textures to articulate facades. For larger buildings, target an overall window-to-wall ratio (WWR) of 40% to reduce heat gain and loss through the building envelope by increasing the area of insulated wall. Additional considerations include:
   - WWR ratios should be higher at grade to promote at-grade transparency while accommodating the 40% WWR in the building overall; and
   - WWR ratios should be lower on north facing facades than on south facing facades to account for lower solar gain potential.
4. Coordinate and integrate building service elements such as drainage pipes, grilles, screens, ventilation louvres and car park entry doors with overall facade and balcony design.
5. Use durable, low-maintenance materials that are compatible with each other and will weather well in order to minimise maintenance costs. Avoid unnecessary external painting that will require regular maintenance.
6. Ensure a weathertight envelope and consider cavity wall construction, to reduce risk of water damage over the longer term.

SECTION 02:

VISION & PRIORITIES


STARBUCKS
COFFEE

2.1
Design Vision & Priorities

The City-Wide Urban Design Guidelines are founded on the design vision established in the City's Official Plan and seek to promote a consistent level of high quality urban design that builds on the city's structuring elements of natural open spaces and neighbourhoods, establishes a recognizable character for the City's built environments, and enhances the pedestrian experience.

Development in the City of Barrie will be guided by the design principles in the Official Plan, demonstrating:

1. Design Excellence
2. Human Scale Design
3. Diversity, Equity, and Inclusivity
4. Sustainability, Resiliency, and Adaptability
5. Contextual Design

The principles above are supported by several Design Priorities, outlined below. Through these principles and objectives, the City-Wide Urban Design Guidelines encourage creative approaches to achieving the City's vision, while providing detailed guidance, but also permitting designers to exercise a range of creative solutions to meet the intent of each guideline.



A Net Zero High Density Development. Credit:

Design for Excellence

Priority 1: High-Quality and Innovative Design and Architecture

New buildings will incorporate the use high-quality materials with craftsmanship, and durability, while demonstrating innovation and best practices in sustainability to reflect architectural design excellence and support Barrie in becoming a leader in design excellence and urban development.



A High-Quality and Human Scaled Street Environment.

Design for the Human Scale

Priority 2: Connected, Walkable Neighbourhoods
Sites will be designed for permeability and connectivity to surrounding streets, sidewalks, bike lanes, trails and open spaces. This network of connections will be designed to provide safety and visibility, prioritize people and active modes of movement, and provide access to sunlight and generous landscapes.

Priority 3: Human-Scale Design for Livability
The scale of new developments will create comfortable streets with access to daylight, and support the liveliness of public spaces.

The building types described in this document and the City's Zoning By-Law, will encourage and support human-scale design and pedestrian activity. New buildings will be designed to activate and integrate with public spaces, amenity spaces, and streetscapes. The design of sites and the ground floor of buildings will create a seamless transition between private and public spaces to support a vibrant public realm.



Pedestrian crculation space with ramps and universal access. Credit: Mithun.

Design for Diversity, Equity and Inclusivity

Priority 4: Safe, Comfortable, and Accessible Buildings, Streets and Open Spaces
The City is dedicated to achieving overall community wellness and prosperity, and this includes designing buildings and sites for greater safety, comfort, accessibility and recreational enjoyment. This includes: ensuring spaces, services and infrastructure are available to meet the needs of all residents through all stages of life; using the placement of physical features and the programming of spaces to maximize visibility and foster positive social interactions; and designing public, semi-public and private spaces in a way that provides equitable access across different levels of ability.

Priority 5: Placemaking to Enhance Community and Neighbourhood Identity
Development should contribute to a local sense of place by considering neighbourhood context, linkages, and future land uses at each scale of design – from site layout to landscaping to building details.



Integrated Green Infrastructure in Tanner Springs Park, Portland Oregon.

Design for Sustainability, Resiliency, and Adaptability

Priority 6: Enhanced and Protected Natural Heritage Network

As a waterfront and green city, Barrie needs to have a Natural Heritage System that protects natural heritage features and their ecological functions; it must also have open spaces that connect into one another that foster public enjoyment and health. The City will work to ensure that Barrie's Natural Heritage System is designed appropriately to preserve these open spaces, improve their environmental quality and ecological functions, and ensure their use and enjoyment by all citizens.

Priority 7: Sustainable Design and Development

There are many principles that can contribute to sustainable design and development and help better preserve our environment for future generations. These approaches are prioritized by the City and include, but are not limited to, design and development principles that promote resource efficiency and the reduction of greenhouse gases, maximize solar gains, preserve indoor air quality, and reduce and divert waste.

Priority 8: Buildings, Infrastructure, and Open Spaces Resilient to the Effects of Climate Change

By preparing our buildings, sites and open spaces for future shocks and stresses, and by using urban design to help mitigate the effects of climate change, the City can plan for greater resilience and better adapt to and recovery more quickly from the challenges of an ever-changing world.



Contextually responsive design. Credit: Sweeney & Co. Architects, doublespace photography.

Contextual Design

Priority 9: Contextual Design

New developments should reflect Barrie's unique context by promoting connectivity and sustainable development through contextual analysis that responds to character and sense of place. New developments will prioritize compatibility with surrounding context, including streetscapes, built development, topography and natural heritage systems. Response to site context should complement design excellence with appropriate setbacks, massing, transitions, orientation and connections. Consideration should also be given for the future area context if the site is in an area of transition and should address interim development and/or changing conditions.

SECTION 03:

SITE CONTEXT

3.1 CONTEXTUAL INTEGRATION

New developments should respond to, and extend, key elements of the public realm through the design of the site by creating strong relationships with adjacent streets, land uses, buildings, and public spaces.

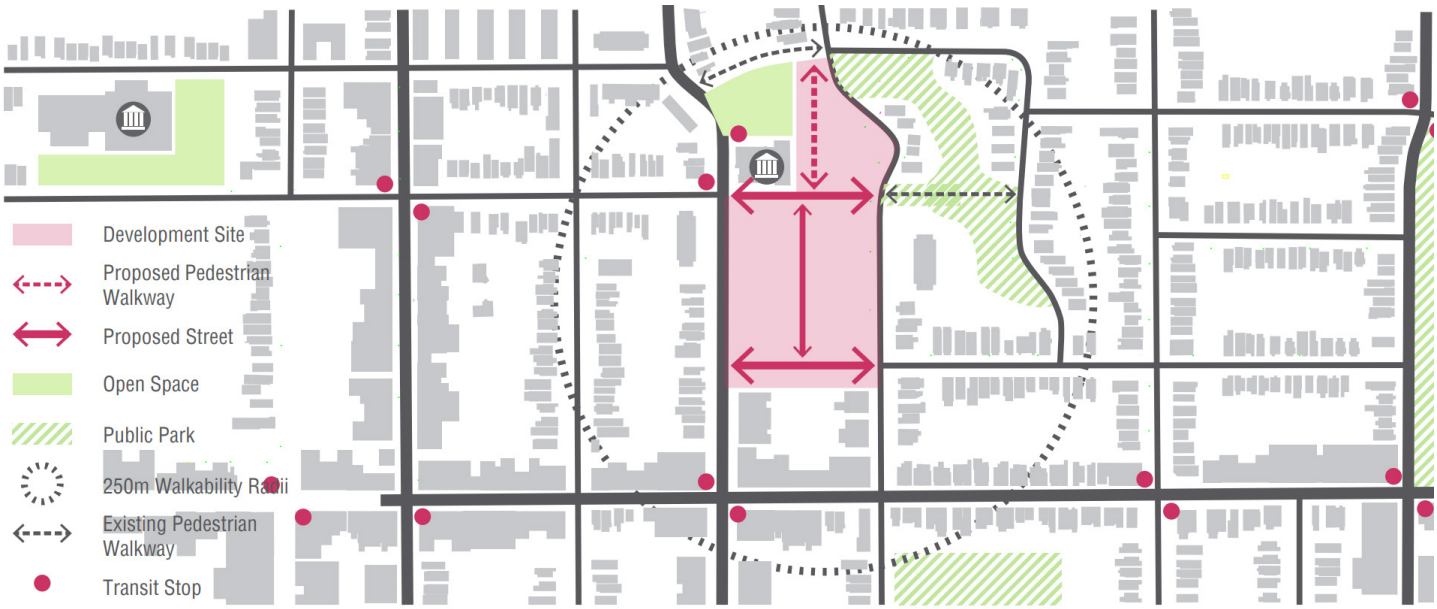
The guidelines contained in this section are intended to encourage new developments to consider and integrate with the adjacent context, connect urban and natural networks, enhance public access to services and amenities, and to create high quality neighbourhoods and communities.

Developments should provide a "walkable"context analysis, showing a development proposal in context, of a 250m and 450m "walkability" radii from the site, with considerations of:

- land use designations and zoning;
- major streets and blocks (patterns, size, location);
- Active transportation routes and connections;
- transit routes, stations, and stops (including distance to rapid transit nodes);
- open space networks (parks, open space, natural features);
- existing and planned built form types, footprints, setbacks, and building heights and massing;
- historic buildings and heritage properties, Heritage Conservation Districts;
- Area amenities and destinations (community centres,trails, libraries, schools, retail areas, etc.);
- topographical information (where significant).

Development proposals should illustrate through text and graphics how the design responds to context through the design of:

- size of blocks and arrangement of lots;
- location, size, and organization of streets,
- laneways, sidewalks, transit stops, and other pedestrian or cycling routes;
- location and size of open spaces;
- integration of heritage properties, important or identified views;
- existing and planned building footprints;
- ground floor uses, setback patterns, and general location of building entrances, street trees and site circulation/servicing on adjacent sites and blocks;
- existing and planned building heights, to demonstrate how the proposed development relates to surrounding buildings, particularly within the same block and across streets and open spaces.



Example Context Analysis. Credit: City of Toronto

Figure 1: A conceptual "Walkable" context analysis within a 500 metre radius of the tall building site.

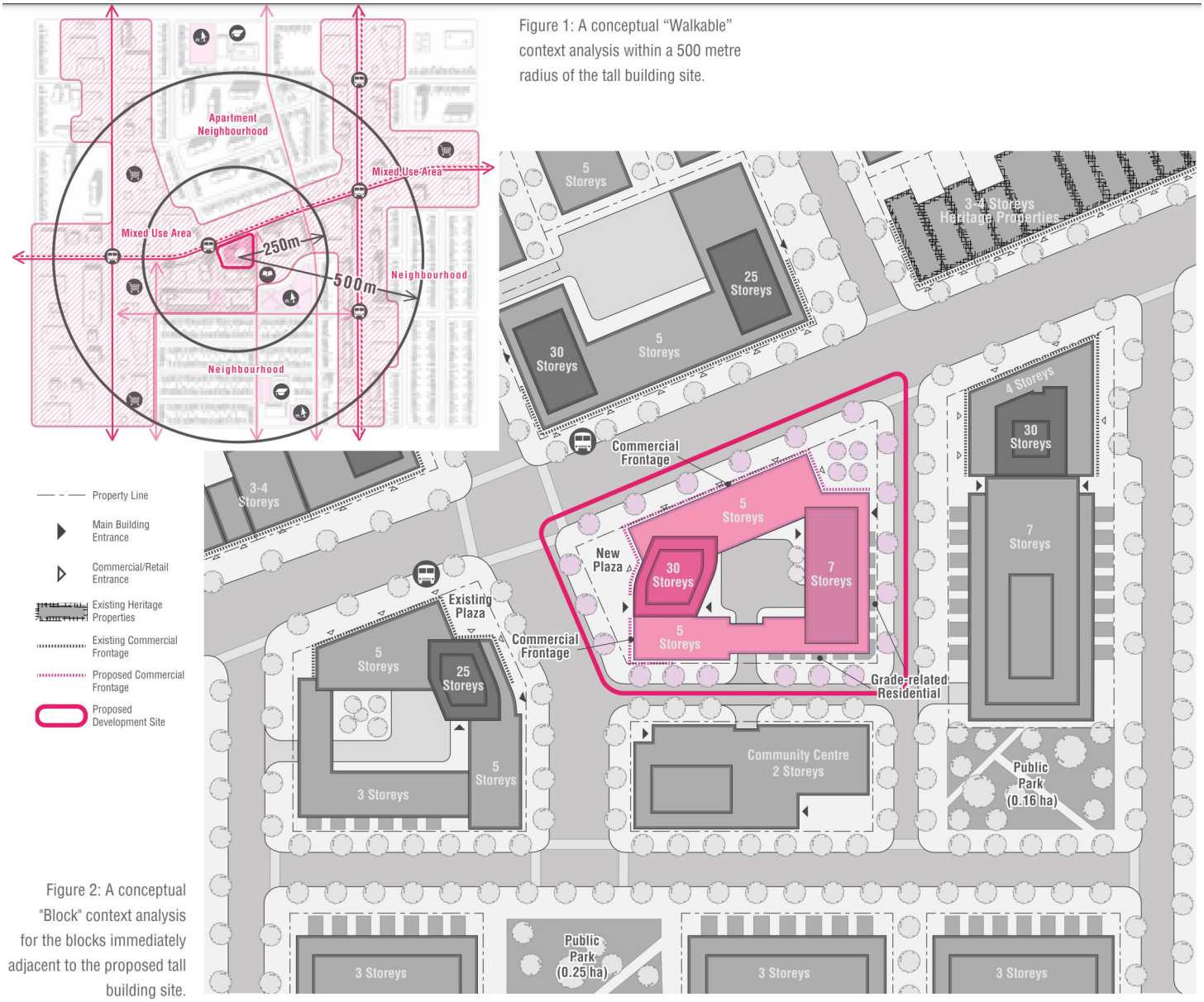
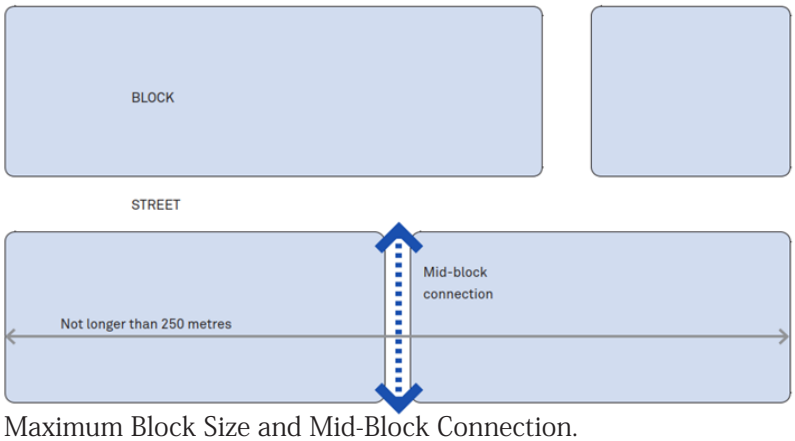


Figure 2: A conceptual "Block" context analysis for the blocks immediately adjacent to the proposed tall building site.

Example Context (inset) and "Block" Analysis. Credit: City of Toronto.



Maximum Block Size and Mid-Block Connection.


Pedestrian Mid-Block Connection with Public Art and Storm Water Management.
Credit: Vulcan Real Estate

3.1.1 Streets and Blocks

Design Intent: To provide a compact and walkable street and block network. The network should increase neighbourhood access, permeability and number of intersections to give more options for routes of travel to pedestrians, cyclists, and vehicles through a connected and continuous grid-like street network.

Guidelines:

1. Design internal circulation patterns (streets, sidewalks, pathways) to be integrated with, and connected to, the existing and planned future public street, bicycle and/or pedestrian network.

2. Design block layouts to allow building fronts to face other building fronts (and backyards to face backyards).

4. Block lengths should generally not exceed 250 metres in length, or 100 metres in depth.

5. Where blocks exceed 150 metres in length, a mid-block pedestrian connection should be provided, which can take the form of a walkway, parkette, or other semi-public open space.

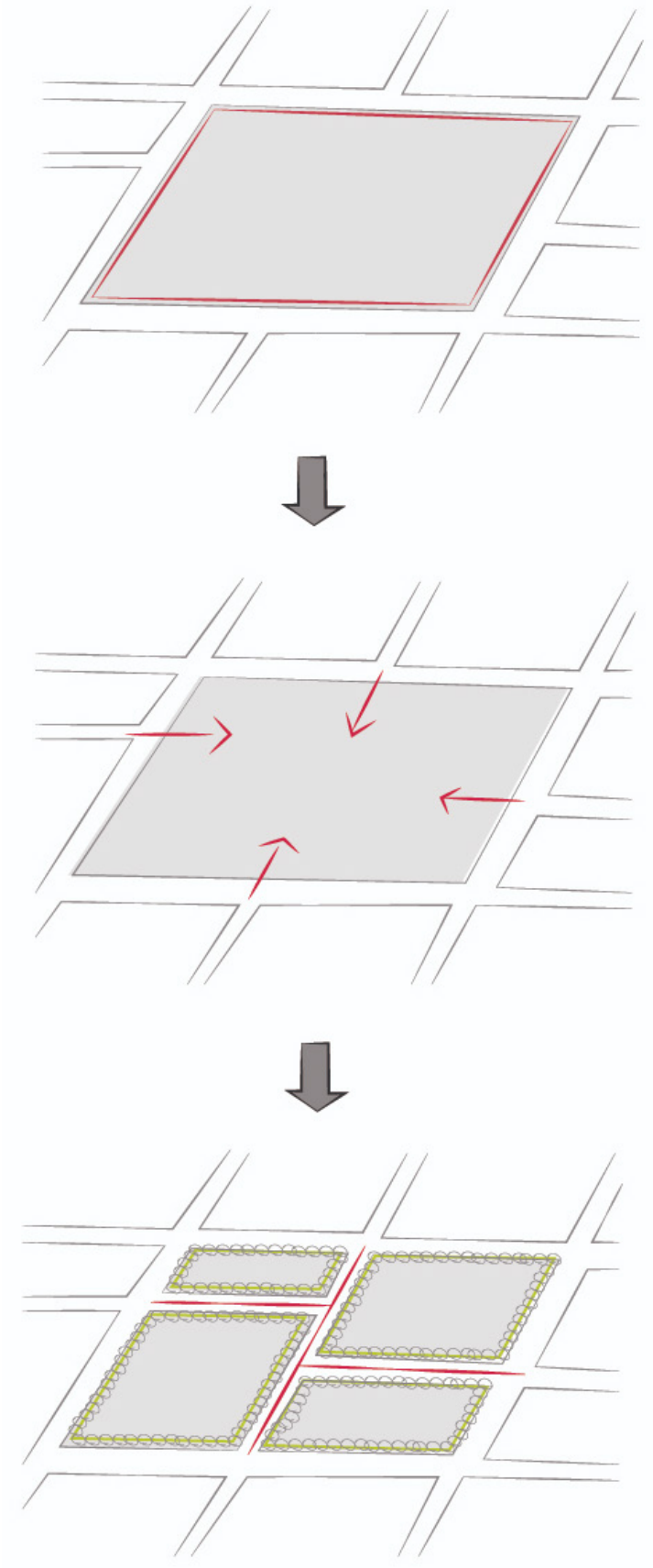
6. Mid-block connections should be a minimum of 15 metres when adjacent buildings have windows. When adjacent buildings have no windows facing a shared property line, mid-block connections should be a minimum of 6 metres wide. Smaller mid-block connections may be considered within infill developments, where it has been demonstrated that minimums cannot be met.

7. Facilitate the creation of new connections to existing and future development, mid-block spaces, and green linkages, particularly where larger block sizes are proposed.

8. Avoid cul-de-sacs. Where they are unavoidable, minimize their size and consider pedestrian and cyclist connections to the surrounding pedestrian and open space networks.

9. Private streets should be designed to similar standards as public streets by providing vegetated landscape zones, a sidewalk on one side of the road (at minimum), and on-street parking, where feasible.

10. Incorporate easy-to-maintain traffic calming features, such as narrower travel lanes, on-street parking bays and curb extensions, textured materials, crosswalks and street tree plantings.



Principles for breaking down a large block into compact and walkable development parcels that are integrated with existing contextual urban fabric. Credit: City of Kelowna



Credit: Image TBD

3.1.2 Lot Size and Variety

Design Intent: to encourage and provide a variety of building types within a neighbourhood on appropriately sized lots that respond to adjacent street types, planned land uses, and requisite zoning standards (i.e. setbacks, landscape and amenity areas, parking etc.). To encourage land consolidations for redevelopments, where appropriate.

Guidelines:

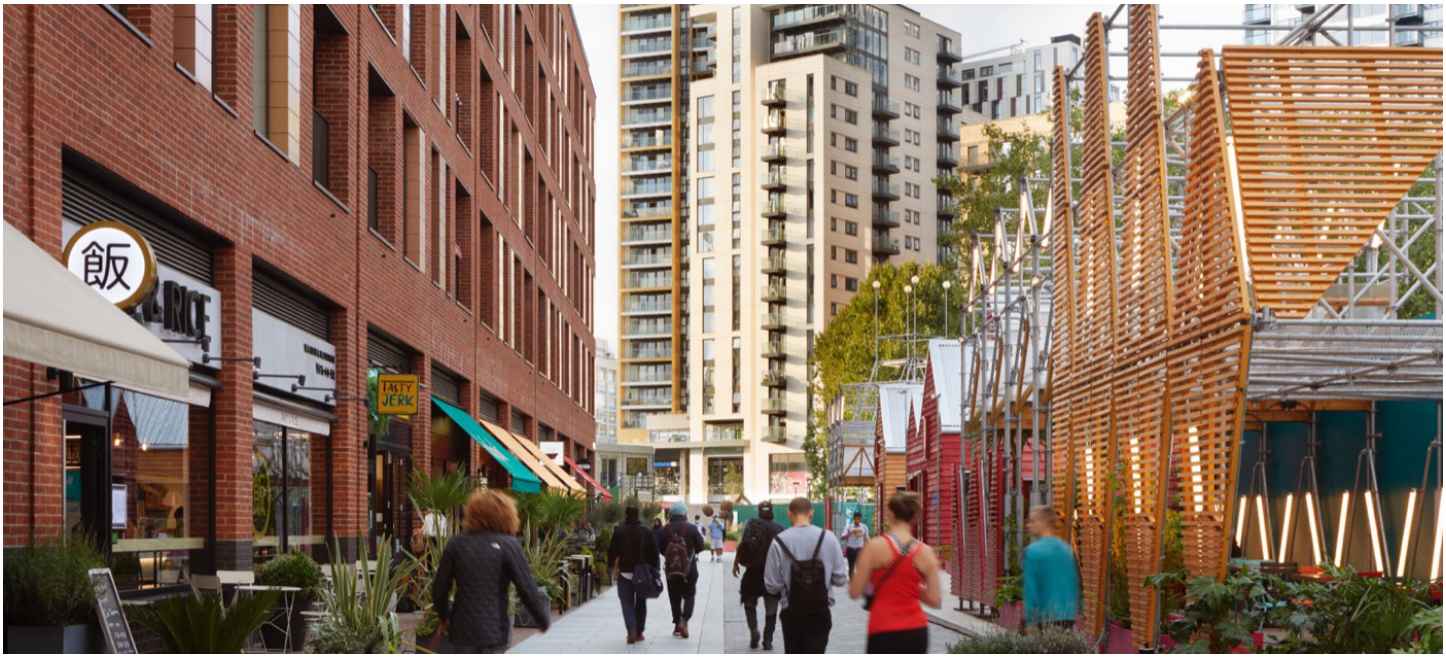
1. In plans of subdivision, lot shapes should be simple and regular, where possible, to maximize development efficiency. Exceptions may be considered in order to address issues of slope, existing property boundaries, or density requirements.

2. In plans of subdivision, protect the natural grading and topography of the site, to the greatest extent possible.

3. Where shallow lots exist, consider opportunities for consolidation and/or opportunities to share access and servicing infrastructure.

4. Ensure that lot sizes and orientations protect for natural light, frame key views and reinforce existing and future connections to the surrounding neighbourhood.

5. Where rear lots are unavoidable, plan lots to have shared vehicular access. Ensure that dedicated pedestrian access into the lots is provided and delineated using unique materials, colours, and/or textured pavers.



A well-framed view corridor to a significant building. Credit: TBD

3.1.3 Views and Landmarks

Design Intent: to retain key landmarks and views towards them, and enhance them with public access, and complementary high-quality building and landscape design.

Guidelines:

1. Retain or create views of important landmarks or features from public streets and spaces.

2. Views to adjacent natural features, public art, parks and open spaces or other amenities should be enhanced with public access and landscape design.

3. Where buildings frame view corridors, the frontages of buildings facing the corridor should be programmed with active uses to frame and enliven the street.

4. Sites that terminate key view corridors should be designed to incorporate signature art or architectural treatments or building elements.

5. Consider topography and elevation to identify locations for new view termini or locations from which views can be created.

6. Changes in grade over a lot should be used to maximize views to and from buildings and create landmarks that are uniquely integrated into the landscape and existing topography.

7. Consider appropriate transitions for buildings adjacent to heritage structures to allow for views of the building from the public realm.



A neighbourhood gateway. Credit: TBD

3.1.4 Gateways

Design Intent: to ensure that new development occuring at points of arrival into the City, and/or into specific neighbourhoods or districts, provide high-quality architecture and landscape design that clearly marks points of arrival and celebrates characteristics of those areas.

Guidelines:

1. Gateways should include enhanced landscaping in the streetscape and on private property, incorporate public art and enhanced building design to create recognizable “landmarks”.

2. Buildings with high quality design and active ground floor uses should support gateway identities by prominently addressing streets and open spaces including taller corner elements, double height entrance areas, and large expanses of glazing.

3. Commuter rail corridor entrances serve as potential gateway locations, and any development along the tracks should be designed to minimize their visual impacts.

4. On public roads, blank walls visible from parks and open spaces should be minimized as much as possible.



Credit: Hub Cycling

3.1.5 Transit-Supportive Design

Design Intent: to direct urban growth to areas that are well-served by transit and promote access to sustainable mobility options to more people. As a result of increased transit access, transit-supportive development can make transit projects more viable by increasing ridership. Transit-supportive communities provide destinations for riders from other areas, which also attracts more riders generally to the system promote greater modal splits by ensuring easy and convenient access for pedestrians and cyclists to transit facilities.

Guidelines:

1. Trails and bicycle routes should link to existing and planned transit facilities.

2. Provide secure bicycle parking and storage, where appropriate.

3. Provide good pedestrian, cycling, and vehicular connections to transit facilities, existing and proposed community amenities and services, including local shops, community facilities, and open space.

4. Roundabouts in intensification areas are strongly discouraged; consider other intersection designs which prioritize safety and comfort of pedestrians and cyclists.

5. Design street layouts to be compact and easy to navigate.

6. Design the pedestrian network to be safe and accessible for everyone:
   - Apply the principles of CPTED and Universal Design when designing streets, mid-block connections, and off-road pathways;
   - Limit fences to 1.2 metres in height along pedestrian walkways and open spaces, for passive surveillance between the public realm and adjacent land uses;
   - Ensure proper visibility for all road users is maintained at intersections; and,
   - Ensure public spaces are sufficiently well-lit at a pedestrian scale.



Development adjacent to waterfront with public access to natural heritage features.

3.1.6 Development Adjacent to Natural Heritage

Design Intent: to protect, enhance and provide ecological resources to the city and region by considering the sensitivity of the natural area to inform appropriate transitions, vegetation protection zones and site organization and layout.

Guidelines:

1. Create public access and views to the Natural Heritage Network through the appropriate placement of roads, buildings and infrastructure, while ensuring minimal impact to the Natural Heritage Network.

2. Where possible, locate trails, public parks and open spaces with or adjacent to the Natural Heritage Network to create connections, public uses and support passive recreation. When amenity spaces are required, these must be provided in addition to passive recreation areas and buffer zones.

3. Locate single loaded roads along the edge of the Natural Heritage Network, where feasible.

4. Avoid rear yard back lotting of residential units onto the Natural Heritage Network.

5. Control private access to Natural Heritage Network by incorporating boundary fencing, where trails are not permitted.

6. Integrate active transportation networks to connect directly from public streets, bicycle lanes and sidewalks to trail networks in the Natural Heritage Network, where appropriate.

7. Organize site elements so that view corridors at ground level into natural heritage features are maintained or created. These view corridors may include pedestrian connections to provide access, if appropriate.

8. Building location, height and orientation should take advantage of views to the Natural Heritage Network for upper-level units.

9. Ensure that appropriate vegetation protection zones (in conformance with conservation authority requirements) are included between sensitive natural heritage features and buildings or other site elements.

10. Vegetation protection zones areas should extend the natural landscape character of adjacent features further into the site.

11. Integrate Low-Impact Development measures at site edges to filter and clean stormwater run-off before it enters natural heritage areas.

12. Consider the movements of wildlife between natural areas to provide corridors and connect natural areas.

13. Avoid fragmenting the Natural Heritage Network with roads and infrastructure, where possible.

14. Site organization should promote the creation of trails within the natural heritage feature vegetation protection zone and outside of the natural features where possible.

15. In most conditions, natural heritage areas should maintain a public frontage that is appropriately scaled to the size of the development and the opportunities for public access and amenities. A fully accessible natural heritage area should be a prominent feature at the street edge. However, protected non-accessible natural heritage areas should be buffered by vegetative protection zones.



Development adjacent to a Park. Credit: TBD

3.1.7 Development Adjacent to Parks

Design Intent: to create an effective transition between public and private space while prioritizing access to public spaces, providing eyes on public spaces, and protecting maximum sun exposure at key times of the day and year.

Guidelines:

1. Buildings should face parks with an active frontages and ground floor uses, ensuring public access to public parks is prioritized.

2. Buildings fronting onto parks should provide a clear transition between public and private space through signage and landscape, while ensuring that public access to park spaces is prioritized. This may include a public street or pathway, or design cues like a low wall, shrubs or tree planting.

3. Buildings fronting onto a park should be oriented to address and frame park spaces, with primary entrances, front yards and significant glazing on the park-facing facade. Rear yard back-lotting is discouraged.

4. On sites larger than one regular block, direct connections to parks that are visible from public streets should be provided.

5. Parking should not be located between a park and adjacent buildings.

6. Buildings should be massed to maintain maximum sun exposure onto active park spaces, like playing fields.

7. Retaining walls and/or any other structures such as planters, fences and seating walls located within the proposed development block should be designed with a minimum setback from the edge of the property line to protect from future maintenance and replacement and to consider requirements for routine maintenance and operations such as snow clearing and mowing.

8. Where multiple building access points are located along a park frontage, an active transportation pathway should be designed within a servicing access block (i.e. not considered parkland). The servicing access block shall address private access, lighting, landscaping, stormwater requirements, low

impact development, or any other servicing required for the development block and shall be designed in consultation with City staff. The minimum width of the servicing access block should be 6m. The pathway designed within this block shall be a minimum of 2m wide. The design of the pathway within the servicing access block may vary from site to site to adequately respond to the design context.

Bird Friendly Design

9. Building façades should be designed to be "bird-friendly" by:
   - Treat all exterior glazing (e.g., acid-etched glass, attractive bird-safe window decals) within the first 12 m of the building above grade or to the top of the existing mature tree canopy, whichever is greater.
   - Reducing the amount of glass in the building design.
   - Reducing the amount of exterior lighting.
   - Avoiding the creation of "fly-through" conditions in the building design (e.g. glass tunnels or walkways, outdoor railings and/or free-standing architectural elements etc.).
   - Incorporating recessed balconies, awnings, exterior screens, sunshades, and other building elements to give birds visual cues to avoid collisions.

Development Adjacent to Trails

The City of Barrie's multi-use trail system connects residents to the Natural Heritage Network and provides space for recreation and active lifestyles within a naturalized environment. Development adjacent to trails should provide appropriate connections to enhance the use and character of the trail.

10. Prioritize public access to existing trails that connect to the natural heritage system. Development bordering a trail network should provide clearly visible and accessible entrances to the trails.

11. Provide safe crossings wherever multi-use trails intersect with the road network with adequate signaling and changes in colour or materials to indicate priority crossings for pedestrians and cyclists.

12. Trailheads should have a strong presence in the proposed neighbourhood.

13. Where trails are proposed immediately adjacent to the proposed development, adequate buffers should be created with enough space to promote the growth of a mature tree canopy.

14. Development should provide key connections to community trails as identified in the Transportation Master Plan

15. Where required, private development should allow for public easements to ensure trail connectivity.

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SECTION 04:

AREA-SPECIFIC GUIDELINES

4.1 URBAN GROWTH CENTRE

Overview

The Official Plan recognizes the Urban Growth Centre as the premiere hub for businesses, residents, and visitors. The area is intended to provide a broad range of uses including office, commercial, nstitutional, cultural, residential, and other uses, and will be the major focus of economic growth, civic identity, and celebration.

The Urban Growth Centre is a place of regional importance centred on the waterfront and downtown, and the quality of development in the Urban Growth Centre will be commensurate to its regional importance. A high standard of design shall be achieved in the Urban Growth Centre.

The Urban Growth Centre will be planned to be a complete community, and as a strategic location for the concentration of the highest densities and widest mix of uses in the city. This will transform the Urban Growth Centre into a dynamic place to live, work, shop, and connect.

The Urban Growth Centre will be supported by and connected to the waterfront through a diverse and dynamic public realm network, including natural heritage features, parks and a multi-modal road network.

Area Characteristics

- A wide mix and range of uses and built forms including flex buildings, low-rise buildings, mid-rise buildings and high-rise buildings ranging from 2-25 storeys
- A network of high quality places: streets and open spaces connected to the waterfront. and that are active and animated year-round.



Compact high-density mixed-use block development with well-framed and activated streets and open spaces, adequate building separations and a coherent neighbourhood & development identity. Credit: Occulus Landscape Architecture.

Key Guidelines

To achieve the design goals of the City, all development within the Urban Growth Centre should:

Create a walkable, attractive downtown

1. Coordinate development through a master plan or block plan, wherever possible.

2. Break up large blocks via extension of existing surrounding street networks, mid-block connections, pedestrian pathways, woonerfs (shared streets), or privately-owned public spaces (POPS) that connect into a continuous network of pedestrian connections.

3. Avoid creating new surface parking throughout the UGC, by providing required parking underground or in parking structures.

4. Design vehicular access and circulation to provide a more pedestrian-friendly and walkable downtown by:
   - Consolidating vehicular access points (e.g. curb cuts, driveways, or parking ramps) to minimize interruptions in the public realm, to enhance walkability throughout the Downtown.
   - Locate vehicular access points away from main active frontages, such as off of side streets or service driveways.
   - Integrate vehicular access areas such as loading or parking internal to the building, or underground.
   - Design compact vehicular pick-up and drop-off facilities. Where possible, make use of on-street pick-up and drop-off configurations within the right-of-way.

5. Develop streetscape designs that are:
   - Aesthetically pleasing and vibrant;
   - Consistent throughout the Downtown;
   - Uncluttered via careful placement of street furniture;
   - Accessible (barrier-free);
   - Safe, and comfortable for pedestrians and cyclists;
   - Sustainable, such as through the use of stormwater management, low-impact

development, and integrated with natural habitats;
- Permeable, by reducing hard surfaces;
- Designed for all ages and abilities.

6. To promote increased walkability, especially along key retail and cultural corridors, provide supportive street furniture such as benches to rest, street trees for shade, and lighting for safety.

7. Create a comfortable public realm that can be accessed and used year-round:
   - Consider micro-climate conditions within parks and open spaces by maximizing sunlight access on these key outdoor amenities
   - Shape and scale buildings to allow for sunlight access on streets, parks, and open spaces
   - Shape and scale buildings to mitigate wind impacts through strategies such as increasing tower separation and tower stepbacks, wind screens, and landscaping.

8. Plan and/or protect for future transit infrastructure.

Connecting to the Waterfront

9. In order to create a stronger connection between the Downtown core and the Waterfront, provide clear key pedestrian and cyclist pathways that connect to existing mobility networks that lead to the waterfront.

10. Develop a series of parks and open spaces along connections that lead to the waterfront, to strengthen the relationship to the waterfront and the larger natural heritage system.

11. Improve wayfinding through signage and visual landmarks to navigate users to the waterfront and related outdoor amenity spaces.

Human-Scale Streetscapes

12. Provide a variety of heights and range of building typologies and uses within the UGC to support a range of housing types and units.

13. Set back base buildings and step back towers to provide more openness at the ground level and respond to the human-scale. Create publicly accessible private spaces along the streetscape for added points of interest.

14. Buildings should be located and oriented at appropriate heights that:
   - Define the edges of streets;
   - Frame a gateway into the Downtown;
   - Ensure transition to Neighbourhoods, lower-scaled buildings, and sensitive land uses such as Natural Heritage Systems and Greenspaces.
   - Enhance skyview;
   - Contribute positively to the overall skyline of Barrie's Downtown.
   - Mitigate weather impacts – such as shadowing and wind within the public realm – to create a comfortable travelling experience Downtown, by:
   - Locating taller buildings strategically within the block, such as north of open spaces and key public realm amenities to mitigate shadow impacts;

Celebrating Cultural Corridors

15. Celebrate key cultural destinations such as the MacLaren Art Centre, Five Points Theatre, Sandbox Centre, Digital Arts Centre (Georgian College), Mavrick's Music Hall, as well as future cultural uses by:
   - Framing the destination and key vistas through development that does not overwhelm the visibility of these buildings;
   - Protect or replace these uses if development occurs on site; and
   - Ensure accessibility by providing new connections to these uses.

16. Celebrate Dunlop Street as a Cultural Corridor by:
    - Providing a generous public realm of wide sidewalks and outdoor spaces for indoor uses to spill out onto and use;
    - Developing
    - Provide wayfinding to signify distances to key cultural destinations; and
    - Locating new cultural uses in base buildings with primary entrances on Dunlop Street.

17. Celebrate key outdoor cultural venues, such as Meridan Place and Memorial Square by:
    - Avoiding shadows from development to ensure comfortable year-round use; and
    - Ensuring it is safe and accessible for all users.
    - Design and locate key community, civic, and cultural uses Downtown:
    - At key intersections to enhance visibility;
    - Concentrated in and around lands designated 'Community Hubs'; and
    - Within base buildings/podiums of mixed-use tall buildings, to promote complete communities;

Ground Floor Activation along Mainstreets

18. Provide generous pedestrian space at-grade, to support higher volumes of pedestrian traffic and street life, as well as to allow more daylighting in ground floor uses.

19. Ensure retail vitality through generous floor-to-ceiling heights, appropriate glazing, and flexible design to allow for adaptability over time.

20. Articulate the ground floor via architectural details and differentiated materials to accentuate the uses.

21. Provide canopies/overhangs to provide a comfortable and human-scaled experience along the ground floor.

DEMONSTRATION PLAN:
Mixed Use Development in the Urban Growth Centre

The following is a concept demonstration of select principles, objectives, and guidelines in the Official Plan and City-Wide Design Guidelines, as applied to development in the context of the Urban Growth Centre.

Design Principles

Contextual Design: Shape higher density developments to be human-scaled and along Intensification Corridors and transition to surrounding neighbourhood areas and open spaces.

Design Excellence and Innovation: Celebrate key cultural corridors through public art, framing landmark destinations, providing visibility, and an enhanced public realm.

Connected, Walkable Neighbourhoods: Create a network of compact and walkable streets and blocks with a range of uses and building types.

Human Scaled Buildings and Spaces: Activate and animate ground floors, along public streets and open spaces.

Safe, Comfortable and Accessible Buildings and Open Spaces: Ensure a comfortable year-round public realm, such as considering micro-climate conditions (sun, wind, snow) for both the building and block scale.

Enhanced and Protected Natural Heritage Network: Address area storm water and create safe and accessible connections to the waterfront.

Sustainable Design and Development: Avoid surface parking, include green roofs and blue green systems.

Buildings and Open Spaces Resilient to Effects of Climate Change: Design public spaces and streetscapes with large tree canopies that provide shade and protection from wind and noise.

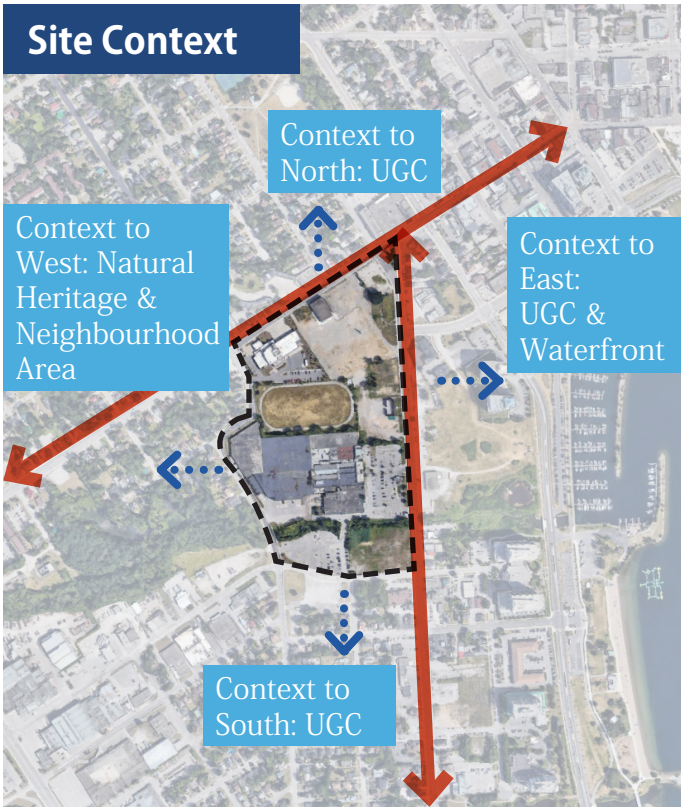


Orient buildings to keep open spaces sunny

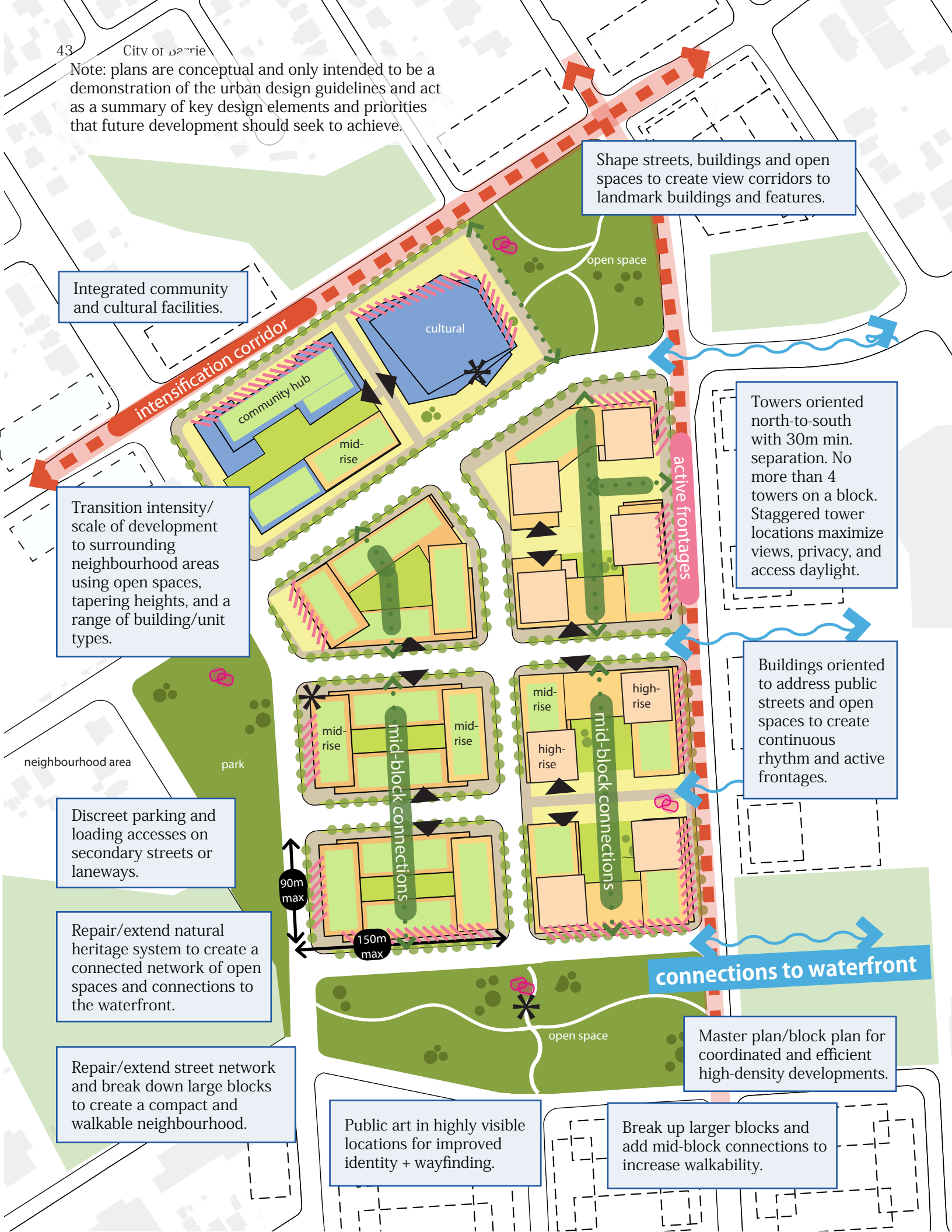


- Activate ground floors
- Weather protected entranceways
- Sidewalks, plantings, cycling infrastructure

Site Context



Note: plans are conceptual and only intended to be a demonstration of the urban design guidelines and act as a summary of key design elements and priorities that future development should seek to achieve.



4.2 STRATEGIC GROWTH AREAS

Overview
Strategic Growth Areas (SGAs) are neighbourhood centres and long-term targets of residential growth, commerce, jobs, and social interaction.

SGAs will be made up of a mix of Medium Density Residential, Commercial District, Community Hub and SEED designations. SGAs are generally located along intensification corridors and around Highway 400 interchanges/Gateways into the City. They will largely be developed through new construction in underutilized single-use commercial sites, and neighbourhoods or areas without unique existing character/features.

Area Characteristics
- A wide mix of uses and range of built forms including flex buildings, low-rise buildings, mid-rise buildings and high-rise buildings.



Strategic Growth Areas will become walkable, dynamic and attractive urban neighbourhood centres. Credit: First Capital

Guidelines

To achieve the design goals of the City, all development within SGA's should:

SGAs as Complete Communities

1. Coordinate development through a master plan or block planning, wherever possible.

2. Create pedestrian-scaled, safe and walkable blocks throughout Strategic Growth Areas:
   - Break up large blocks physically via mid-block connections, pedestrian pathways, woonerfs (shared streets), or POPS that connect into a continuous network of pedestrian connections. Block lengths under 100m encourage walkability.
   - Provide generous buffers (landscaped or building setbacks) to prevent conflicts between pedestrians and traffic along collector and arterial streets.

3. Avoid creating new surface parking in Strategic Growth Areas, by allocating required parking underground or in parking structures.
   - Screen parking structures from surrounding streets, sidewalks, and parks, with landscaping and high quality materials.
   - Design parking structures to be flexible and easily adaptable as future development blocks.

4. Locate vehicular access and circulation along side streets and public laneways to provide a more pedestrian friendly experience along primary streets.

5. Promote on-street pick-up and drop-off instead of off-street car parking.

6. Develop streetscape designs that are:
   - Aesthetically pleasing and vibrant;
   - Consistent throughout the Strategic Growth Areas;
   - Uncluttered via careful placement of street furniture;
   - Accessible (barrier-free);
   - Safe, and comfortable for pedestrians and cyclists;
   - Sustainable, such as through the use of stormwater management, low-impact development, and integrated with natural habitats;
   - Durable and constructed of high-quality materials.

- Permeable, by reducing hard surfaces;
- Designed for all ages and abilities (a minimum of 2.1m, fit for two people using mobility devices such as wheelchairs or strollers); and

Gateways

7. Gateways are places that symbolize or signal an arrival into a distinct area, such as a SEED or Commercial District.

8. Ensure that the built form and public realm elements are designed in coordination to create landmarks, especially at key intersections and from key view points.

9. Incorporate, where possible, public art, high quality or signature architectural treatments, and signature design elements such as tower reveals.

Human-Scaled Density along Intensification Corridors

10. Provide a variety of heights up to 12-storeys and range of low to medium scale building typologies and uses within the Strategic Growth Areas to support a range of housing types and units.

12. Set back base buildings and step back taller midrises to provide more openness at the ground level and respond to the human-scale.

14. Ground floor heights should respond to the existing Commercial District and accommodate active at-grade uses along arterial streets.

15. Ensure retail vitality through generous floor-to-ceiling heights (4.5m), appropriate glazing, and flexible design to allow for adaptability over time.

16. Buildings should be located and oriented at appropriate heights that:
    - Define the edges of streets;
    - Create landmarks at Gateways;
    - Ensure transition to Neighbourhoods, lower-scaled buildings, and sensitive land uses such as Natural Heritage Systems and Greenspaces.

17. Enhance skyview through generous tower and building separation;

18. Mitigate weather impacts – such as shadowing and wind within the public realm – to create a comfortable travelling experience Downtown, by:
    - Locating taller buildings strategically within the block, such as north of open spaces and key public realm amenities to mitigate shadow impacts;

19. If built form exceeds 12 storeys, developments should:
    - Clearly define and provide a 3.0m stepback from base building;
    - Apply a 45-degree angular plane from a height equivalent to 80% of the width of the right-of-way, stepping back to provide a more human-scaled building.
    - Have regard for shadow and wind impacts at-grade;
    - Provide adequate transition, such as through stepbacks, setbacks, and terracing down to lower-scaled neighbourhood areas.
    - Be located at key intersections, on suitably sized sites, and/or along Intensification Corridors.

20. Where Strategic Growth Areas are adjacent to established residential neighbourhoods or natural heritage, appropriate transition measures should be put in place. This transition should be achieved by:
    - Using a rear angular plane of 45 degrees from the Neighbourhoods
    - Ensuring the mid-rise built forms step down or terrace towards residential areas.
    - Transitioning with lower scale built form like townhouses or open spaces.
    - The scale of new development will support usable and comfortable streets and public spaces and provide a range of housing and employment options. In

particular, mid-rise building typologies will provide intensification and appropriate transition between existing neighbourhoods and high-rise building sites.
- Develop a series of parks and open spaces along connections that lead to the natural heritage system west of Bayfield Street.

Commercial Districts: Street-Oriented and Walkable

21. For larger sites, development shall promote walkability in Commercial Districts through:
    - integrating commercial developments into a consistent network of streets and smaller sized blocks;
    - Providing supportive streetscape and street furniture to create an vibrant urban character, such as outdoor seating, street trees, and lighting;
    - Framing key streets with retail/ commercial uses on both sides;
    - Locating primary entrances to commercial uses along public streets, with high visibility; and
    - compact and fine-grain streets and blocks, to provide a more urban type of commercial district.

22. Anchor commercial uses, such as larger-format retail, should be:
    - Pedestrian-oriented, with parking located to the rear of buildings;
    - Easy, visible, and comfortable to access, such as through multiple entrances along longer facades;

23. Create a comfortable public realm that can be accessed and used year-round:
    - Consider micro-climate conditions within parks and open spaces by maximizing sunlight access on these key outdoor amenities
    - Shape and scale buildings to allow for sunlight access on streets, parks, and open spaces
    - Shape and scale buildings to mitigate wind impacts through strategies such as increasing tower separation and tower stepbacks, wind screens, and landscaping.

24. Support retail activity by providing lay-by short-term parking spaces along key retail corridors, for pick-up and drop-off.

25. Commercial entrances should be prominent and visible, through large entry awnings, canopies, or double height glazing.
    - Ensure visibility of commercial buildings at gateways and along primary streets by locating them close to the property line to facilitate ease of access for pedestrians, cyclists, and transit users.

Economic Growth Centres: SEEDs

26. Encourage a mix of uses vertically, with active uses at grade to encourage pedestrian activity at all times of day.

27. SEEDs are landmark sites to showcase local arts, culture, and innovation. Cultural uses that support this should be integrated into base buildings in accessible and visible locations.

28. Provide common outdoor amenity spaces such as central courtyards for residents and employees.

29. To celebrate the identity of SEED areas, development shall:
    - Integrate public art;
    - Have high visibility and presence from the surrounding streets;
    - Include unique elements that respond to the identity and use of the SEED areas;
    - Demonstrate design and architectural excellence, through high quality materials

DEMONSTRATION PLAN:
Medium Density Development in a Strategic Growth Area

The following is a concept demonstration of select principles, objectives, and guidelines in the Official Plan and City-Wide Design Guidelines, as applied to development in the context of Medium-Density Development in a Strategic Growth Area.

Design Principles

Contextual Design: Gateway creation using key view corridors, signature design elements, and public art, to signal arrival into a distinct area.

Design Excellence and Innovation: Placemaking used to create interest and support new and existing residents.

Connected, Walkable Neighbourhoods: Smaller blocks and mid-block connections connect neighbourhood to services and amenities.

Human Scaled Buildings and Spaces: Medium density massing frames Intensification Corridor and new open space.

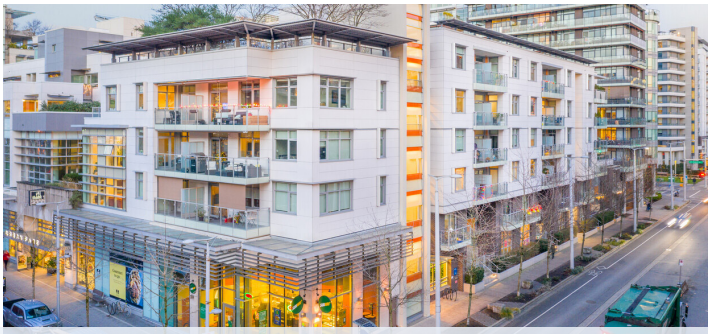
Safe, Comfortable and Accessible Buildings and Open Spaces: Buildings are street-oriented, with pedestrian entrances matching street grade and parking and loading access located from secondary street or laneway.

Enhanced and Protected Natural Heritage Network: Green streets, naturalized areas and park spaces, and low-impact development strategies add to the natural heritage network.

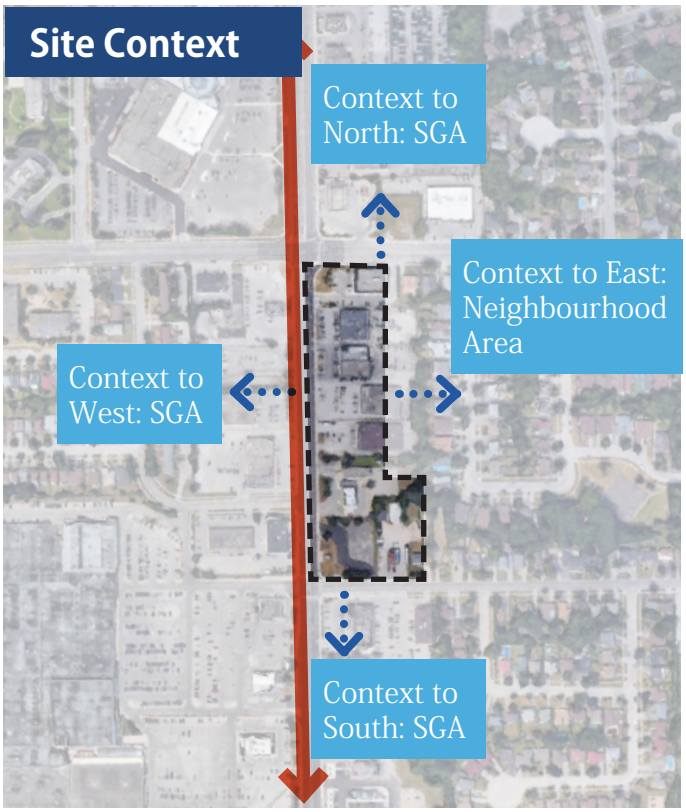
Sustainable Design and Development/ Buildings and Open Spaces Resilient to Effects of Climate Change: Integrate green infrastructure throughout buildings and public spaces; such as through permeable pavers and street trees, to mitigate the heat island effect.

Shared street/mid-block connection with integrated amenity and stormwater management,

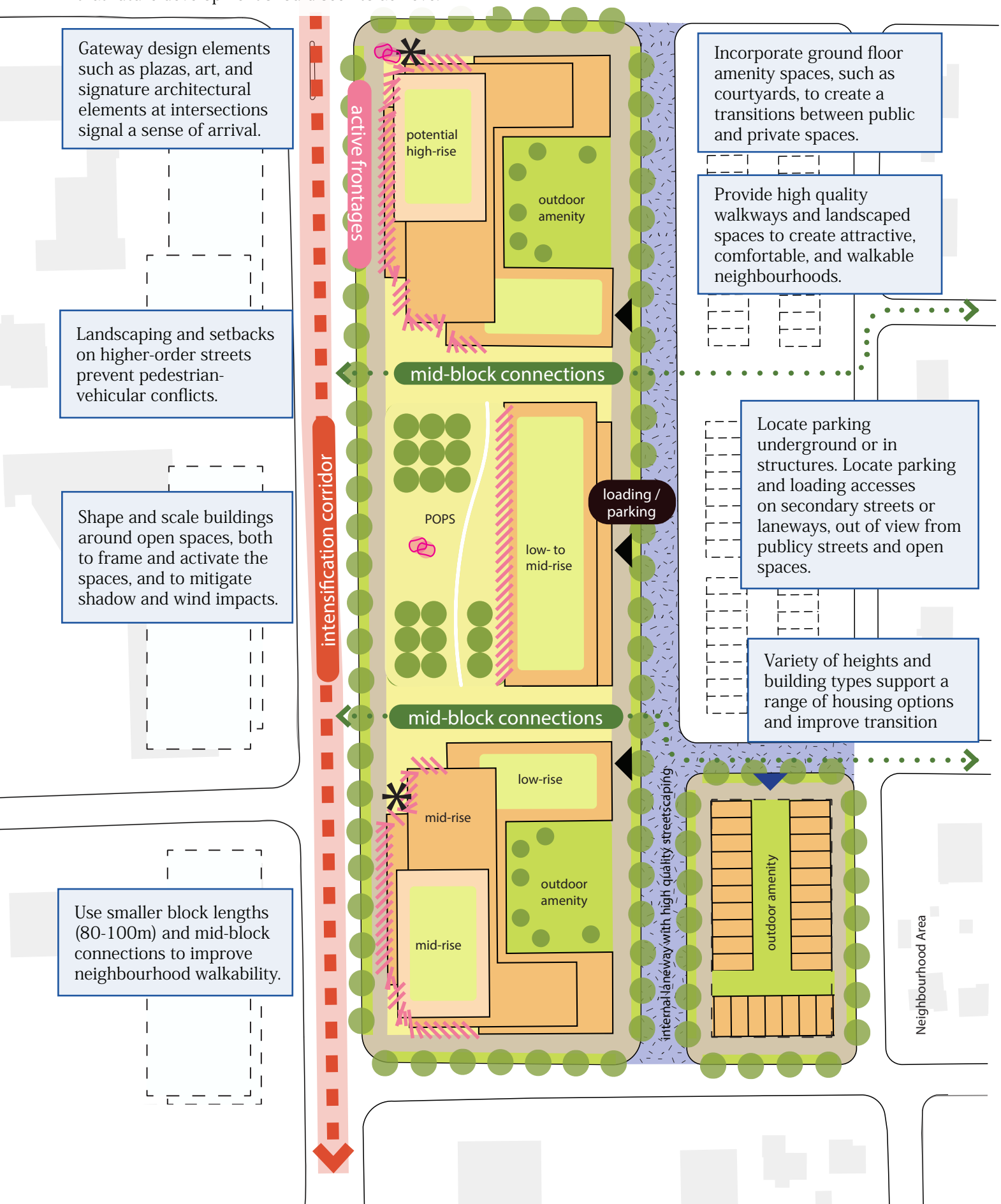




Mid-rise development with a mix of uses at-grade.



Note: plans are conceptual and only intended to be a demonstration of the urban design guidelines and act as a summary of key design elements and priorities that future development should seek to achieve.



DEMONSTRATION PLAN:
Commercial District in a Strategic Growth Area

The following is a concept demonstration of select principles, objectives, and guidelines in the Official Plan and City-Wide Design Guidelines, as applied to development in the context of a Commercial District in a Strategic Growth Area.

Design Principles

Contextual Design: A commercial identity preserves the unique social role malls play in communities; even through redevelopment.

Design Excellence and Innovation: Signature design elements at gateways and view corridors to public art, landmarks and destinations provide opportunities for signage and wayfinding, an enhanced public realm, and distinct area identity.

Connected, Walkable Neighbourhoods: Transition away from automobile-oriented design by creating compact blocks and integrate active-transportation networks.

Human Scaled Buildings and Spaces: Commercial entrances visible and accessible from gateway locations and primary streets.

Safe, Comfortable and Accessible Buildings and Open Spaces: Street-oriented buildings provide accessibility while framing and activating streets and open spaces and providing passive surveillance.

Enhanced and Protected Natural Heritage Network: Green space added in the first phase of development provides much needed outdoor amenity, and opportunity for neighbourhood placemaking and identity.

Sustainable Design and Development: Underground and structured parking allows more of the site to be utilized for other uses, such as housing and amenity.

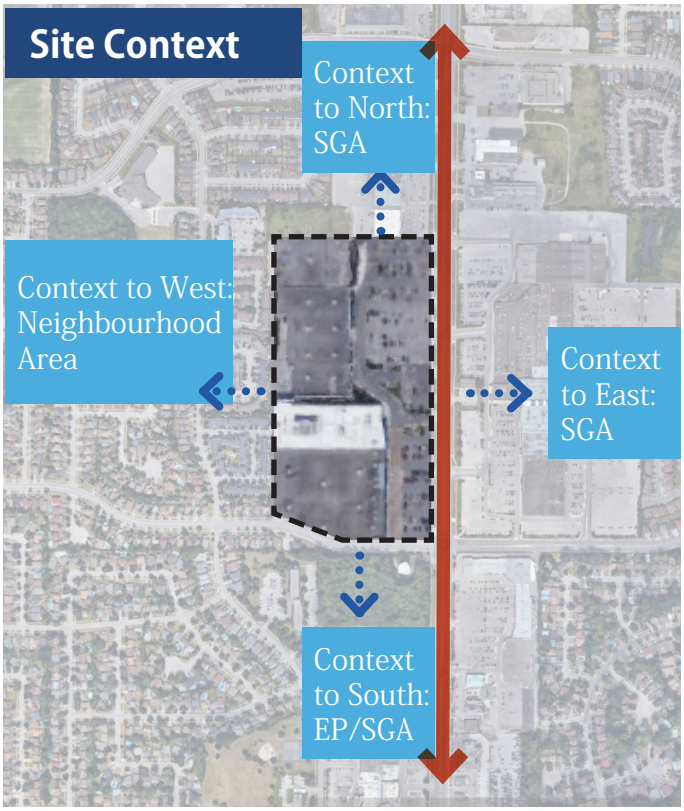
Buildings and Open Spaces Resilient to Effects of Climate Change: Blue-green systems manage on-site storm water.

Placemaking: central open space with retail edges.

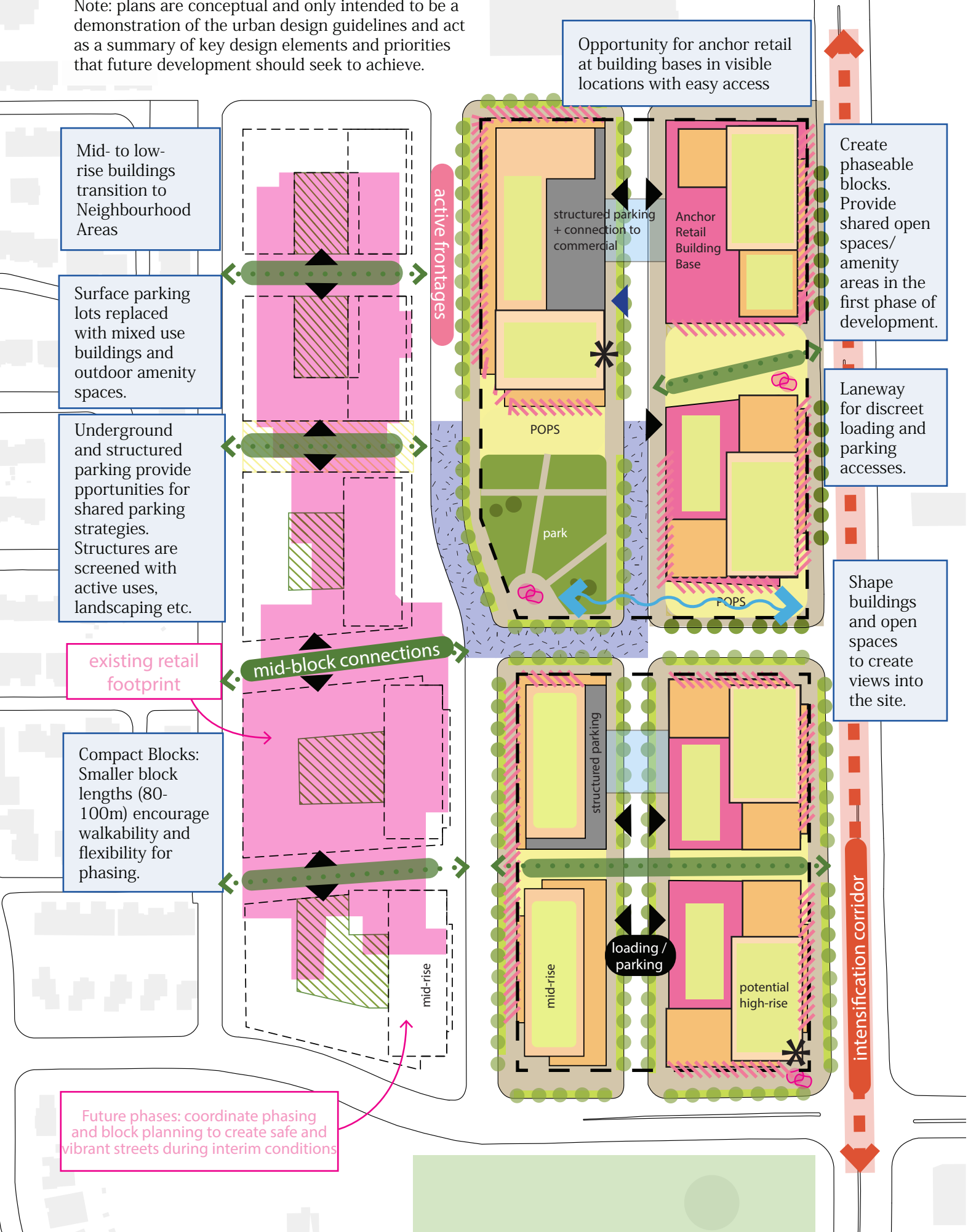




Generous civic spaces integrated with transit infrastructure.



Note: plans are conceptual and only intended to be a demonstration of the urban design guidelines and act as a summary of key design elements and priorities that future development should seek to achieve.



4.3 MAJOR TRANSIT STATION AREAS

Overview
Major Transit Station Areas (MTSAs) are areas including and around an existing or planned high-order transit stop and their boundaries are generally about a 10-minute walk to the transit station. In Barrie, there are two MTSAs and they are each anchored to a GO station: the Allandale Waterfront GO and the Barrie South GO.

These communities are intended to be transit-supportive with multi-modal access to the GO stations, should include a diverse mix of housing options including affordable housing, and must achieve transit-supportive densities that encourage walkable, complete communities.

Area Characteristics
- A range of built forms including flex buildings, low-rise buildings, mid-rise buildings and high-rise buildings ranging from 2-25 storeys.

Credit: XXXX

Guidelines

To achieve the design goals of the City, all development within MTSA's should:

MTSAs as Connected, Active-Transportation Friendly Gateways

1. As transit gateways into the city, developments within the MTSAs will symbolize or signal arrival into the city by:

2. Ensuring the built form and public realm elements are designed in coordination to create landmarks, especially at key intersections.

3. Incorporating, where possible, public art; high-quality or signature architectural treatments, and signature design elements such as tower reveals.

4. Using high-quality and winter-city landscaping, street trees, furnishing, and street lighting to support the pedestrian and cycling experience in all seasons.

5. MTSA's should provide seamless multi-modal connectivity to transit facilities by incorporating:
   - An interconnected, continuous and multi-use network of universally accessible sidewalks, protected bike lanes and/or multi-use trails that extends from neighbourhoods to public transit stops.
   - A variety of both on-street and off-road routes and trails along both public and semi-public lands.
   - Multi-use trails that distinguish between walking and cycling/roller-blading areas to minimize conflicts.
   - Trail widths between three to four metres.
   - Connections to public and semi-public parks.
   - An abundance of safe and protected bicycle parking to encourage active transportation.

6. Street networks in MTSAs should:
   - Be fine-grained with narrow blocks of approximately 90 metres, to provide a more urban fabric.
   - Link on-street bicycle routes with transit facilities.
   - Ensure efficient and safe active transportation circulation, as well as vehicle circulation.

- Concentrate vehicular access and circulation along side streets and public laneways to provide a more pedestrian-friendly experience along primary streets.

Street-Oriented and Human-Scaled Design

7. Streetscapes should be:
   - Consistent and context-sensitive.
   - Aesthetically pleasing.
   - Designed for all ages and abilities.
   - Uncluttered via careful placement of street furniture and signage.
   - Sustainable, such as through the use of stormwater management and low-impact development.

8. Street facades should:
   - Incorporate high-quality finishes and windows and include main entrances.
   - Completely screen roof-top mechanical equipment from public view.
   - Incorporate recesses, projections, windows or awnings, where appropriate.
   - Include high-quality landscaping along the length of the façade to create articulation and visual interest.
   - Integrate weather protecting canopies to help support active transportation during inclement weather.
   - For corner buildings, address both streets by providing two articulated facades.

9. To mitigate weather impacts at-grade, new developments should locate taller buildings strategically within a block to reduce shadowing and wind, and north of open spaces and key public realm amenities to mitigate shadow impacts.

10. To support active transportation at-grade:
    - Bicycle parking should be located at grade and close to building entrances and be sheltered.
    - Indoor bicycle parking should be required for all multi-unit residential buildings.

11. To encourage pedestrian-scaled design:
    - Buildings should incorporate a pedestrian-scaled base (up to 4 storeys) in order to ensure an environment where pedestrians can comfortably walk and or cycle.
    - Base buildings, mid- and high-rises should be set back to provide more openness at the ground level and respond to the human-scale.
    - If built form exceeds 12 storeys, such as within lands designated high density, development should clearly define and provide a 3.0 m setback from base building; and apply a 45-degree angular plane from a height equivalent to 80% of the width of the right-of-way, stepping back to provide a more human-scaled building.

Vibrant and Active Mixed-Use Neighbourhoods

12. Ensure vitality of active streetscapes through;
    - Generous floor-to-ceiling heights (4.5 m) at grade,
    - Narrow and deep commercial storefronts
    - appropriate street level glazing (X% of frontage), and
    - flexible design for adaptability over time.

13. Prioritize active uses at grade to encourage pedestrian activity at all times of day.

14. Support retail activity by providing lay-by short-term parking spaces for pick-up and drop-off.

15. Provide supportive streetscape and street furniture to create a vibrant urban character, such as outdoor seating, street trees and lighting.

16. At-grade, developments are encouraged to seamlessly transition between indoor and outdoor spaces through architectural treatments such as glass garage doors.

Transitions in the MTSAs

17. In the Barrie South MTSA, the greatest massing and heights should be in closest proximity to the GO station pedestrian entrance.

18. In the Allandale MTSA, the greatest massing and height should generally be targeted to large, underutilized sites adjacent to the rail corridor and away from cultural heritage elements and historic neighbourhoods.

19. A greater mix of uses, with a high ratio of commercial and retail uses, is highly encouraged within a 5-minute walk, or 450m, of the GO Station. This includes convenience retail that supports transit passengers (e.g., cafes and dry cleaners).

20. All developments in MTSAs are expected to function in a transitional manner; the further developments are from the GO station, the more they are expected to incorporate lower heights and massing.

21. Where developments are adjacent to established residential neighbourhoods or natural heritage/public open spaces, they should achieve appropriate transition measures by:
    - Using a rear angular plane of 45 degrees from the neighbourhood.
    - Ensuring taller built form steps down or terraces towards residential areas.
    - Using lower-scale built forms like townhouses or open spaces as a transition tool.

Welcoming and Integrated Open Spaces

22. Development adjacent to public open spaces in MTSA's should:
    - Avoid blank facades facing the park or open space.
    - Prioritize transitions to the park using high-quality landscaping, furniture and public art to facilitate a positive visual effect.
    - Prioritize connectivity to the park via pedestrian and cycling trails.
    - Ensure any connections to the park are inclusive and accessible to diverse members of the community.

23. Semi-public open spaces should be designed to:
    - Connect into a wider multi-modal active transportation system within the MTSA.
    - Be accessible spaces and designed with the principles of universal design, where feasible.
    - Adhere to the principles of Crime Prevention Through Environmental Design (CPTED).
    - Function as gathering/recreational spaces for the wider community.
    - Be safe, year-round destinations.
    - Be flexible spaces that offer a variety of recreational and cultural opportunities.
    - Provide high-quality lighting, furniture, bicycle parking, and landscaping.
    - Be designed for year-round use.

Parking Design in the MTSAs

24. Shared parking between compatible uses (for instance, between residences, commercial sites, transit stations, and/or parks) is encouraged.
25. Auto-share and hybrid/electric vehicle parking options are encouraged in the MTSA.
26. Parking structures and lots should be designed to be easily adaptable as future development blocks.
27. Parking developments as a primary or single-use is highly discouraged.
28. Parking structures should be screened from surrounding streets, sidewalks and parks with landscaping and high-quality materials. Blank facades are highly discouraged.
29. While surface parking lots should be limited in the MTSA, where they do occur they should:
    - Include landscape strips, decorative fencing or walls as transition tools to adjacent properties or streets.
    - Be flexible so that additional uses can be incorporated (e.g., temporary events, an outdoor market, patios, etc.).

- Walkways should be provided to main entrances of buildings and should be well-articulated, safe, accessible and integrated with the overall network of pedestrian linkages in the area.

Development Adjacent to Transit Station Lands

30. Private developments should locate building entrances to facilitate the greatest connectivity to adjacent transit facilities.

31. Private developments should generally adhere to Metrolinx/GO Transit Adjacent Development Guidelines, as amended or updated.

Transit Station Lands

32. The station building within an MTSA should be designed and massed as a landmark building to reinforce the importance of the site and assist with wayfinding throughout the city.

33. Providing a variety of uses (including residential) on Metrolinx land holdings is highly encouraged, to help achieve higher densities and an overall mix of land uses in close proximity to the transit stations.

34. Internal pedestrian passages leading to and from the transit station should be incorporated, where feasible, to encourage a continuous, weather-protected connection to the station.

35. The main entrances at transit stations should include transit-related amenities (e.g., signage, ticket machines, etc.) as well as amenities for those who may be waiting for a connection (e.g., public art, seating, food options, etc.).

36. Transit stations should include an abundance of bicycle parking and storage facilities, in order to encourage users to connect to the station through active modes of transportation.

37. Station design should adhere to the principles of Crime Prevention through Environmental Design (CPTED) to ensure the safe usage of the station at all times of day.

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4.4 HISTORIC NEIGHBOURHOODS

Overview
Barrie's historic neighbourhoods cover a large geographic area of the historic downtown and surrounding Kempenfelt Bay. Development in Barrie's historic neighbourhoods should conserve and appropriately manage the character of each neighbourhood.

Where new development in historic neighbourhoods is undertaken as infill, redevelopment, or through intensification, the design should generally complement the existing historic character of the heritage neighbourhood and be compatible with the historic architectural styles, façades and treatments of the surrounding buildings.

Indigenous heritage preservation will be a consideration for future development, and consultation with Indigenous Nations on proposed development within Treaty 16, Treaty 18, and Williams Treaty lands will be undertaken as applicable.

Area Characteristics
- Areas of the city with a critical mass of historic buildings, commonly historic 1-3 storey single detached homes.



Modern infilll development adjacent to historic buildings, demonstrating compatibility through use of materiality, building type, siting, scale and massing, and consistent, high-quality landscaping to integrate it with the neighbourhood.

Guidelines

To achieve the design goals of the City, all development within Historic Neighbourhood areas should:

Support Historic Urban Fabric

1. Consult heritage professionals during the design process to ensure that the most appropriate renovation techniques and materials are employed for development within historic neighbourhoods.

2. Document the existing condition and character of historic properties prior to designing alterations, replacements, or additions.

3. Development shall consider its contextual fit within not only the subject site, but the historic neighbourhood as a whole.

4. Developments within historic neighbourhoods should maintain the integrity of the historic neighbourhood, both physically and visually.

5. Alterations to existing buildings should match the pre-established set-back of adjacent buildings to ensure a continuous street wall. This is especially beneficial on sites where buildings are currently set back from the street or are missing altogether.

6. Infill buildings and renovations to existing buildings within the historic neighbourhoods should not mimic adjacent heritage properties, but should have sympathetic scale, massing, and height.

7. New buildings within the historic neighbourhoods should not mimic adjacent heritage properties, but should have sympathetic window alignment, roof-lines, entrance location, ground floor treatment and materials.

8. Heritage properties should generally be limited to their existing height, not including the cornice or parapet, to encourage the retention of these key features.

9. Development in historic neighbourhoods should maintain key public spaces, connections, and landscape character throughout the historic neighborhood. For example, neighbourhoods with a distinct streetscape character such as mature tree canopies and wide sidewalks shall be maintained.

10. Conserve sightlines, especially towards key landmarks or open spaces, such as towards the waterfront.

11. Avoid disruptions such as vehicular accesses along historic streetwalls. If access is essential to the function of the development, minimize its visual impact to the streetscape and public realm.

12. Sustainable technologies are encouraged, such as green roofs or solar panels.

13. Expand and enhance existing pedestrian and cyclist connections, such as cultural trails.

Celebrate the Past

14. Heritage buildings should be retained and restored and/or adaptively reused.

15. Façade retention is discouraged as a substitute to the retention of entire structures. During retention and restoration:
    - Adaptive reuse is encouraged over demolition or redevelopment, as it also more sustainable with a lower embodied carbon impact.
    - Buildings should not be altered through embellishment or other decorative means against their initial stylistic intent
    - Repair, rather than replace, features of heritage buildings (such as restoring windows and doors to be made energy efficient) where possible, as replacement should be seen as a last resort.
    - Where heritage attributes are deteriorated and cannot be repaired, replacements should conserve the characteristics such as materials, size, fnishing, pattern, detailing, colour, or composition. For example, window replacements should be of a similar module of mullions and muntins.
    - Relocation of heritage buildings or structures may be supported if suitable study and strategy is presented to the City.

16. The original façade materials on buildings within the historic neighbourhoods should not be changed or covered. Façade renovation should be in keeping with the original building articulation, using those elements that are intact and replacing those that are missing or damaged (i.e. columns, cornices, openings, windows, doors, etc.).

17. Additions or renovations within a historic neighbourhhod should use materials that match or enhance the original structure (e.g. color, texture, scale, etc.).

18. Wherever possible, existing windows and doors should be restored and made energy efficient. Their replacement should be seen as a last resort.

19. In historic neighbourhoods, storefront design should maintain a heritage rhythm and character through recessed entries and large bay windows.

Provide Harmonious, Respectful, and Sympathetic Development

20. Incorporate heritage properties within new or infill developments. Alterations and additions to heritage properties or structures should be complementary.

21. Reference both the physical and visual historical features – architecturally and through features such as materiality.

22. New or infill development within historic neighbourhoods shall respond to established characteristics or architectural features within these districts. This includes:



Block redevelopment integrating historic buildings and neighbourhood/streetscape character. Credit: Perkins Eastman

- Height-to-Width Ratio: new or infill development should have a height-to-width ratio that is compatible with existing buildings.
- Height: building heights of new or infill development should not exceed the context of heritage neighbourhoods. For areas where taller buildings are permitted, or are to provide a transition to higher-density areas (such as Strategic Growth Areas or Major Transit Station Area), the bulk of the building should be setback 3 metres from the streetwall or beyond the ridge of the roof of the heritage building, to ensure that the development responds to the human scale. Podium heights should also correspond to adjacent historic building heights.
- Main Street Setbacks and Streetwall: match the pre-established setback of adjacent buildings to ensure a continuous street wall and/or streetscape, especially where buildings are already set back. This is especially important in main street conditions in historic neighbourhoods.
- Residential Setbacks and Streetwall: where a continuous street wall does not exist, new or infill developments should incorporate a setback that reflects an average between those of existing buildings. For example, if a continuous streetwall does not exist and front setbacks range between 3 and 5 metres, development should provide a 4 metre setback.
- Alignment with existing features: sympathetic window alignment, matching cornices, roof forms and profiles, entrance location, ground floor treatments, without directly mimicking.
- Articulation: maintain horizontal and vertical articulations of the heritage assets and neighbourhood within any new development or additions.
- Rhythm of frontages and storefronts: maintain a heritage rhythm and character through recessed entries and large bay windows, especially along areas with main street character.
- Materials: development shall use materials that match or enhance the original structure. This includes considerations of color, texture, scale, etc.
- Visual Separation: visually separate any additions from the primary heritage structure through reveals, transparent materials, additions of open space, or other design techniques.

DEMONSTRATION PLAN: Development in a Major Transit Station Area / Historic Neighbourhood

The following is a concept demonstration of select principles, objectives, and guidelines in the Official Plan and City-Wide Design Guidelines, as applied to development in the context of a Major Transit Station Area.

Design Principles

Contextual Design: The greatest height and density should be in close proximity to transit; transitioning to lower heights and density as they get further away from services.

Design Excellence and Innovation: Use of consistent streetlines and setbacks in historic neighbourhoods. Use of 3m step-backs where height beyond nearby heritage structures is proposed.

Connected, Walkable Neighbourhoods: Transition away from automobile-oriented design by creating compact blocks and integrated active-transportation networks.

Human Scaled Buildings and Spaces: Balancing MTSA density requirements with building types and heights compatible with surrounding historic neighbourhood context.

Safe, Comfortable and Accessible Buildings and Open Spaces: Street-oriented buildings with accesses at-grade. Mid-block connections and POPS.

Enhanced and Protected Natural Heritage Network: Prioritize accessible connections to surrounding parks, open spaces, and waterfront.

Sustainable Design and Development / Buildings and Open Spaces Resilient to Effects of Climate Change: Provide access to green infrastructure both at-grade (though parks, streetscape) and above-grade (through terraces, green roofs, rooftop gardens), especially in denser, vertical, neighbourhoods.

Range of building types/heights for gentle density.



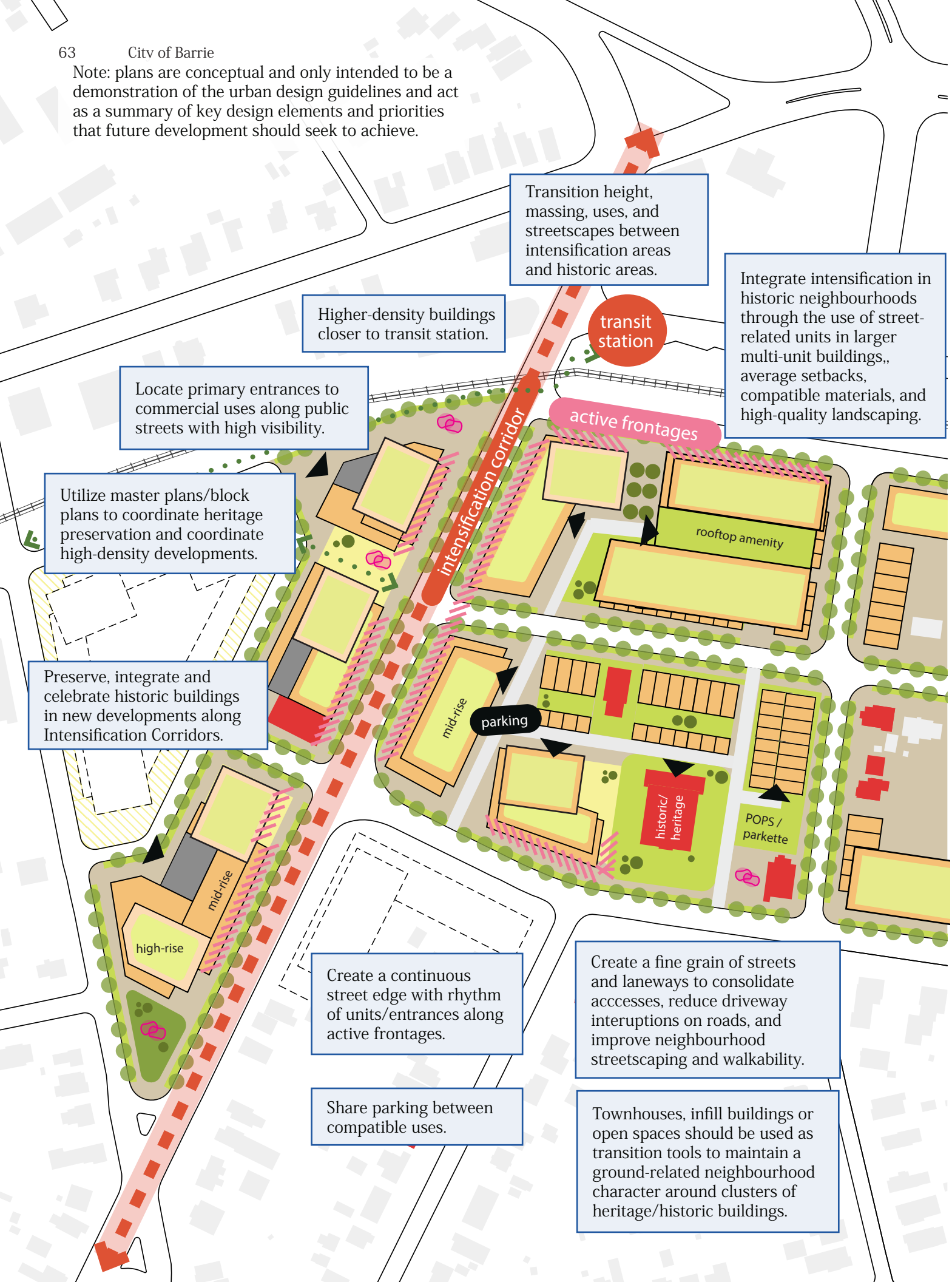


Reinforce historic neighbourhood character through siting, massing, and materials.

Site Context



Note: plans are conceptual and only intended to be a demonstration of the urban design guidelines and act as a summary of key design elements and priorities that future development should seek to achieve.



4.5 EMPLOYMENT NON-INDUSTRIAL AREAS

Overview

As per the Official Plan, the Employment Area - Non-Industrial designation applies to certain lands within Employment Areas. Lands designated Employment Area - Non Industrial are intended to support Barrie's economic competitiveness by facilitating a wide range of non-industrial employment uses that either support industrial-type uses, serve the general public, or create new economic development opportunities. To maintain the flexibility of Barrie's Employment Areas, industrial type uses may also be accommodated on lands designated Employment Area - Non-Industrial. The structure of Employment - Non-Industrial lands is to promote clustering of like employment uses (post-secondary, creative, and knowledge-based), and to plan for spillover effect.



Credit: Vulcan Real Estate

Key Guidelines

Supportive Centers for Economic Growth

1. Site design should contribute to walkability and promote access for pedestrians, cyclists, and other active uses, through:
   - Establishing stronger connectivity to rapid transit stations and stops and active pathways that transport residents from neighbourhoods to employment centers by:
     i. Providing direct connections to existing and planned cycling pathways and multiuse trails
     ii. Coordinating transit and cycling networks to establish well-designed site circulation routes and weather protected waiting areas
     iii. Creating connections to surrounding neighbourhoods.
   - Buildings should provide convenient and direct access to indoor and outdoor bicycle parking for visitors and employees.
   - Integrate mid-block connections to provide alternative routes and formalize desired paths of high-volume pedestrian areas. Mid-block connections should be safe, accessible, and lively corridors with appropriate lighting, street furniture, and high quality pavement treatments
   - Due to its proximity to major transportation and freight corridors, any noise, vibration, and visual impacts from highways and railways should be screened to improve the public realm and pedestrian experience.

2. Design vehicular access and circulation to provide a safer and more pedestrian-friendly public realm.
   - Consolidate property access points through shared driveways to minimize curb cuts and interruptions to the pedestrian realm. This, alongside human-scaled lighting, will further support a strong street edge and promote a comfortable and safe pedestrian experience.
   - Due to its adjacency to freight corridors, ensure safety along pedestrian and active pathways by providing separation from the street and vehicular driveway access, wherever possible.
   - Parking, servicing, and loading functions should generally be located towards the rear of the property, underground,

or screened from the view of the public realm.
   i. Encourage structured parking with amenities on top, or underground parking.
   ii. Where convenience parking is provided, encourage on-street configurations.
   iii. Consolidate parking and loading where possible. In some instances, it may be appropriate to separate loading/servicing functions and visitor/employee parking.

3. Design active frontages to create a lively public realm, through:
   - Developments should activate the street by locating buildings towards the street edge to create a continuous, dynamic public realm
   - Primary frontages and ground floor amenity uses should face the streets to engage the public realm, while manufacturing and back-of-house uses should be consolidated and located at the rear of the site.
   - Provide distinct and visible pedestrian entrances that are directly connected to the public street, and may include forecourts or plazas.

Promoting Design Excellence

4. New or infill development should maintain a consistent characteristic or architectural feature, which includes:
   - Setbacks and Streetwall.
     i. Development shall provide consistent setbacks from the property line, matching with neighbouring streetwalls to create a continuous streetwall
     ii. Where a continuous street wall does not exist, new or infill developments should incorporate a setback that reflects an average between those of existing buildings. For example, if a continuous street wall does not exist and front setbacks range between 8 and 12 metres, development should provide a 10 metre setback.
     iii. Transitional blocks may require to be setback from adjacent existing uses due to noise levels, servicing uses, etc.
   - Façade Articulation. Buildings should have highly articulated façades to frame open spaces and humanize its scale. This is especially important for uses that typically occur in larger buildings, such as major retail (big box stores).
   - Landscaping and Buffers.
     i. Landscaped buffers should be provided between properties, contributing to a larger, continuous open space network.
     ii. Landscaping should be designed to improve air quality, reducing noise, and managing and filtering stormwater on site
   - Materials. Development shall use high quality materials, with significant glazing, that enhance the character of the area and provide visual interest
   - Visible anchors. Prominent employment buildings that are highly visible from key intersections and highways should be designed as landmarks, given their access to surrounding areas. Where appropriate, building height may function as a gateway feature.
   - Open spaces and high-quality sustainable design features.

5. Site and building design should promote sustainability by:
   - Utilizing rooftops as green roofs or as outdoor amenity spaces for employees
   - Encourage site greening through landscaping, especially in large paved areas such as throughout surface parking lots.
   - Implement permeable paving, tree canopy, and other stormwater management features, especially over surface parking lots.
   - Where trees are removed, replacement trees or offsetting should be provided, per Parks Planning and/or Forestry.

6. Provide a coordinated wayfinding and signage system, especially in internally oriented employment centers to provide a sense of place

Integrate supportive mixed-use within employment buildings, such as retail, restaurants, drive-throughs, or other uses

7. Research and development facilities, training centers and commercial education, public institutions, light industrial uses, and supportive or accessory retail and restaurants are permitted as per the Official Plan
    - Neighbourhood amenities such as retail, restaurant, and community services should be located along primary pedestrian and transit routes, and within walking distance of the highest concentration of employment.
    - Locate major retail at the periphery of the employment area , in convenient, visible, and accessible locations.
    - Locate hotels and conference facilities in areas of high visibility, especially from major roadways or highways
    - Drive-through facilities should be architecturally integrated into other buildings, to avoid interrupting pedestrian, cyclist, or vehicular connectivity.
    - Drive-through facilities should be located close to the street edge, with any outdoor seating areas away from vehicular circulation zones.

8. Integrate comfortable and gathering areas, such as courtyards and parks, that are enclosed from loading, storage, or other noisy areas

Responsive built form

9. Transitional Heights. Heights of new or infill development should not exceed 12-storeys. Taller buildings should be strategically located closest to transit, and then transition down towards the neighbourhoods to minimize shadows in public open areas.
10. Develop a Block Plan and Anticipate Future Infill. Anticipate connections to future redevelopment of neighbouring properties and design the interface of the site and buildings accordingly. Provide a block plan to demonstrate how development contributes to building on existing or planned networks.

DEMONSTRATION PLAN:
Employment - Non Industrial

The following is a concept demonstration of select principles, objectives, and guidelines in the Official Plan and City-Wide Design Guidelines, as applied to development in the context of Employment Non-Industrial lands.

Design Principles

Contextual Design: Anticipate connections to future redevelopment of neighbouring properties and design the interface of the site and buildings accordingly. Provide a block plan to demonstrate how development contributes to building on existing or planned networks.

Design Excellence and Innovation:Integrate retail within employment buildings to facilitate a vibrant mixed-use business park

Connected, Walkable Neighbourhoods: Locate parking, servicing and loading towards the rear of the property, underground or screened from the view of the public realm, to promote walkability. Add sidewalks to all existing streets and provide direct access to transit.

Human Scaled Buildings and Spaces: Create integrated, supportive mixed-use within employment buildings, with walkable access to key services and ground-level amenities, with supporting open spaces

Safe, Comfortable and Accessible Buildings and Open Spaces: Ensure the public realm is pedestrian friendly by minimizing curb cuts, separating vehicular and pedestrian pathways and incorporating human-scaled lighting

Enhanced and Protected Natural Heritage Network/ Sustainable Design and Development / Buildings and Open Spaces Resilient to Effects of Climate Change: Limit surface parking, design for future phases and intensification/infill, and provide green roofsneighbourhoods.

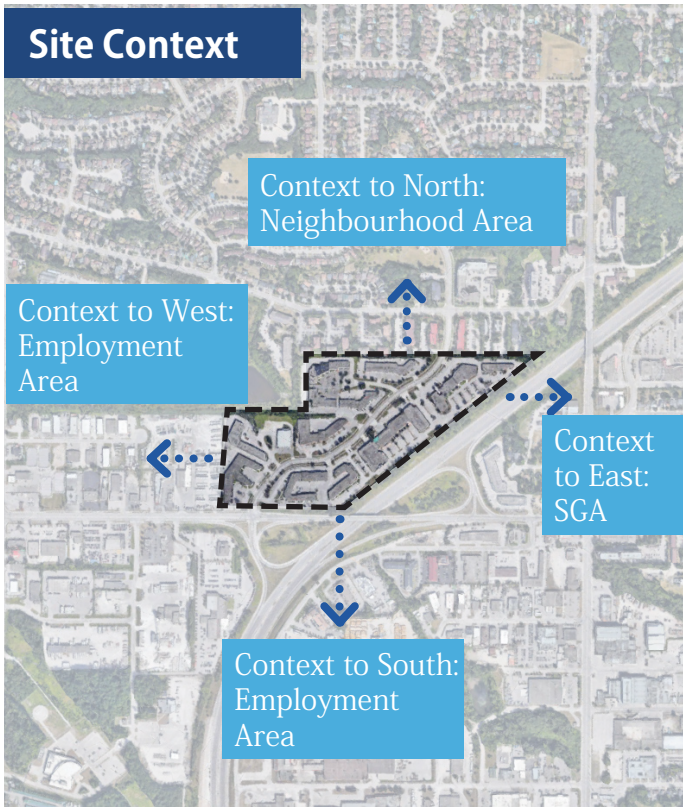
Active Transportation links to transit and amenities.



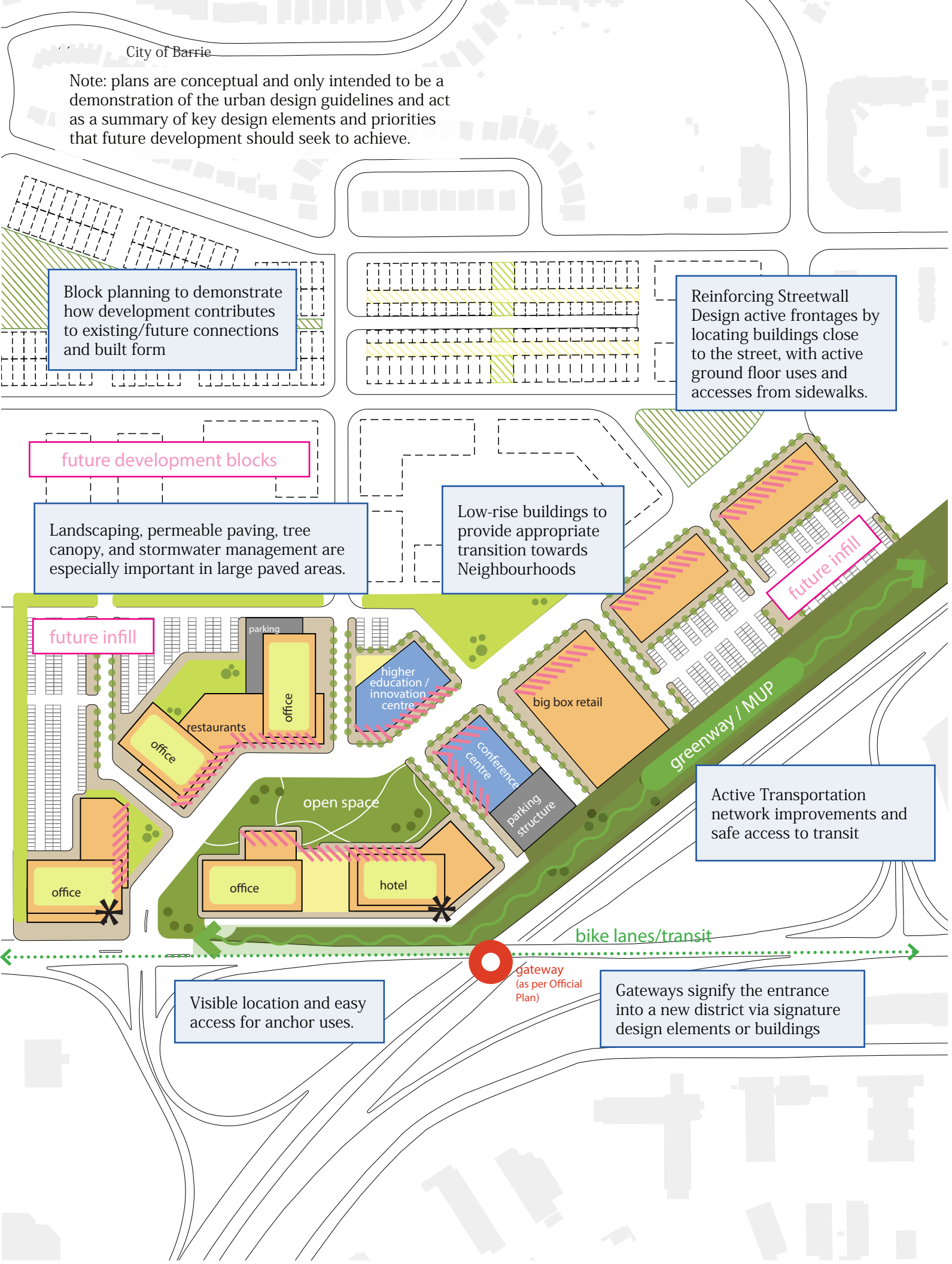
Outdoor amenities to support non-residential uses.



Site Context



Note: plans are conceptual and only intended to be a demonstration of the urban design guidelines and act as a summary of key design elements and priorities that future development should seek to achieve.



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SECTION 05:

SITE & BUILDING DESIGN

5.1
General Building Design Guidelines

The following section outlines general building design guidelines, key design strategies and elements that should be addressed in all new residential, mixed use, retail, commerical, employment and community hub projects in the city. They are focused on achieving the design priorities and establish the basis for the more detailed building typology-specific project.

Both the general design guidelines and the following building-type specific guidelines apply to each project.



Credit: City of Kelowna

Objectives

To achieve the design goals of the City, all residential and mixed use projects should:

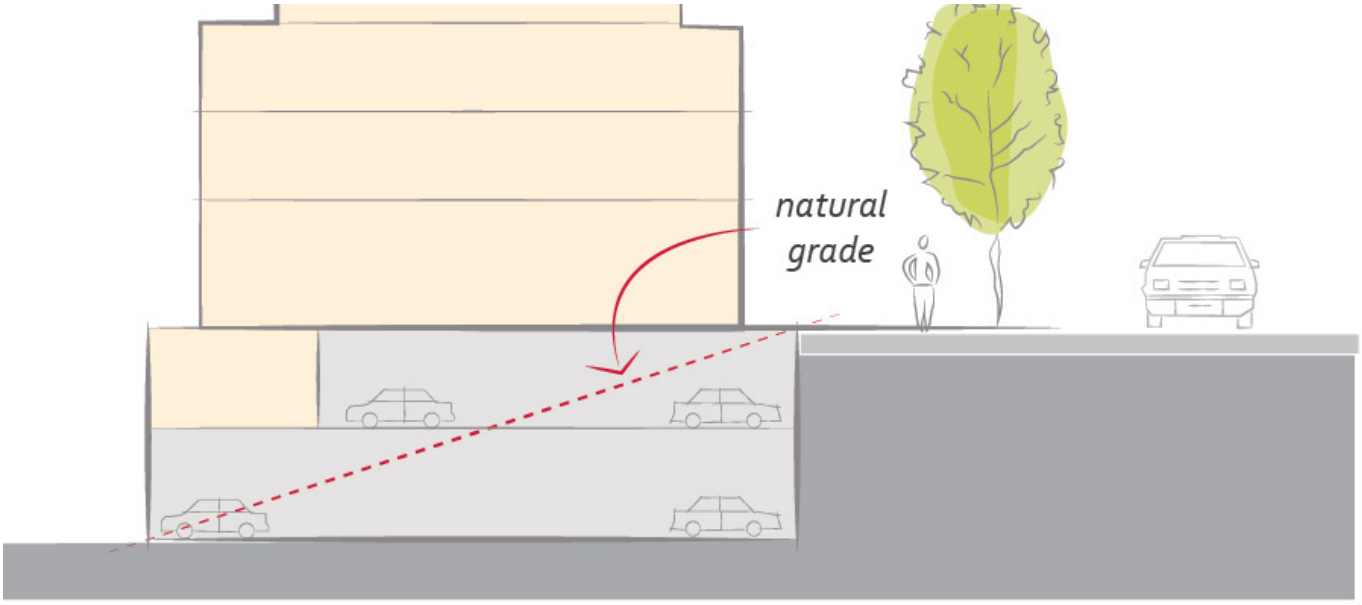
1. Design buildings to frame and activate streets and other open spaces to support walking and cycling, pedestrian comfort, and social interaction

2. Incorporate high quality building, landscape, and streetscape design to support liveability, sustainability, and sense of place.

3. Ensure new buildings contribute positively to the envisioned future built form, while creating good transitions to the existing built environments and sensitive to the natural environment.

4. Provide usable open spaces on site that balance privacy and access and that increase pedestrian connectivity throughout the city.

5. Ensure new development has adequate servicing, vehicle access, and parking while minimizing negative impacts on the safety and attractiveness of the public realm.



Credit: City of Kelowna

5.1.1 Site Planning

Design Intent: to site buildings to respond sensitively to topography and environmental features; to enhance privacy, liveability, safety and accessibility; and to increase connectivity to the surrounding open space network..

Guidelines:

1. Site and design buildings to respond to unique site conditions and opportunities, such as oddly shaped blocks and lots, prominent intersections, framing of important open spaces, corner lots, and views.

2. Ensure public safety through the use of appropriate lighting, visible entrances, opportunities for natural surveillance, and clear sight lines for pedestrians.

Relationship to Grade

3. Limit the maximum grade on development sites to 30% (3:1).

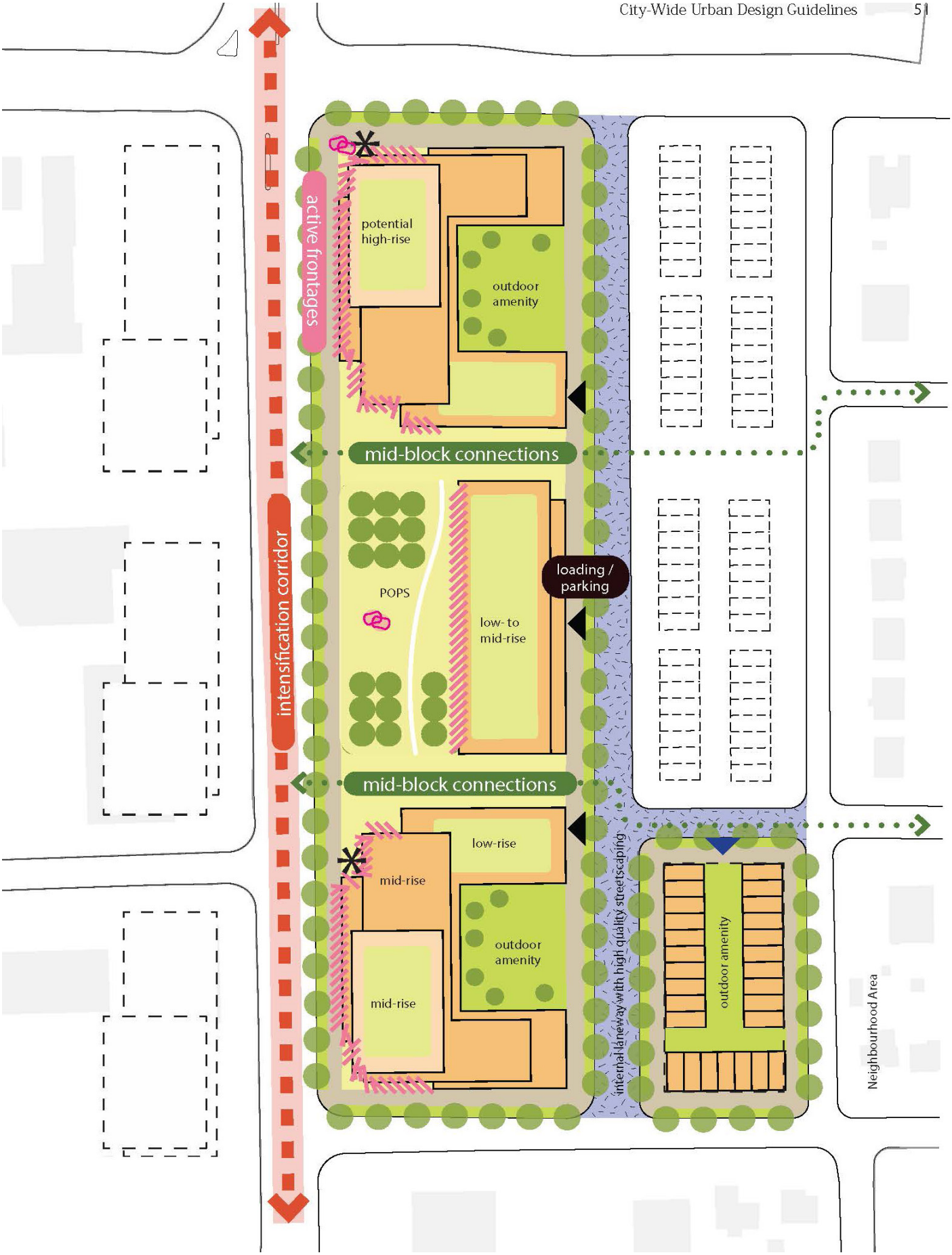
4. Design buildings for 'up-slope' and 'down-slope' conditions relative to the street by using strategies such as:
   - Stepping buildings along a slope, and locating building entrances at each step.
   - Incorporating terracing to create usable open spaces around the building;
   - Using the slope for underground parking and to screen service and utility areas;
   - Ensuring buildings capture views.
   - Minimizing large retaining walls (where retaining walls higher than 1m should be stepped and landscaped).

Connectivity

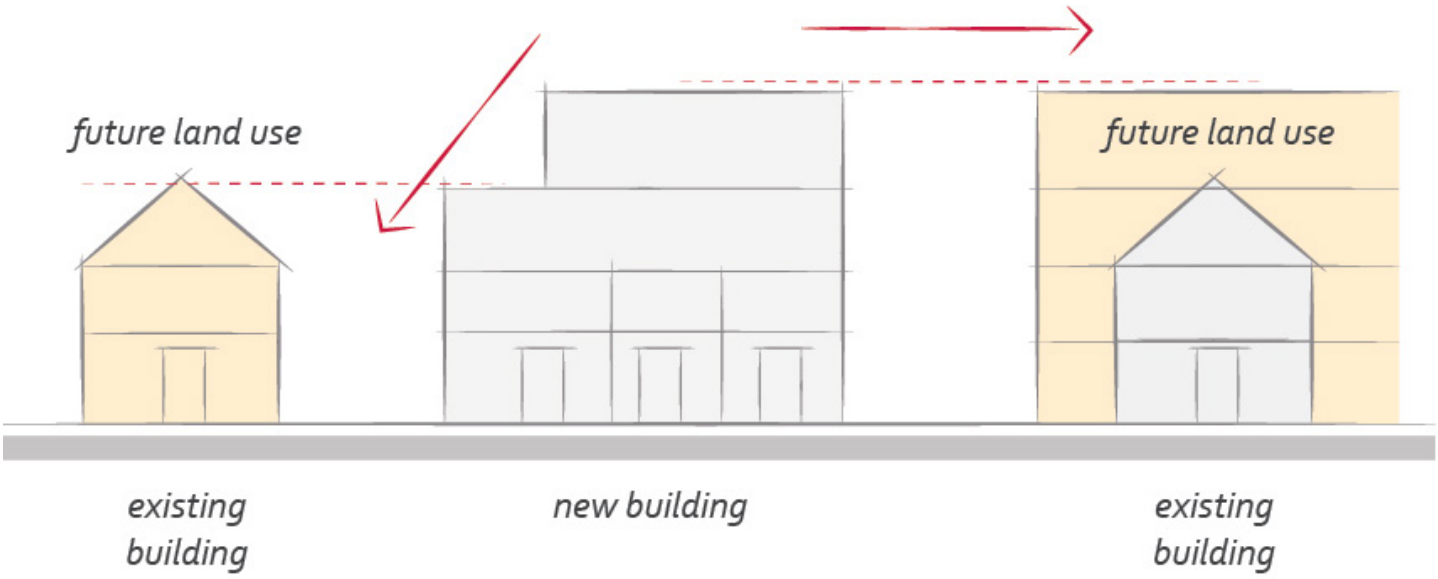
5. Design internal circulation patterns (streets, sidewalks, pathways) to be integrated with and connected to the existing and planned street, bicycle and/or pedestrian network.

6. Incorporate easy-to-maintain traffic calming features, such as on-street parking bays and curb extensions, textured materials, and crosswalks.

7. Apply universal accessibility principles to primary building entries, sidewalks, plazas, mid-block connections, lanes, and courtyards through the appropriate selection of materials, stairs, and ramps as necessary, and the provision of wayfinding and lighting elements.



Demonstration Plan: Medium Density Development in a Strategic Growth Area. See section 4.0 Area Specific Guidelines above.



Credit: City of Kelowna

5.1.2 Scale and Massing

Design Intent: to ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces..

Guidelines:

1. Provide a transition in building heights from taller to shorter buildings both within and adjacent to the site with consideration for future land use direction.

2. Break up the perceived mass of large buildings by incorporating visual breaks in facades.

3. Step back the upper storeys of buildings and arrange the massing and siting of buildings to:
   - Minimize shadowing on adjacent buildings as well as public and open spaces such as sidewalks, plazas, and courtyards; and;
   - Allow for sunlight onto the outdoor spaces of the majority of ground floor units during the winter solstice.



A central open space with a good sense of enclosure. Hammarby Sjostad. Credit: Image TBD

5.1.3 Relationship to the Street

Design Intent: to site and design buildings to frame and activate streets and public open spaces.

Guidelines:

1. Orient primary building facades and entries to the fronting street or open space to create street edge definition and activity.

2. On corner sites, orient building facades and entries to both fronting streets.

3. Minimize the distance between the building and the sidewalk to create street definition and a sense of enclosure within the streetscape.

4. Locate and design windows, balconies, and street-level uses to create active frontages and 'eyes on the street', with additional glazing and articulation on primary building facades.

5. Ensure main building entries are clearly visible with direct sight lines from the fronting street.

6. Avoid blank, windowless walls along streets or other public open spaces.

7. In general, establish a street wall along public street frontages that creates comfortable building height to street width ratios (generally between 1:1 and 1:3) and avoids creating an 'urban canyon' effect.
   - A street wall does not include upper storeys that are set back from the primary frontage.
   - Wider streets (e.g., transit corridors) can support greater streetwall heights compared to narrower streets (e.g., local streets);
   - A 1:1 building height to street width ratio is appropriate for a lane or mid-block connection condition provided the street wall height is no greater then 3 storeys.



Articulated buildings with a harmonious and cohesive architectural concept, and a high quality pedestrian scale.

5.1.4 Building Articulation and Materials

Design Intent: to enhance liveability, visual interest, identity, and sense of place through building form, architectural composition and materials

Guidelines:

1. Express a unified architectural concept that incorporates variation in facade treatments. Strategies for achieving this include:
   - Articulating facades by stepping back or extending forward a portion of the facade to create a series of intervals or breaks;
   - Repeating window patterns on each step-back and extension interval;
   - Providing a porch, patio, deck, covered entry, balcony and/or bay window for each interval; and
   - Changing the roof line by alternating dormers, stepped roofs, gables, or other roof elements to reinforce each interval.

2. Incorporate a range of architectural features and details into building facades to create visual interest, especially when approached by pedestrians. Include architectural features such as:
   - Bay windows and balconies;
   - Corner feature accents, such as turrets or cupolas;
   - Variations in roof height, shape and detailing;
   - Building entries; and
   - Canopies and overhangs.

3. Include architectural details such as:
   - Masonry such as tiles, brick, and stone;
   - Siding including score lines and varied materials to distinguish between floors;
   - Articulation of columns and pilasters;
   - Ornamental features and art work;
   - Architectural lighting;
   - Grills and railings;
   - Substantial trim details and moldings / cornices; and
   - Trellises, pergolas and arbors.

4. Design buildings to ensure that adjacent residential properties have sufficient visual privacy (e.g. by locating windows to minimize overlook and direct sight lines into adjacent units), as well as protection from light trespass and noise.

5. Design buildings such that their form and architectural character reflect the buildings internal function and use.

Materials

6. Colour schemes and material selections should be carefully coordinated for visual harmony and for consistency with the existing buiding and surrounding neighbourhood.

7. Incorporate substantial natural building materials such as masonry, stone, and wood into building facades.

8. Avoid the use of synthetic siding systems, mirror/heavily tinted glass panels, and unadorned concrete block - particularly for materials and finishes on building façades facing or visible from public streets and open spaces

9. Materials should be appropriate to their use and locational context, as well as be complementary with the expressions of the City as a whole.

10. With regard to new mid-rise or high-rise developments, particular detail and attention should be paid to the design and quality of the building podium, as it is the portion of the building most experienced by people.

11. The use of 'heavy' materials such as brick and stone should generally be used within a building's lower levels, base or podium to anchor it; limited use of metal may be used as a decorative feature. Other natural and sustainable materials are strongly encouraged.

12. Buildings should incorporate a modest change of material and colour that are compatible with adjacent buildings, or that establish and reinforce a theme for a neighbourhood.

13. Materials for side façades, rear façades, and building projections and mechanical penthouses should include materials of equal quality to the front façade.

14. Blank walls or unfinished materials along property lines where new developments are adjacent to existing parking areas or smaller-scaled buildings are not permitted.

15. With regard to building materials for storage, servicing, and loading areas:
    - Construct accessory recycling and garbage handling structures as an enclosed building including roof and door/gate and with materials consistent with the primary building. Wood structures are discouraged, and no enclosure should be made of any form of chain link or other non-opaque fencing; and,
    - Service openings visible from streets and open spaces should use high-quality materials and finishes.

16. With regard to siding materials for ground-oriented built form:
    - Siding materials should be chosen based on their functional and aesthetic qualities;
    - Siding materials may include brick, stone, low-maintenance wood siding, textured vinyl siding, cementitious board siding, and stucco;
    - Simulated materials should only be permitted where they are durable and look authentic (e.g., textured vinyl siding that closely resembles wood, cementitious board siding that closely resembles wood);
    - Pre-cast panels are strongly discouraged for ground-oriented built form; and, consideration should be given to other materials that promote energy efficiency and area easy to maintain.

Entrances and Thresholds

17. Access structures, such as ramps, should be designed to integrate seamlessly with buildings.

18. Main building entrances should be clearly visible and directly accessible from public pedestrian clearways.

19. Where a building entrance is located on a corner lot, the main entrance should animate both streets.

20. Where residential uses are included above retail uses, shared residential entrances should be made clearly distinguishable from entrances to retail.

21. Buildings should be articulated with numerous doors and windows, particularly along the ground level façade, to increase access and transparency.

22. Lobby entrances to multi-unit residential complexes should maximize the height of the ground floor to create visually appealing, well-illuminated, and welcoming entry points into waiting areas.

23. The use of glass in lobbies should be maximized to enhance visibility connection between interior and exterior spaces.

Weather protection

24. Provide weather protection such as awnings and canopies at primary entrances.

25. Design and place weather protection to reflect and complement the building's architecture.

26. Where possible, include weather protection measures along the building frontage, for the comfort of pedestrians. Such measures may include overhangs, canopies, awnings, and other building components.

27. Permanent pedestrian weather protection measures should be provided at building entrances and along commercial and mixed-use street frontages.

28. Ensure that weather protection measures do not physically obstruct pedestrian movement.

29. Weather protection measures should extend outward from the line that separates the ground floor and second floor, and they should have a minimum vertical clearance of 3.0 metres, where appropriate.

30. Pedestrian-scale lighting, signage, street numbering, and public art are encouraged to be integrated into the design of weather protection measures.

31. Canopies and overhangs should use light colours and transparent or semi-transparent materials.

32. For patios and other areas where setbacks are constrained, retractable awnings may be appropriate

Signage

33. Limit signage in number, location, and size to reduce visual clutter and make individual signs easier to see.

34. Provide visible signage identifying building addresses at all entrances.



Credit: MNLA

5.1.5 Landscapes and Open Spaces

Design Intent: To ensure site and building design responds appropriately to adjacent streets and open spaces, creates visual interest, pedestrian comfort and safety, and positively contributes to urban ecology and stormwater management.

Guidelines:

Landscape Planning

1. Site buildings to protect mature trees, significant vegetation, and ecological features.

2. Locate underground parkades, infrastructure, and other services to maximize soil volumes for in-ground plantings.

3. Site trees, shrubs, and other landscaping appropriately to maintain sight lines and circulation.

4. Design attractive, engaging, and functional on-site open spaces with high quality, durable materials, with contemporary colors, lighting, furniture, and signage.

5. Ensure site planning and design achieves favourable microclimate outcomes through strategies such as:

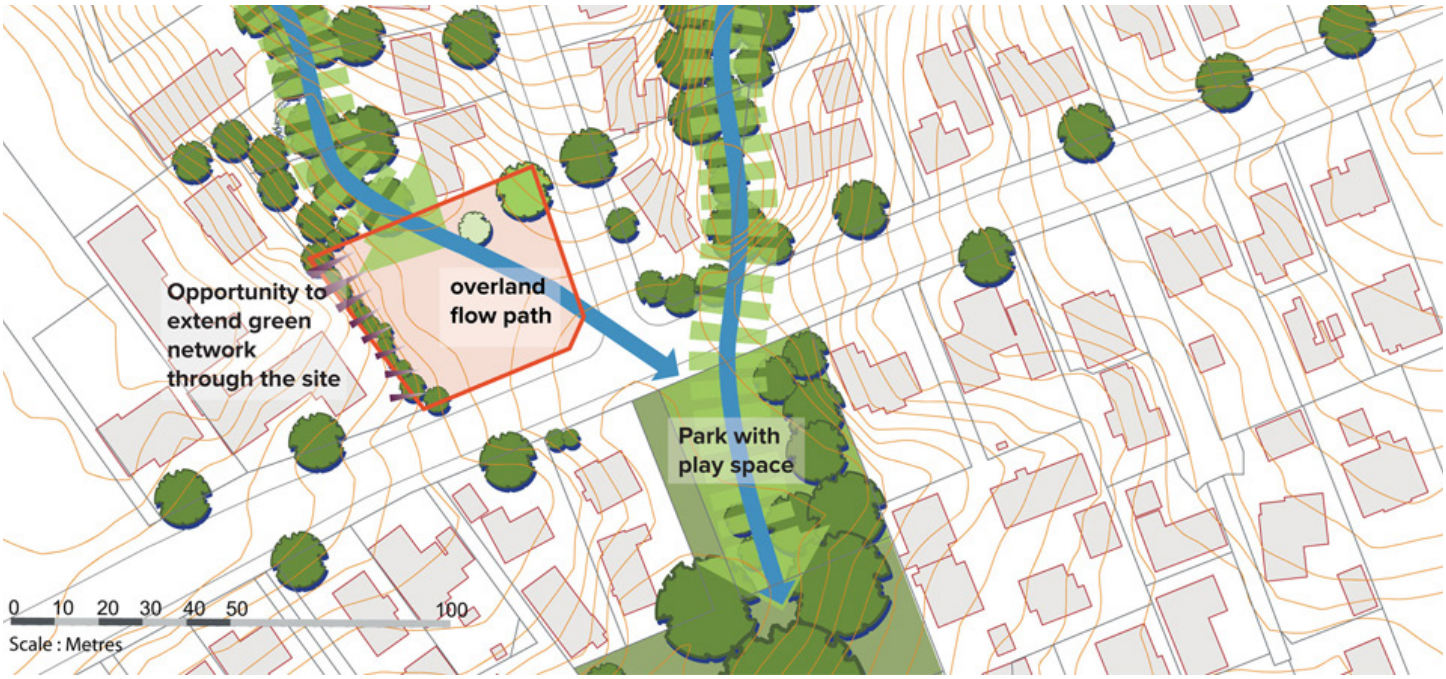
   - Locating outdoor spaces where they will receive ample sunlight throughout the year;
   - Using materials and colors that minimize heat absorption;
   - Planting both evergreen and deciduous trees to provide a balance of shading in the summer and solar access in the winter; and
   - Using building mass, trees, and planting to buffer wind.

Landscape Materials

6. Use landscaping materials that soften development and enhance the public realm.

7. Plant native and/or drought tolerant trees and plants suitable for the local climate.

8. Select trees for long-term durability, climate and soil suitability, and compatibility with the site's specific urban conditions.



Credit: City of Auckland

Stormwater Management and Water Usage

9. Design sites and landscapes to maintain pre-development flows through capture, infiltration, and filtration strategies, such as the use of rain gardens and permeable surfacing.

10. Design sites to minimize water use for irrigation by using strategies such as:
    - Designing planting areas and tree pits to passively capture rainwater and stormwater run-off; and
    - Using recycled water irrigation systems.

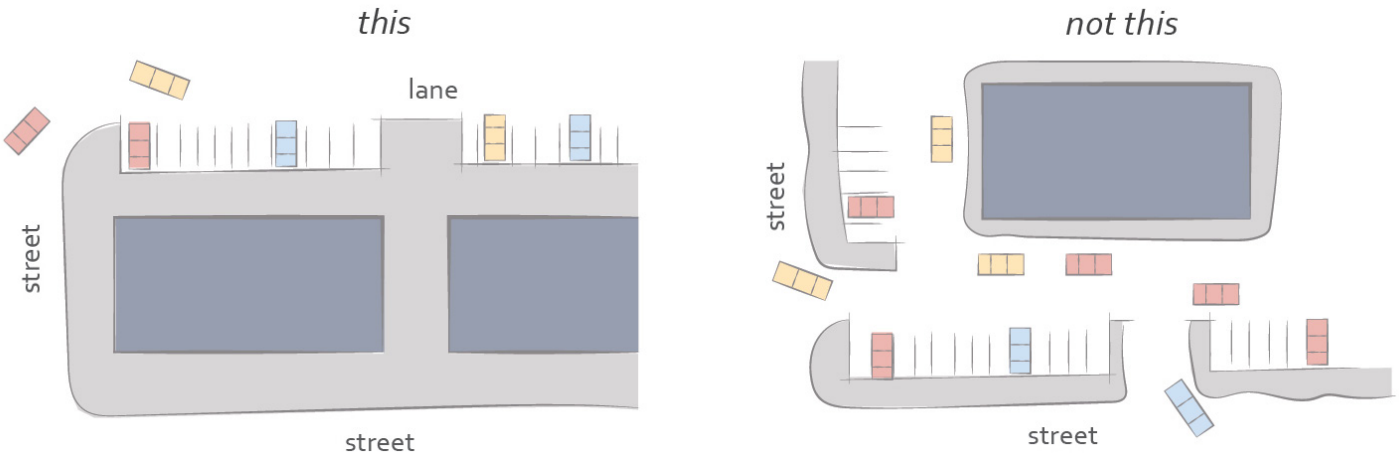
11. Create multi-functional landscape elements wherever possible, such as planting areas that also capture and filter stormwater or landscape features that users can interact with.

12. Select materials and furnishings that reduce maintenance requirements and use materials and site furnishings that are sustainably sourced, re-purposed, or 100% recycled.

Lighting and Wayfinding

13. Use exterior lighting to complement the building and landscape design, while;
    - Minimizing light trespass onto adjacent properties;
    - Using full cut-off lighting fixtures to minimize light pollution; and
    - Maintaining lighting levels necessary for safety and visibility.

14. Employ on-site wayfinding strategies that create attractive and appropriate signage for pedestrians, cyclists, and motorists using a 'family' of similar elements.



Locate off-street parking at the rear of the building. Credit: City of Kelowna

5.1.6 Access, Parking and Site Servicing

Design Intent: to ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety and attractiveness of the public realm.

Guidelines:

Access

1. Provide clear lines of site at access points to parking, site servicing, and utility areas to enable casual surveillance and safety.

2. Consolidate driveway and laneway access points to minimize curb cuts and impacts on the pedestrian realm or common open spaces.

Minimize negative impacts of parking ramps and entrances through treatments such as enclosure, screening, high quality finishes, sensitive lighting, and landscaping.

Parking

3. Avoid locating off-street parking between the front facade of a building and the fronting public street.

4. In general, accommodate off-street parking in one of the following ways, in order of preference:
   - Underground (where water table allows);
   - Parking in half-storey (where it is able to be accommodated and not negatively impact streetscape);
   - Garages or at-grade parking integrated into the building (located at the rear of the building); and
   - Surface parking at in the rear, with access from the lane or secondary street wherever possible.

5. Design parking areas to maximize rainwater infiltration through the use of permeable materials such as paving blocks, permeable concrete, or driveway planting strips.

6. In cases where publicly visible parking is unavoidable, screen using strategies such as:
   - Landscaping;
   - Trellises;
   - Grillwork with climbing vines; or
   - Other attractive screening with some visual permeability.

7. Provide bicycle parking at accessible locations on site, including:

8. Covered short-term parking in highly visible locations, such as near primary building entrances; and

9. Secure long-term parking within the building or vehicular parking area.

Site Servicing

10. Locate off-street parking and other 'back-of-house' uses (such as loading, garbage collection, utilities, and parking access) away from public view.

11. Ensure utility areas are clearly identified at the development permit stage and are located to not unnecessarily impact public or common open spaces.

5.2
Building Performance Guidelines

Overview
Optimum building performance is important for the comfort and amenity of building occupants - but also to reduce costs and environmental impacts over the development's lifetime.

Given the built environment's significant impact on energy and water consumption and associated carbon footprints, this section aims to provide ideas and considerations, along with simple design guidance to improve building performance throughout Barrie.



A well designed building envelope with efficient window to wall ratios and activated ground floor.

5.2.1 Building Envelope

Design Intent: to design building envelopes to reduce energy demand and maximize occupant health and comfort, while maintaining visual appeal and interest.

Guidelines:

1. For an efficient building envelope, provide consideration and appropriate design and specification for the following:
   - Passive solar design techniques
   - Weathertight detailing
   - Thermal insulation
   - Natural daylighting and shading
   - Natural ventilation
   - External noise control

2. Design buildings with a simplified massing and fewer complex junctions to minimize building envelope heat loss.

3. Use simple shifts in massing and changes in exterior colors and textures to articulate facades. For larger buildings, target an overall window-to-wall ratio (WWR) of 40% to reduce heat gain and loss through the building envelope by increasing the area of insulated wall. Additional considerations include:
   - WWR ratios should be higher at grade to promote at-grade transparency while accommodating the 40% WWR in the building overall; and
   - WWR ratios should be lower on north facing facades than on south facing facades to account for lower solar gain potential.

4. Coordinate and integrate building service elements such as drainage pipes, grilles, screens, ventilation louvres and car park entry doors with overall facade and balcony design.

5. Use durable, low-maintenance materials that are compatible with each other and will weather well in order to minimize maintenance costs. Avoid unnecessary external painting that will require regular maintenance.

6. Ensure a weathertight envelope and consider cavity wall construction, to reduce risk of water damage over the longer term.

7. Design the building envelope to ensure a healthy and comfortable environment inside the building by:
   - Providing sufficient daylight access.
   - Allowing controllable natural ventilation through the use of adjustable vents or operable windows.
   - Insulating walls, floors and ceiling above minimum standards in order to reduce long-term heating and cooling costs.
   - Draught-proofing around external openings to reduce unnecessary heat loss.
   - Double-glazing external windows and doors to improve the acoustic and thermal performance of the envelope.
   - Providing an accessible connection for all occupants to their private outdoor space.

8. Increase the efficiency of the building and reduce lifecycle costs by considering methods such as:
   - Designing facades using environmental control elements such as sun shading, light shelves and bay windows that suit facade orientation.
   - Using high-mass elements to absorb solar gain during the day and release heat to internal spaces in the evening (elements must receive adequate direct sunlight).
   - Using green roofs to contribute positively to on-site stormwater management and to maximise the amenity value of horizontal surface such as rooftops and podiums.
   - Solar energy for water heating or electricity generation.
   - Choosing materials and colour that reflect or absorb radiant heat.

9. Ensure that the position and attachment details of building fixtures are considered in the early design stages.

10. Building fixtures can compromise the building envelope in terms of weatherproofing and aesthetics. Incorporating equipment that is shared by all occupants will avoid duplication of equipment by individual occupants.

11. Noise is one of the most common adverse effects within mixed use developments. Address noise control early in the design stages of a project to mitigate. Buildings should have shared entrances, exits and lifts as far away as possible from residential uses. The use of buffers and/or specialized technical solutions may solve noise issues that cannot be resolved by the layout of the development. Technical material solutions may include acoustic wall and floor systems, insulation, acoustic cladding panels, double-glazing and thicker window glass. High-mass construction (e.g. masonry and concrete), separated and/or staggered framing arrangements, multiple linings, and mechanical plant isolation can be highly effective at reducing noise transmission between different spaces within a building or development.



Integrated active solar building design to Passivhaus targets, Edmonton. Credit: Sonny Shelm / Manasc Isaac Architects

5.2.2 Solar Design

Design Intent: to design sites and buildings that utilize the sun and reduce energy demand.

Guidelines:

Passive solar design

1. Incorporate passive heating, cooling, and lighting design principles in landscape and building design, including:
   - Orienting for maximum solar-gain potential from the south to reduce heating demand in colder months; and
   - Using trees to provide natural shading to reduce overheating in warmer months.
   - Deciduous trees and outdoor shade structures will help to provide cool areas during the summer while maximizing sun exposure during the winter.

2. Use appropriately designed exterior shading devices to block unwanted solar gains in warmer months while welcoming solar gains from lower winter sunlight. Additional considerations include:
   - Prioritize their use on southern elevations;
   - Shading is not necessary on north-facing facades; and
   - Vertical fins are a good strategy to use for blocking incoming summer sun on western elevations.

3. Materials with a high thermal mass, that is, the ability to absorb and retain heat (e.g. brick, concrete, and stone), should be used in conjunction with solar penetration into a building during the winter and summer shading, to even out diurnal temperature swings.

Active solar technologies

4. Consider solar water heating systems, which can reduce the cost of supplying hot water.

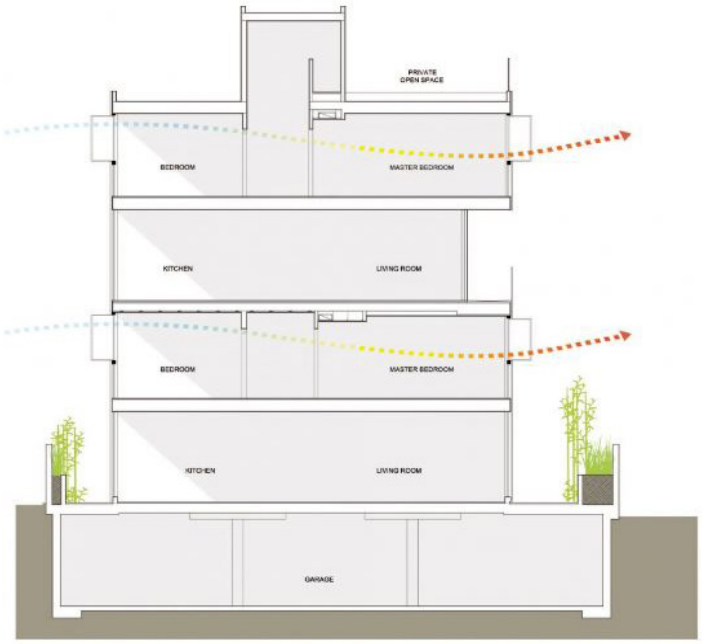
5. Consider photovoltaic (PV) technologies to convert solar energy directly to electricity. If considering these for the site:
   - Design large, unobstructed roofs or ground areas ideal for photovoltaic panel arrays.
   - Trees, mechanical units and other



Credit: Siemens

buildings should not shade the panels at any time.

- Determine optimal solar panel angle. Panels typically produce the most energy when tilted at an angle equal to the latitude of the sun at that specific location.
- Consider installing panels on parking structures or covered parking pavilions.



Credit: LOH Architects

5.2.3 Ventilation

Design Intent: to prioritize natural ventilation and ensure building inhabitants have direct access to fresh air.

Guidelines

1. Ensure all habitable rooms have direct access to fresh air and prioritize natural ventilation design to minimize mechanical ventilation's energy consumption and life cycle costs.

2. Site and design the building layout and cross-section to increase potential for natural ventilation. Design and place openings to maximize.

3. Create cross ventilation with narrow building depths, dual aspect units and corner aspect units.

4. Facilitate convective currents in two-storey or mezzanine-type spaces by including openings that allow warm air to escape at higher levels and cooler air to be drawn in at lower levels.

5. Design solutions include:
   - Placing vents or openable windows on opposing sides of a unit to allow for natural cross ventilation.
   - Using high casement or sash windows, clerestory windows or operable fanlight windows, including above internal doors (especially in single aspect units).
   - Incorporating openings that allow occupants to funnel breezes into the unit, such as louvered windows, casement windows and externally opening doors.
   - Using ventilation options that are secure and rainproof when left open.

6. Explore innovative technologies such as stack ventilation and solar chimneys to naturally ventilate internal spaces such as bathrooms, laundries and underground car parks.

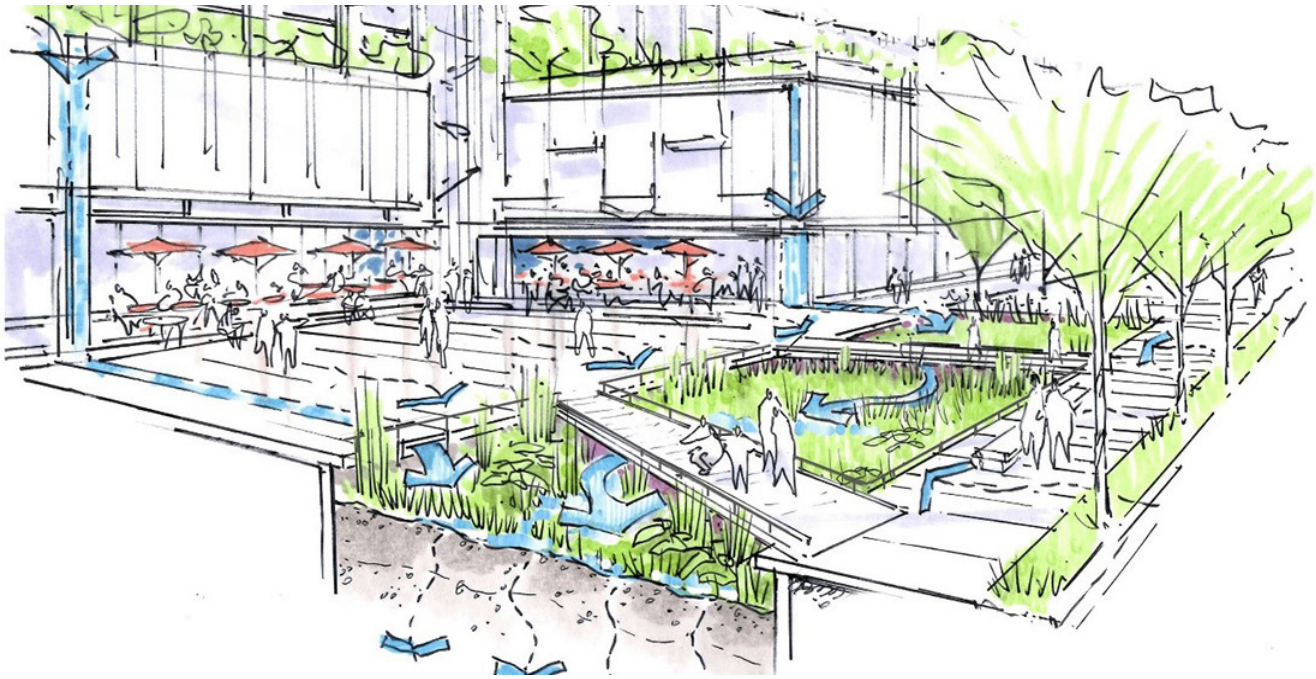


Illustration of a Blue Green System Effectively Utilizing Building and Site Water Systems. Credit: City of Vancouver

5.2.4 Water Sensitive Design

Design Intent: to ensure potable water is used in an efficient and cost-effective manner, reduce quantity and increase quality of storm water runoff, and reuse waste and storm, water where possible.

Guidelines

1. Design comprehensive water systems that integrate the building and wider site's water systems.

2. Reduce consumption of potable water by:
   - installing water-efficient appliances
   - installing water meters or check meters for individual units
   - Installing rainwater tanks for collecting non-potable stormwater for use in toilet flushing, laundry, and landscape irrigation.
   - integrating greywater recycling systems to process water from bathroom sinks, showers, tubs, and washing machines to be reused for irrigation and toilet flushing.



5.2.5 Construction Waste

Design Intent: to minimize construction resources and waste through appropriate design, material selection, and building practices.

Guidelines:

1. Minimize waste during all stages of the buildings lifecycle, from construction to demolition.

2. During construction, give consideration to:
   - Incorporating existing built elements into the development.
   - Recycling and reusing demolition materials
   - Specifying building materials that can be reused and recycled.

3. Mminimize construction waste through the design phase by:
   - Specifying project needs modestly, to avoid oversupply of materials.
   - utilizing standard product/component sizes
   - designing for durability, adaptability, and ease of future upgrades.

4. Through a Construction Management Plan, consider:
   - Sustainable removal practices and recycling.
   - Just-in-time production and delivery of materials.
   - Alternative construction methods, such as pre-fabricated or off-site construction.





Building built using engineered mass timber products. WIDC, Prince George. Credit: Ema Peter Photography, MGA Architecture

5.2.6 Material Selection

Design Intent: to select durable, sustainably sourced and manufactured materials with construction methods that have low lifecycle costs, minimize impact on the environment, and creates high-quality building appearance and performance.

Guidelines:

1. Specify materials with low embodied energy (energy used to create a material and includes extraction, manufacturing, transportation, installation, maintenance and disposal).
   - Specify durable, low-maintenance materials and consider future maintenance and repair costs.
   - Minimize consumption and waste e.g. specify standard sizes and use recycled elements or materials.
   - Specify materials that can be reused and recycled at the end of the building's life.
   - Favour locally sourced materials for their reduced transportation costs.
   - Refurbish, adapt and reuse existing buildings instead of demolishing them.
   - Consider energy consumption over the lifespan of the completed building.

2. Use durable, low-maintenance materials that are compatible with eachother and that will weather well in order to minimize maintenance costs and enhance the image of the development.
3. Avoid using materials that contaminate the environment (e.g. zinc and copper claddings increase contaminants in urban stormwater systems, and the installation of EIFS often creates non-biodegradable polystyrene debris which ends up in urban food and water systems).

4. Ensure raw materials come from renewable and sustainable sources and have zero to low toxicity and emissions ratings. (e.g. specifying timber that is FSC certified will ensure it comes from a managed and sustainable source)

5. Select durable materials that are graffiti-resistant and easily cleaned.

5.3 Neighbourhood Areas & Infill

Overview
Through the Official Plan, Neighbourhood Areas are not planned to significantly intensify, however, they may see some "gentle intensification" through infill developments.

Within this context, infill developments will generally consist of the redevelopment of a single lot, or a consolidation of lots, to facilitate the creation of 2 or more units, in building types ranging from detached houses, semi-detached, plex-housing, rowhouses, and low-rise buildings.

Design challenges include integrating development with existing and planned context, protecting mature trees, and positively contributing to the streetscape.

Projects should create a strong relationship to the street and should be designed to fit within the general character, scale and massing of the existing neighbourhood.

Building Type Characteristics
- 1 to 3 storeys
- Varied building forms (single detached, duplex housing, semi-detached housing, and plex housing) sometimes with two or more buildings on a single site
- May share 1 or 2 walls with neighbouring units
- Individual unit entrances with ground-oriented access
- May include tiny homes
- May include low-rise buildings



Credit: City of Kelowna

Objectives

To achieve the design goals of the City, all infill developments should:

1. Configure building massing to reflect the scale of buildings in the surrounding area.
2. Provide well-designed outdoor amenity spaces at grade for each unit that offers privacy and screening, and attractive interfaces with the street and open spaces.
3. Locate and design buildings to protect existing mature trees on-site.
4. Limit impermeable surfaces in landscaped areas and open spaces to maximize stormwater infiltration.
5. Use building articulation, scaling, and setbacks and landscape to define individual units in a way that is pedestrian-oriented and emphasizes pedestrian connection to the street and sidewalk.
6. Orient building entrances, windows, patios and balconies to face adjacent streets, with primary entrances clearly visible and directly accessible from the sidewalk.
7. Building design, details, and materials should create a well-proportioned and cohesive building design with a clear overall architectural concept.
8. Provide access to parking from a flanking street or lane, where available.



Credit: City of Toronto

5.3.1 Site Planning

Design Intent: to situate and design buildings to support a positve relationship to streets and public open spaces while providing a clearly defined public-private transition.

Guidelines:

1. Locate buildings on a site to:
   - Protect mature trees, where possible;
   - Maintain general consistency with established setbacks on primary and secondary streets, where possible;
   - Maximize sunlight access to interior spaces and to outdoor amenity areas; and
   - Avoid any required storm drainage infrastructure, such as rock pits.

2. Provide pedestrian pathways on site to connect:
   - Main unit entrances to public sidewalks and open spaces (minimum width of 1.2m, lit);
   - Parking areas to unit entrances;
   - From the site to adjacent pedestrian/ trail/cycling networks, where applicable; and
   - The common utility and water servicing location.

3. Where multiple buildings are located on a site, ensure that outdoor amenity space provided at grade between the buildings is generous and comfortable.

4. Maintain privacy of units on site and on adjacent properties by minimizing overlook and direct sight lines from the building using strategies such as:
   - Off-setting the location of windows in facing walls and locating doors and patios to minimize privacy concerns from direct sight lines;
   - Use of clerestory windows;
   - Use of landscaping or screening; and
   - Use of setbacks and articulation of the building.



Credit: Image City of Kelowna

5.3.2 Scale and Massing

Design Intent: to ensure buildings contribute positively to neighbourhoods while providing for greater choice in housing and form.

Guidelines:

1. Reflect the positive attributes of adjacent housing (e.g.: rooflines, front porches, entrance features) while integrating new, higher density housing forms.

2. Use building height, scale, and setbacks to reinforce a generally consistent street rhythm. Limit significant real or perceived height difference (i.e.: more that 1.5 storey difference) between new and existing development in the surrounding area.

3. Ensure that larger buildings break down their massing to reflect the scale of surrounding buildings by using sub-forms and façade articulation.

4. In buildings with more than one unit, articulate individual units through integration of recessed entries, balconies, materials and projection/recess in the façade. Avoid symmetrical units.

5. On sites with more than one building, ensure that buildings are distinct, but designed to achieve cohesive scale, massing and proportion



Neighbourhood fit with contrasting architectural styles. Credit: TACT Architecture Inc.

5.3.3 Relationship to the Street

Design Intent: to situate and design buildings to support a positve relationship to the street and public open spaces while providing a clearly defined public-private transition.

Guidelines:

1. Orient the primary façade of buildings to face the fronting street. In the case of lots with multiple frontages, buildings must also be oriented and designed to address flanking streets through architectural and landscape treatments including, but not limited to, front doors and windows.

2. Configure buildings so that a minimum of 50% of units facing streets. All units facing streets should have entries oriented towards, and be clearly accessible and visible from the street.

3. Design primary unit entrances to provide:
   - A clearly visible front door directly accessible from a public street or publicly accessible pathway via a walkway, porch and/or stoop;
   - Architectural entrance features such as stoops, porches, shared landings, patios, recessed entries, and canopies; and
   - Punctuation, articulation and rhythm along the street.

4. Use low fencing, landscaping and modest (max. of 0.6m) changes in grade to define a sense of transition from the public to the private realm.

5. Improve the “lanescape” by orienting units located towards the rear of the property to face laneways, and use building entrances, lighting, landscaping and materials to reinforce a safe and attractive public realm.





Articulation of Infill Low-Rise Residential Buildings. Credits: ADHOC Architectes / Maxime Brouillet

5.3.4 Building Articulation and Materials

Design Intent: to enhance liveability, neighbourhood character, visual interest and sense of place through building form, architectural composition, and materials.

Guidelines:

1. Design facades to articulate and differentiate the individual units. Strategies for achieving this include:
   - Recessing or projecting facades to highlight the identity of individual units; and
   - Using entrance features, roofline features, or other architectural elements.
   - Emphasize front doors and windows rather than garages.

2. Maximize integration with the existing neighbourhood by designing infill buildings to:
   - Incorporate design elements, proportions, and other characteristics found within the neighbourhood; and
   - Use durable, quality materials similar or complementary to those found within the neighbourhood.

3. Avoid blank walls by incorporating windows, and articulating the façade with recesses or projections, reinforced by building material changes and landscaping.

4. Use increased ground floor height, entryway features, generous glazing, front porches and other architectural features to emphasize the ground floor as the highest design priority.

5. On sites with multiple buildings, ensure that each building is unique, but tied together with the same architectural style and material palette.

6. Use durable, low-maintenance materials that withstand the local climate (e.g.: wood, natural stone, masonry, metal panels, fibre cement siding, or approved alternatives). Vinyl siding, large areas of stucco, and imitation stone/rock are discouraged and should generally be avoided.



Simple, natural materials and well-defined entryways in a stacked townhouse development. Credit: Domus Developments.

7. Use warm, textured materials (e.g.: wood, masonry, stone) to provide contrast and to emphasize focal points (e.g.: entryways), particularly at grade.

8. Create a simplified materials palette. A maximum of two cladding materials is recommended.

9. Changes in materials should incorporate appropriate trim and detailing and occur at significant changes in plane, including floor level changes and step backs.

5.3.5 Landscape and Open Spaces

Design Intent: to design landscapes and open spaces that enhance neighbourhood character, that provide high-quality outdoor living spaces that are useable year-round, and that provide a clear transition between the private and public realm.

Guidelines:

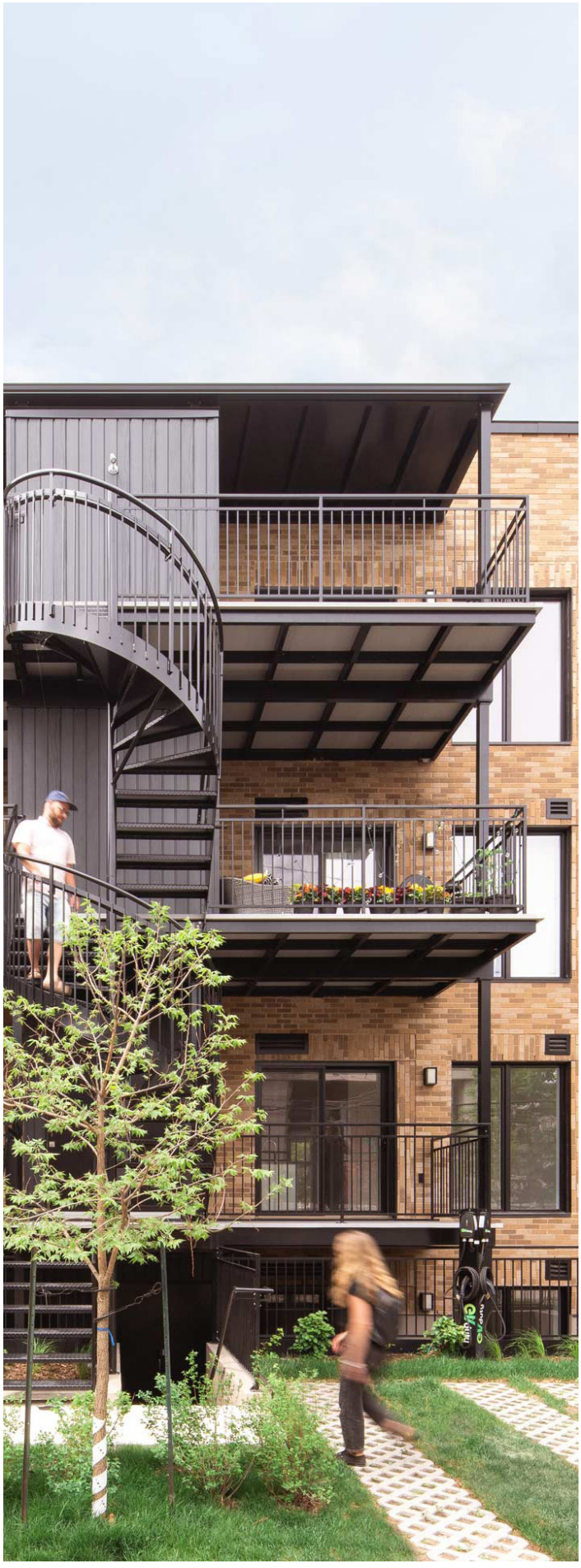
1. Design all units to have easy and direct access to high-quality, private outdoor amenity space located at grade that are useable year-round.

2. Provide landscaping in strategic locations throughout to frame building entrances, soften edges, screen parking garages/areas, and break up long facades.

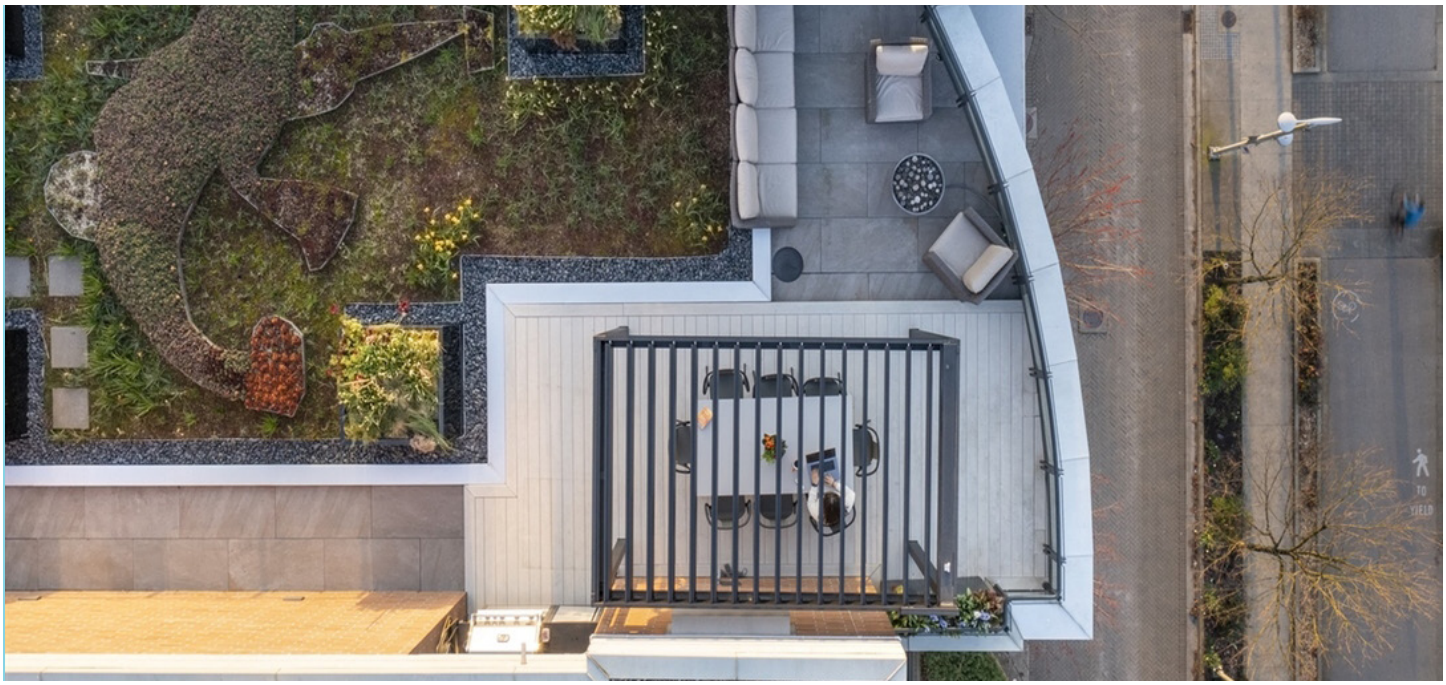
3. Design open spaces and landscaped areas to protect and to feature mature trees on site, where possible. Where mature trees cannot be protected or where there were no mature trees on site, ensure that adequate open spaces are provided that will allow shade trees to reach mature sizes.

4. Design private outdoor amenity spaces to:
   - Have access to sunlight;
   - Offer privacy; and
   - Have landscaped areas to soften the interface with the street or open spaces.

5. Design front patios to:
   - Provide an entrance to the unit; and
   - Create a semi-private transition zone using landscape plantings or material changes, or modest (max. 0.6m) grade changes.



Access to amenity areas. Credit: ADHOC Architectes



Rooftop amenity design. Credit: Atria Designs

6. Design rooftop patios to:
   - Minimize direct sight lines into nearby units;
   - Have access away from primary facades;
   - Have parapets with railings; and
   - Minimize the impact of rooftop accesses on the overall height and massing of a building.

7. Maximize the use of permeable surfaces in all landscaped and open spaces. Discourage the use of impermeable surfaces, such as poured-in-place concrete.
8. Design outdoor amenity areas so that they are not impacted by parking, mechanical equipment or servicing areas.

9. Design balconies to be inset or partially inset to offer privacy and shelter, reduce building bulk, and minimize shadowing.

10. Design internal driveways to serve as additional shared space using strategies such as:
    - High-quality, permeable pavement materials (e.g.: interlocking, permeable pavers);
    - Providing useable spaces for sitting, gathering and playing; and
    - Providing landscaping that frames and defines pedestrian entrances and soften edges between buildings and hardscapes.

11. Encourage low (1.06m maximum), semi-transparent fencing or railings in the front yard to define the transition between public and private realms. Discourage tall hedges, opaque or tall fencing in the front yard which would limit public interface.



Rear service lane and parking access in a low-rise residential building. Credit: Image Linden Homes

5.3.6 Access, Parking, and Site Servicing

Design Intent: to ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety and attractiveness of streets, sidewalks, and open spaces.

Guidelines:

1. Ensure site layouts include provision for solid waste pick-up and bin storage that is enclosed or otherwise screened from view.

3. Locate mechanical equipment and site services, such as transformers and mailboxes, to minimize impacts on outdoor amenity areas through appropriate siting and screening.

5. Ensure that all vehicle parking access is taken from the lane or secondary street, where available.

6. Locate parking directly adjacent to street/lane access points to reduce or eliminate driveways, where possible.

7. Support common parking areas or garages that eliminate the need to integrate parking into individual units. Where parking is not contained within a garage, ensure it is appropriately screened.
8. Where vehicle access is only available via the primary street, ensure that vehicle parking is enclosed and integrated into one or more principal buildings on the site. Limit the visual impact of enclosed parking by using strategies such as recessing the garage from the rest of the façade.

9. Ensure that internal circulation for vehicles is designed to accommodate necessary turning radii and provides for logical and safe access and egress.

10. Locate access points and buildings/windows to minimize impact of headlights on building interiors.



Coach Houses located in rear yards of a single detached house, semi-detached house and a rowhouse or low-rise building. Credit City of Toronto

5.3.7 Coach Houses

Design Intent: to create more housing options with high quality design and neighbourhood fit.

Guidelines:

General Locational Criteria

1. Coach Houses should not significantly impact the existing tree canopy in the area.

2. Locate Coach Houses in neighbourhoods or areas of the city with sufficient grey infrastructure (water, sewer, roads, etc.) and with public facilities (schools, parks, hospitals, etc.) and public transit and active transportation facilities within walking distance (400m).

Site Integration and Neighbourhood Fit

3. Coach Houses must fit seamlessly into the surrounding neighbourhood, respecting the size and siting of other buildings.

4. As an "accessory" to the main building, the unit will not occupy a disproportionate part of the available site area. Coach Houses must be proportionately smaller than the principal dwelling.

5. Coach Houses should generally be architecturally and materially consistent with the design of the principal dwelling.

Access and Privacy

6. Coach Houses should be sited properly on a lot and provide sufficient setback and dedicated access.

7. Site, orient and design coach houses to respect the privacy of site occupants and neighbours.

8. The placement of openings (doors and windows) must consider the siting of neighbouring dwellings and yards. Skylights and dormers, for example, can provide good natural lighting without compromising privacy in the neighbourhood.

Sustainable Design and Development

9. Wherever possible, Coach Houses construction should not involve cutting down mature trees.



Coach House design minimizing overlook on adjacent property. Credit: TBD

10. In some cases, a site drainage plan may be required.

11. A vegetated setback should be provided between a Coach Houses and a public street.

12. Green roofs, green walls and landscaping are encouraged for their aesthetic quality and their role as thermal and stormwater regulators.

13. Passive heating and cooling are encouraged to reduce energy use and dependence on air conditioning etc.

14. If a parking space is required, it should be uncovered and permeable in order to mitigate runoff and heat island effects.

5.4
Rowhouses

Overview
Rowhouse developments in Barrie will occur in Neighbourhood Areas, either as infill developments in existing neighbourhoods, or as part of larger plans of subdivision.

Rowhouses may also be utilized within large, medium or high density sites proposing multiple buildings, and located adjacent to Neighbourhood Areas. Here they can be used to help create a transition of height and density.

Common design challenges include integrating with the existing and planned future context, and positively contributing to a streetscape.

To address the above challenges, projects should have a strong relationship to the street, use similar or compatible materials found in the surrounding neighbourhood, and extend or connect with the existing and planned street and open space networks.

Building Type Characteristics
- 2-3 storeys
- Shares side walls with neighbouring units
- Individual unit entrance with street-oriented pedestrian access.



Credit: Image TBD

Objectives

To achieve the design goals of the City, all rowhouse projects should:

1. Orient buildings, entrances, windows, patios, and balconies to face the fronting public street, with the primary entry clearly visible and directly accessible from the sidewalk.

2. Provide usable outdoor amenity spaces and generous and high-quality landscaped areas that offer privacy, screening, and attractive interfaces with streets and open spaces.

3. Use building articulation, scaling, and setbacks to define individual units or intervals and to contribute to a consistent frontage pattern, pedestrian scale and rhythm along the fronting street.

4. Locate and design buildings to maximize access to sunlight, increase privacy, and reinforce neighbourhood character through complementary architectural design and style, materiality, and colours.

5. Provide access to parking from a secondary street or lane, wherever possible.



Pedestrian mid-block connection in Townhouse Development. Credit: City of Kelowna

5.4.1 Site Planning

Design Intent: to site buildings to respond sensitively to topography and environmental features; to enhance privacy, liveability, safety and accessibility; and to increase connectivity to the surrounding open space network.

Guidelines:

1. Gated or walled communities are not supported.

2. For large rowhouse projects, consider including communal amenity buildings.

Connectivity

3. Provide pedestrian pathways on site to connect:

4. Main building entrances to public sidewalks and open spaces;

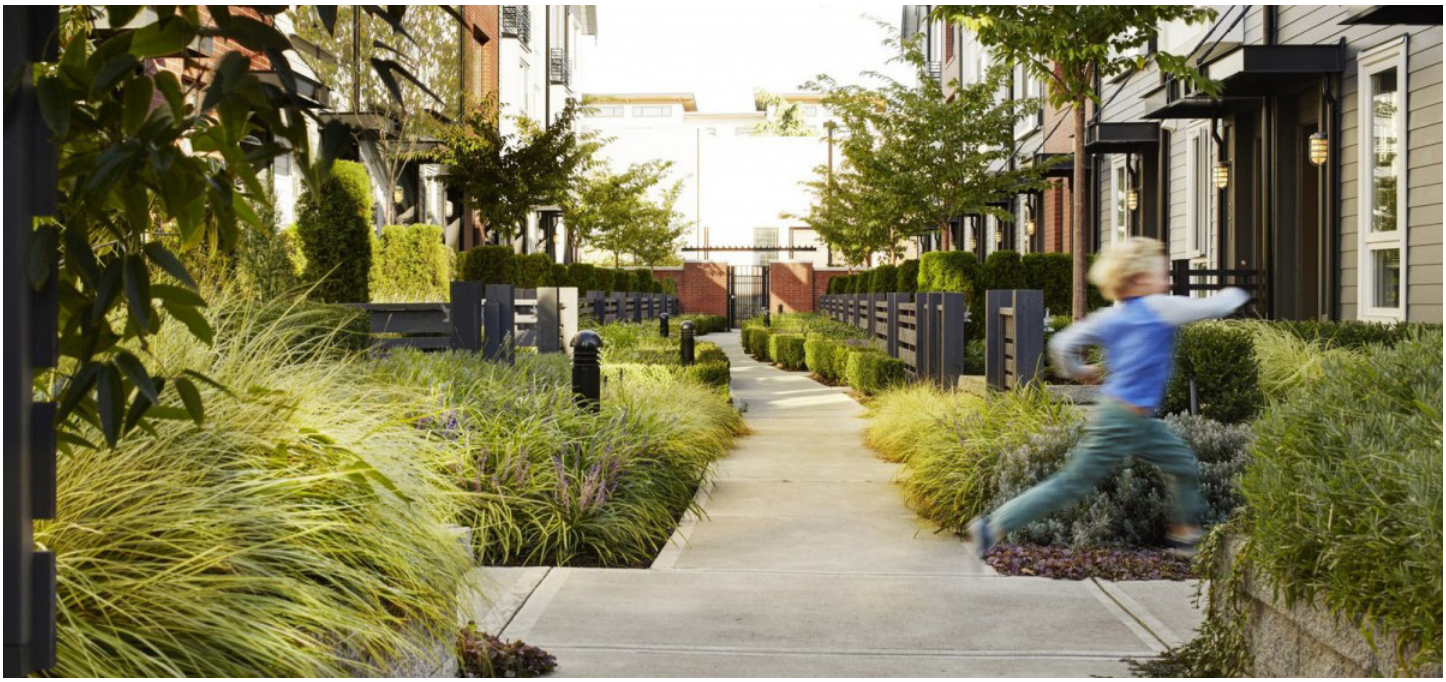
5. Visitor parking areas to building entrances; and

6. From the site to adjacent pedestrian/trail/cycling networks (where applicable).

7. When pedestrian connections are provided on site, frame them with an active edge – with entrances and windows facing the path or lane.

8. For large rowhouse projects (e.g., master planned communities with internal circulation pattern), design the internal circulation pattern to be integrated with and connected to the existing and planned public street network.

9. Where appropriate, design internal roadways to serve as additional shared space (e.g., vehicle access, pedestrian access, open space) using strategies such as:
   - High-quality pavement materials (e.g., permeable pavers); and
   - Providing useable spaces for sitting, gathering and playing.



Appropriate facing distances and visible entryways along a pedestrian mid-block connection. Credit: City of Kelowna

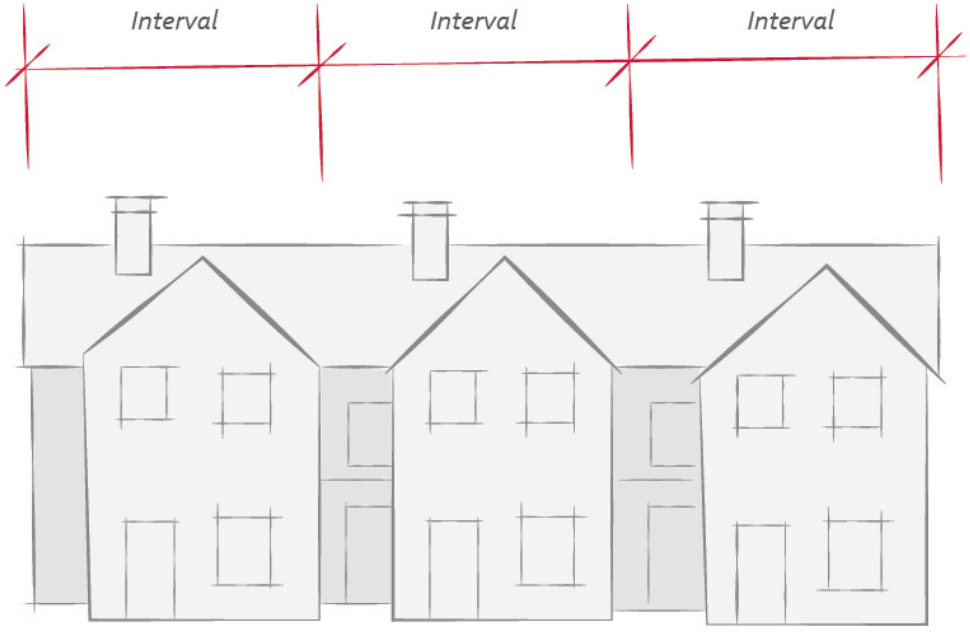
Facing Distances and Setbacks

10. Locate and design buildings to maintain access to sunlight, and reduce overlook between buildings and neighbouring properties.

11. Separate facing buildings on site a minimum of 10-12m to provide ample spatial separation and access to sunlight.

12. Limit building element projections, such as balconies, into setback areas, streets, and amenity areas to protect solar access.

13. Front yard setbacks on internal roads should respond to the height of rowhouses, with taller rowhouses (e.g., 3 storeys) having greater setbacks to improve liveability and solar access.



Credit: City of Kelowna

5.4.2 Scale and Massing

Design Intent: to ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces

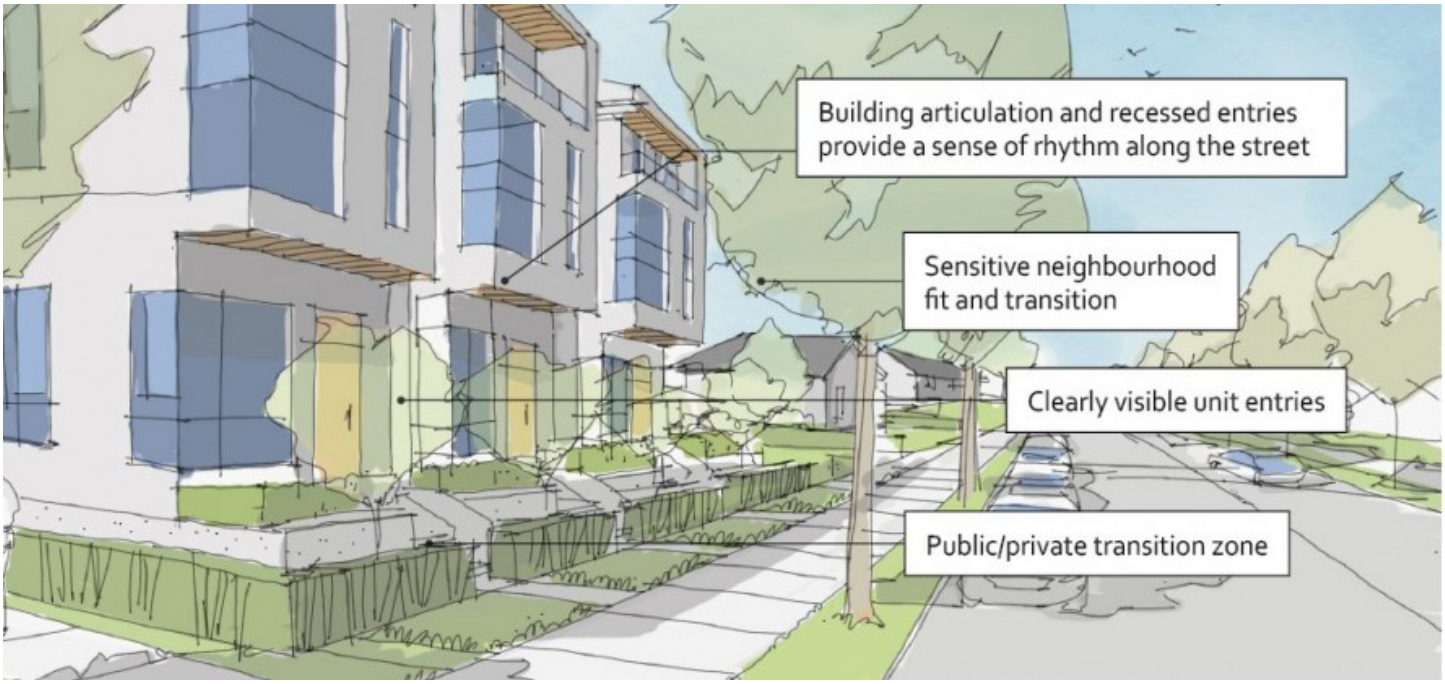
Guidelines:

1. Wherever possible, reflect the positive attributes of adjacent housing while integrating new higher density forms of housing as envisioned in the Official Plan.

2. Scale and site buildings to establish consistent rhythm along the street by, for example, articulating individual units through integration of recessed entries, balconies, a change in materials and slight projection/recess in the facade.

3. Limit the number of connected townhouse units to a maximum of 6-8 units before splitting into multiple buildings.

4. In larger townhouse developments (e.g., master planned communities with internal circulation pattern), integrate a large proportion of 4 unit townhouse buildings to create a finer grain of development and limit visual impacts of massing.



Credit: City of Kelowna

5.4.3 Relationship to the Street

Design Intent: to site and design ground-related buildings to positively frame and activate streets and open spaces, while providing a clearly-defined public-private transition zone.

Guidelines:

1. Design primary unit entrances to provide:
   - A clearly visible front door directly accessible from a public street or publicly accessible pathway via a walkway, porch and/or stoop;
   - Architectural entrance features such as stoops, porches, shared landings, patios, recessed entries, and canopies;
   - A sense of transition from the public to private realm by utilizing strategies such as changes in grade, decorative railings, and planters; and
   - Punctuation, articulation and rhythm along the street.

2. A maximum height of 1.2m is desired for front entryways or stoops. Exceptions can be made in cases where the water table requires this to be higher.

3. In the case of shared landings that provide access to multiple units, avoid having more than two doors in a row facing outward.

4. For buildings oriented perpendicularly to the street (e.g., 'shotgun' rowhouses), ensure that the end unit facing the street is a custom street-oriented unit with primary entry directly accessible from the fronting sidewalk.

5. For large townhouse projects (e.g., master planned communities with internal circulation pattern), The above guidelines apply for units facing private roads as well as those units fronting onto public streets.





5.4.4 Building Articulation and Materials

Design Intent: to enhance livability, visual interest, and sense of place through building form, architectural composition, and materials. .

Guidelines:

1. Design facades to articulate the individual units while reflecting positive attributes of neighbourhood character. Strategies for achieving this include:
   - Recessing or projecting facades to highlight the identity of individual units; and
   - Using entrance features, roofline features, or other architectural elements.

2. To maximize integration with the existing neighbourhood, design infill townhouses to:
   - Incorporate design elements, proportions, and other characteristics found within the neighbourhood; and
   - Use durable, quality materials similar or complementary to those found within the neighbourhood.

3. Maintain privacy of units on site and on adjacent properties by minimizing overlook and direct sight lines from the building using strategies such as:
   - Off-setting the location of windows in facing walls and locating doors and patios to minimize privacy concerns from direct sight lines;
   - Use of clerestory windows;
   - Use of landscaping or screening; and
   - Use of setbacks and articulation of the building.

4. In larger townhouse developments (e.g., master planned communities with internal circulation pattern), provide modest variation between different blocks of townhouse units, such as change in color, materiality, building and roof form.





Credit:City of Kelowna

5.4.5 Landscape and Open Spaces

Design Intent: to design landscapes and open spaces that are integrated, flexible, and accessible.

Guidelines:

1. Design all units to have easy access to useable private or semi-private outdoor amenity space.

2. Design front yards to include a path from the fronting street sidewalk to the primary entry, landscaping, and semi-private outdoor amenity space.

3. Avoid a 'rear yard' fronting condition with undeveloped frontages along streets and open spaces.

4. Design private outdoor amenity spaces to have:
   - Access to sunlight;
   - Railing and/or fencing to help increase privacy; and
   - Landscaped areas to soften the interface with the street or open spaces.

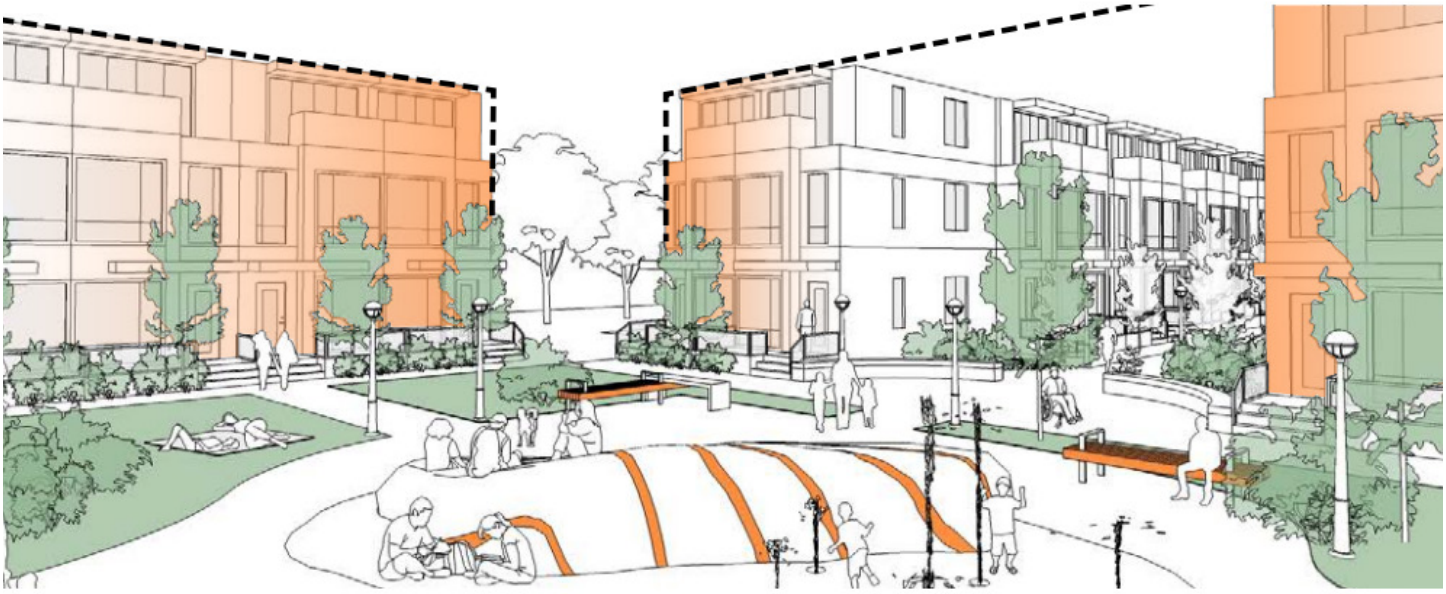
5. Design front patios to:
   - Provide an entrance to the unit; and
   - Be raised a minimum of 0.6m and a maximum of 1.2m to create a semi-private transition zone.

6. Design rooftop patios to:
   - Have parapets with railings;
   - Minimize direct sight lines into nearby units; and
   - Have access away from primary facades.

7. Design balconies to be inset or partially inset to offer privacy and shelter, reduce building bulk, and minimize shadowing.

8. Consider using balcony strategies to reduce the significant potential for heat loss through thermal bridge connections which could impact energy performance.

9. Provide a minimum of 10% of the total site area to common outdoor amenity spaces that:
   - Incorporate landscaping, seating, play space, and other elements that encourage gathering or recreation; and



ıme a courtyard with a children's play space and places for leisure.
Credit: City of Toronto

- Avoid isolated, irregularly shaped areas or areas impacted by parking, mechanical equipment, or servicing areas.
- Refer to Landscape section for further guidance.

10. For large townhouse projects, provide generous shared outdoor amenity spaces integrating play spaces, gardening, storm water and other ecological features, pedestrian circulation, communal amenity buildings, and other communal uses.

11. Design internal roadways to serve as additional shared space (e.g., vehicle access, pedestrian access, open space) using strategies such as:

12. High-quality pavement materials (e.g., permeable pavers); and

13. Providing useable spaces for sitting, gathering and playing.



Laneway Rowhouses. Credit: City of Kelowna

5.4.6 Access, Parking, and Site Servicing

Design Intent: to ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety, and attractiveness of streets, sidewalks, and open spaces.

Guidelines:

Access

1. Ensure that internal circulation for vehicles is designed to accommodate necessary turning radii and provides for logical and safe access and egress.

2. For large townhouse projects (e.g., master planned communities with internal circulation pattern), a minimum of two access/egress points to the site is desired.

3. Locate access points to minimize impact of headlights on building interiors.

4. Design the internal circulation pattern and pedestrian and open space network to be integrated with and connected to the existing and planned public street and open space network.

Parking

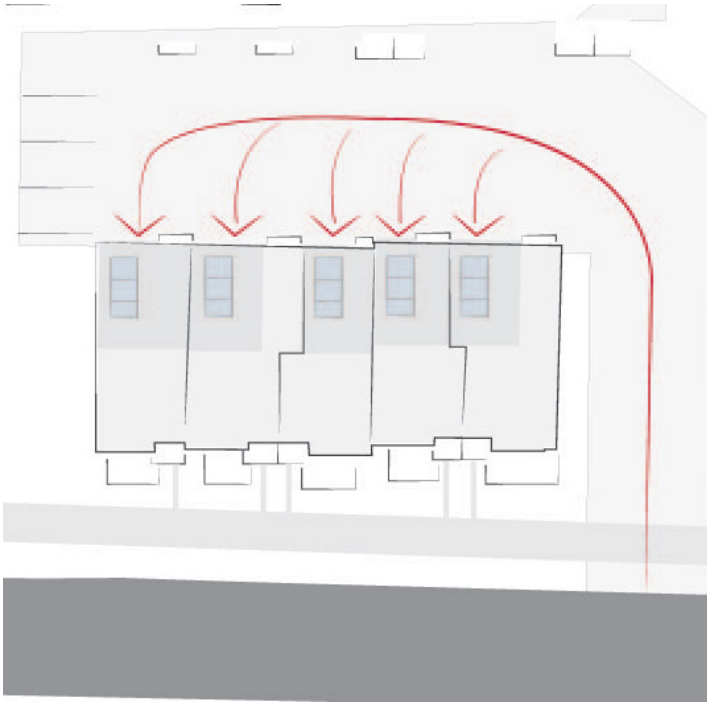
5. Rear-access garage or integrated tuck under parking is preferred in townhouses, in general, and is required for townhouses facing public streets.

6. Centralized parking areas that eliminate the need to integrate parking into individual units are supported.

7. Front garages and driveway parking are acceptable in townhouses facing internal strata roads, with the following considerations:

8. Architecturally integrate the parking into the building and provide weather protection to building entries; and

9. Design garage doors to limit visual impact, using strategies such as recessing the garage from the rest of the facade.



Credit: City of Kelowna

10. Provide visitor parking in accessible locations throughout the site and provide pedestrian connections from visitor parking to townhouse units. Acceptable locations include:

11. Distributed through the site adjacent to townhouse blocks; and

12. Centralized parking, including integration with shared outdoor amenity space.

Site Servicing

13. Exceptions for locating waste collection out of public view can be made for well-designed waste collection systems such as Molok bins.

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5.5 Low & Mid-Rise Buildings

Low- and mid-rise buildings are a common building typology in Barrie.

Low-rise residential buildings will be expected in Neighbourhood Areas at key intersections or adjacent to open spaces. They may also be utilized in larger multi-building developments in Strategic Growth Areas to create transition to surrounding adjacent Neighbourhood Areas.

Mid-rise buildings will be located in the Urban Growth Centre, Major Transit Station Areas, Strategic Growth Areas, Commercial Districts, and along Intensification Corridors.

Common design challenges include addressing the street with active uses and street-oriented units and reducing the bulk and massing of larger buildings.

These types of projects should have a strong relationship to the street with a clear front-to-back orientation and provide vertical and horizontal articulation.

Building Type Characteristics

- 3-4 storeys for low-rise buildings
- 5-12 storeys for mid-rise buildings
- A shared main entrance and secondary accesses to units within the building
- Street-oriented residential units and/or commercial retail at-grade



Credit: City of Kelowna

Objectives

To achieve the design goals of the City, all high-rise buildings should:

1. Provide attractive and active human-scale design and amenities, oriented towards publicly-accessible spaces at grade, such as frequent entries, weather protection, and outdoor seating areas.

2. Break up massing of a building by providing simple vertical and horizontal articulation of facades (e.g. step-backs, insets, projections, colour and texture).

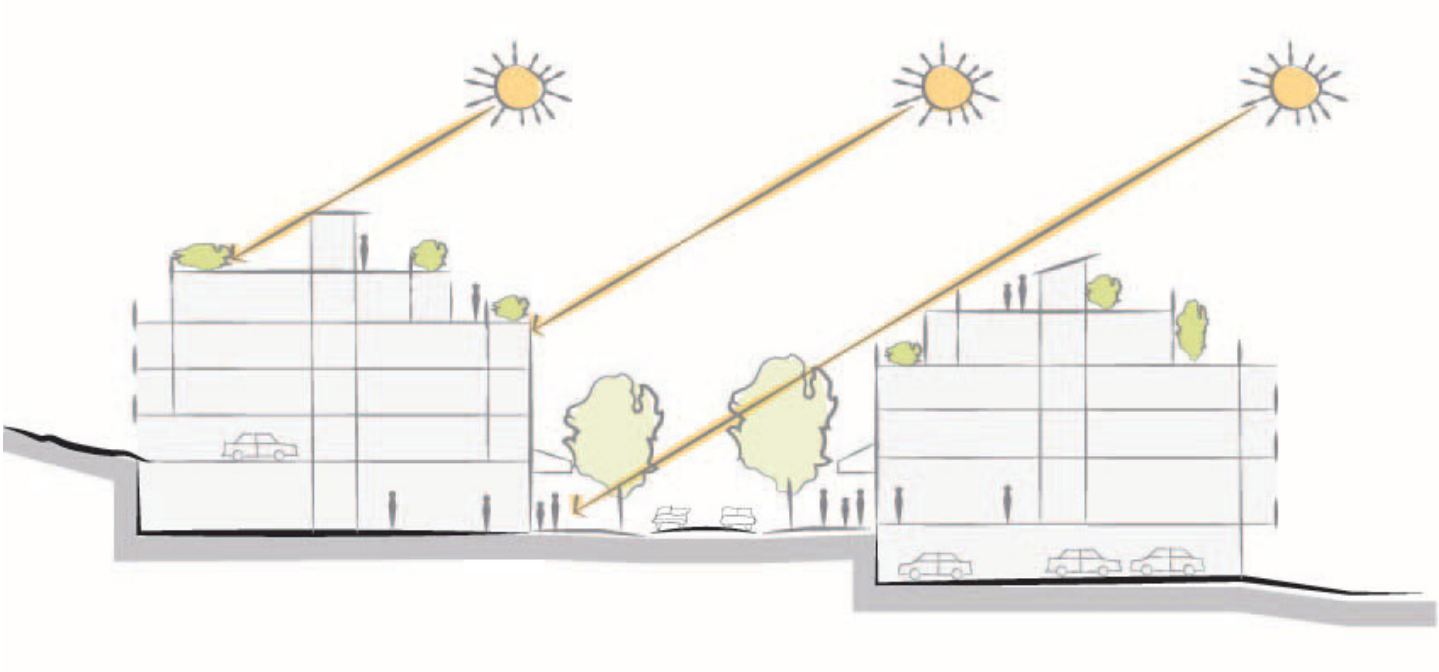
3. Ensure buildings have a front-to-back orientation to streets and open spaces with back-of-house uses located to the rear of buildings to minimize visual impacts on the public realm.

4. Orient entries, windows, patios, and balconies to face the fronting street. Ensure primary building entrances are architecturally emphasized and directly accessible from the fronting public sidewalk.

5. Maximize ‘eyes on the street’ by avoiding blank walls and providing lines of sight from windows and balconies to the sidewalk and adjacent public spaces.

6. Provide access to underground or above ground parking from secondary streets or laneways.

7. When structured above grade parking is required due to the high water table, use store fronts or screening to mitigate visual impacts.



Credit: City of Kelowna

5.5.1 Site Planning

Design Intent: to situate buildings on the site to respond sensitively to topography and environmental features; to enhance privacy, liveability, safety and accessibility; and to increase connectivity to the surrounding open space network.

Guidelines:

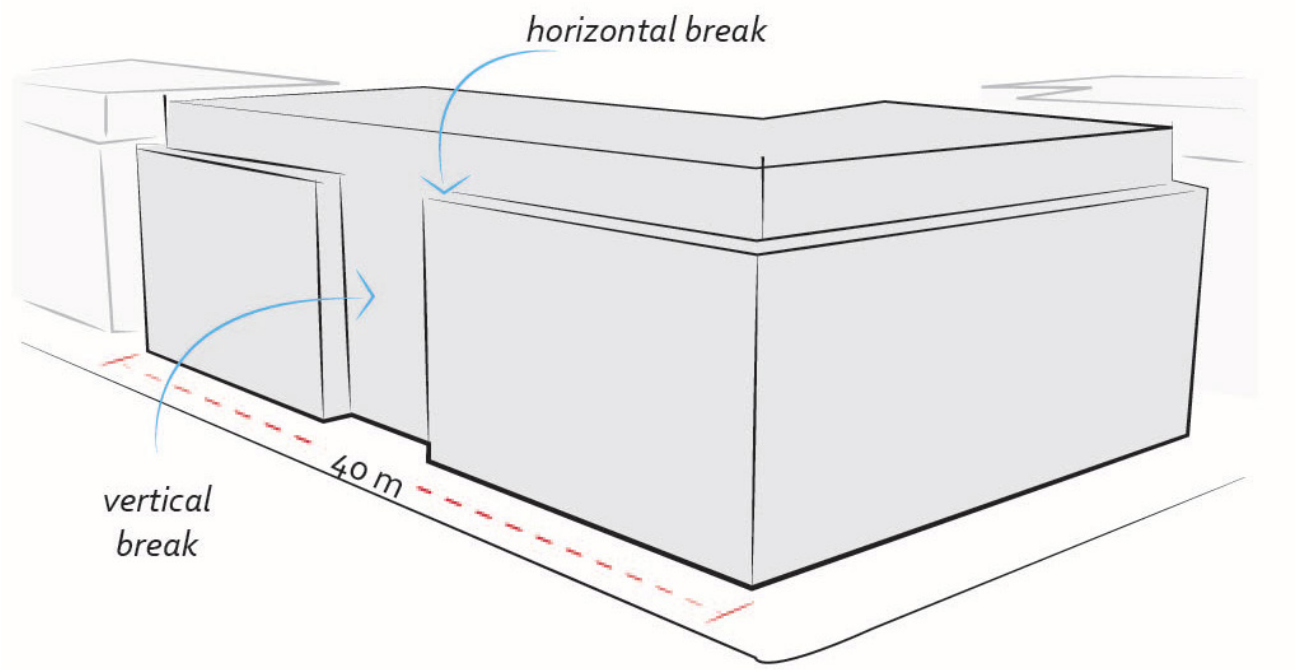
1. On sloping sites, floor levels should step to follow natural grade and avoid the creation of blank walls.

2. Site buildings to be parallel to the street and to have a distinct front-to-back orientation to public street and open spaces and to rear yards, parking, and/or interior court yards:
   - Building sides that interface with streets, mid-block connections, and other open spaces (building fronts) should positively frame and activate streets and open spaces and support pedestrian activity; and
   - Building sides that are located away from open spaces (building backs) should be designed for private/shared outdoor spaces and vehicle access.

Connectivity

3. Break up large buildings with mid-block connections which should be publicly-accessible, wherever possible.

4. Ground floors adjacent to mid-block connections should have entrances and windows facing the mid-block connection.



Credit: City of Kelowna

5.5.2 Scale and Massing

Design Intent: to ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces.

Guidelines:

1. Building facades should generally have a maximum length of 70m. A length of 40-50m is preferred.

2. Residential buildings should have a maximum width of 24m.

3. Buildings over 40m in length should incorporate a significant horizontal and vertical break in their massing and facade.

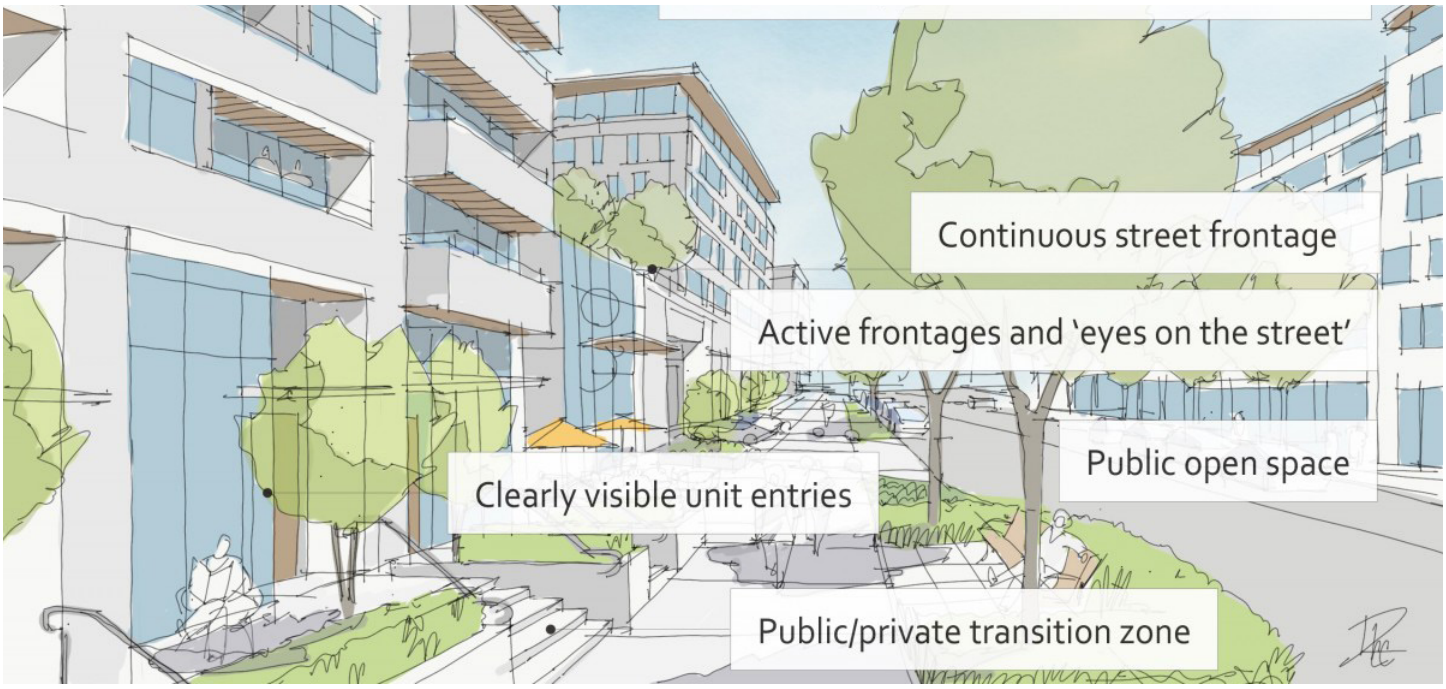
4. For commercial facades, incorporate a significant break at intervals of approximately 35m.

5. To support and promote the use of timber construction, exceptions to setbacks and podium design guidelines will be considered to accommodate unique design challenges and technical requirements.

6. Courtyards and mid-block connections within building sideyards should be a minimum of 6m wide.

7 - 12 Storey Buildings

7. Buildings between six and twelve storeys should provide a:
   - 2-3 storey podium at the base of the building;
   - 3m stepback or greater in upper storeys, and more generous upper storey terraces facing south and west; and,
   - 30m building separation between primary building facades.



Credit: City of Kelowna

5.5.3 Relationship to Street

Design Intent: to site and design buildings to positively frame and activate streets and public open spaces.

Guidelines:

1. Ensure lobbies and main building entries are clearly visible from the fronting street.

2. Avoid blank walls at grade wherever possible by:
   - Locating enclosed parking garages away from street frontages or public open spaces;
   - Using ground-oriented units and entries or glazing to avoid creating dead frontages; and
   - When unavoidable, screen blank walls with landscaping or incorporate a patio cafe or special materials to make them more visually interesting.

Commercial Retail & Institutional Ground Floors

3. Ensure buildings have a continuous active and transparent frontage at grade to provide a visual connection between the public and private realm.

4. Site buildings using a common 'build to' line at or near the front property line so that a continuous street frontage is maintained. Some variation (1-3m maximum) can be accommodated in ground level set backs to support pedestrian and retail activity by, for example, incorporating a recessed entryway, small entry plaza, or sidewalk patio.

5. Incorporate frequent entrances (every 15 m maximum) into commercial street frontages to create punctuation and rhythm along the street, visual interest, and support pedestrian activity.

6. Sites and buildings should be graded so that entryways are at street level and accessible.

Residential Ground Floors

7. Set back residential buildings on the ground floor between 3-5m from the property line to create a semi-private entry or transition zone to individual units and to allow for an elevated front entryway or raised patio.



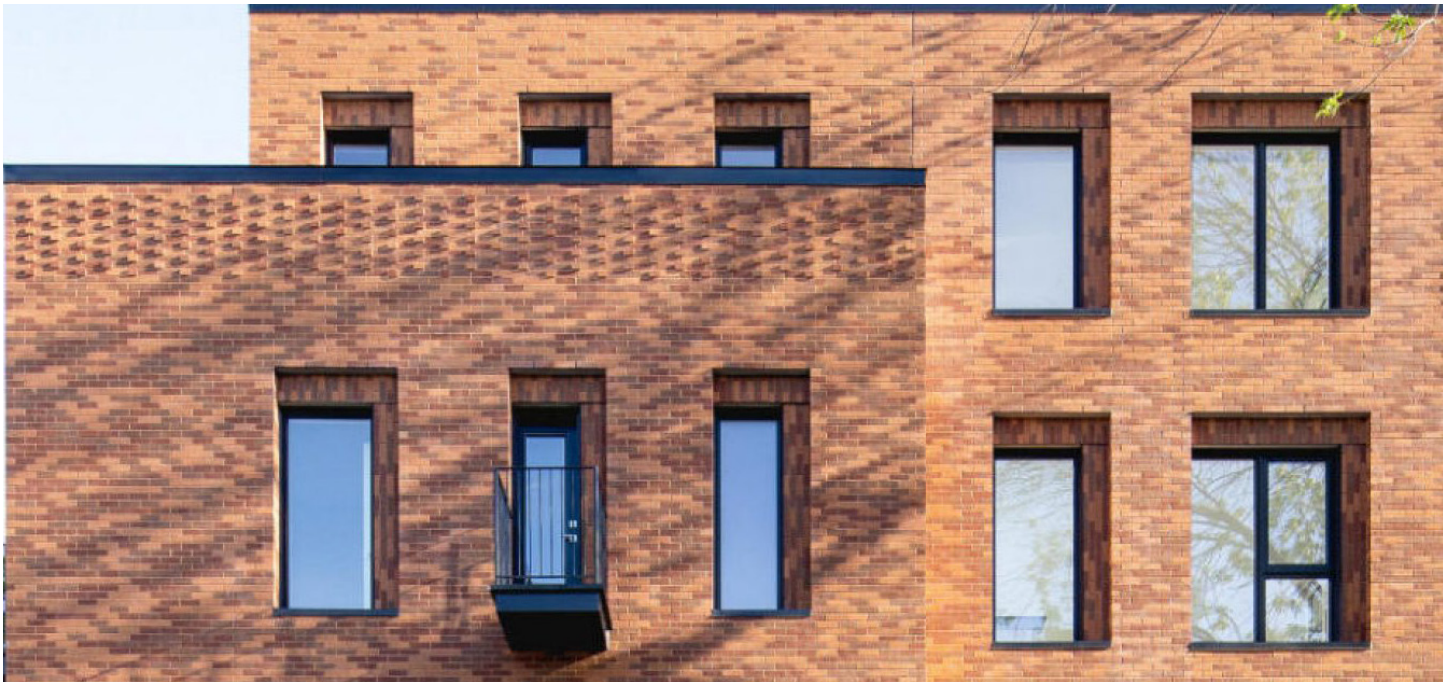
Residential building with slightly raised entryways from street level for additional privacy. Credit: City of Kelowna

8. A maximum 1.2m height (e.g., 5-6 steps) above street level is desired for front entryways.

9. Exceptions can be made in cases where the water table requires this to be higher. In these cases, provide a larger patio and screen parking with ramps, stairs and landscaping.

10. Incorporate individual entrances to ground floor units accessible from the fronting street or public open spaces.

11. Site and orient buildings so that windows and balconies overlook public streets, parks, walkways, and shared amenity spaces while minimizing views into private residences.



Articulation through simple materials and architectural details. Credit: ADHOC Architects.

5.5.4 Building Articulation and Materials

Design Intent: to enhance liveability, visual interest, identity, and sense of place through building form, architectural composition, and materials.

Guidelines:

1. Articulate building facades into intervals that are a maximum of 15m wide for mixed-use buildings and 20m wide for residential buildings. Strategies for articulating buildings should consider the potential impacts on energy performance, and include :
   - Façade Modulation – stepping back or extending forward a portion of the façade to create a series of intervals in the facade;
   - Repeating window patterns at intervals that correspond to extensions and step backs (articulation) in the building facade;
   - Providing a porch, patio, deck, or covered entry for each interval;
   - Providing a bay window or balcony for each interval, while balancing the significant potential for heat loss through thermal bridge connections which could impact energy performance;
   - Changing the roof line by alternating dormers, stepped roofs, gables, or other roof elements to reinforce the modulation or articulation interval;
   - Changing the materials with the change in building plane; and
   - Provide a lighting fixture, trellis, tree, or other landscape feature within each interval.
2. Break up the building mass by incorporating elements that define a building's base, middle and top.
3. Use an integrated, consistent range of materials and colors and provide variety by, for example, using accent colors.
4. Articulate the facade using design elements that are inherent to the building as opposed to being decorative. For example, create depth in building facades by recessing window frames or partially recessing balconies to allow shadows to add detail and variety as a byproduct of massing.





Place awnings and canopies to balance weather protection with daylight penetration. Credit: NACTO & Hewitt Seattle

5. Incorporate distinct architectural treatments for corner sites and highly visible buildings such as varying the roofline, articulating the facade, adding pedestrian space, increasing the number and size of windows, and adding awnings and canopies.

Weather protection

6. Provide weather protection (e.g. awnings, canopies, overhangs, etc.) along all commercial streets and plazas, with particular attention to the following locations:
   - Primary building entrances,
   - Adjacent to bus zones and street corners where people wait for traffic lights;
   - Over store fronts and display windows; and
   - Any other areas where significant waiting or browsing by people occurs.

7. Architecturally-integrate awnings, canopies, and overhangs to the building and incorporate architectural design features of buildings from which they are supported.

8. Place and locate awnings and canopies to reflect the building's architecture and fenestration pattern.

9. Place awnings and canopies to balance weather protection with daylight penetration. Avoid continuous opaque canopies that run the full length of facades.

10. Design awnings and canopies to break up and mitigate down drafts and pedestrian-level wind impacts.

Signage

11. Provide attractive signage on commercial buildings that identifies uses and shops clearly but which is scaled to the pedestrian rather than the motorist. Some exceptions can be made for buildings located on highways and/or major arterials in alignment with the City's Sign Bylaw.

12. Avoid the following types of signage:
   - Internally lit plastic box signs;
   - Pylon (stand alone) signs; and
   - Rooftop signs.

13. Uniquely branded or colored signs are encouraged to help establish a special character to different neighbourhoods.



Illustration in development demonstrating principles and guidelines related to building design and materials.



Credit: Merrick Architecture

5.5.5 Landscape and Open Spaces

Design Intent: to design landscapes and open spaces to respond to an open space program that relates to its users and provides flexible, accessible open space.

Guidelines:

1. Integrate publicly accessible private spaces with public open areas to create seamless, contiguous spaces, where possible.

2. Locate open spaces to maximize sunlight, minimize noise disruptions, and minimize 'overlook' from adjacent units.

Outdoor Amenity Areas

3. Design plazas and amenity areas to:
   - Have 'three edges' (i.e., building frontage on three sides) where possible and be sized to accommodate a variety of activities;
   - Be animated with active building uses at the ground level; and,
   - Be located in sunny, south facing areas.

4. Design internal courtyards to:
   - Provide amenities such as play areas, barbecues, and outdoor seating.
   - Provide a balance of hardscape and softscape areas to meet the specific needs of surrounding residents and/or users.

5. Design mid-block connections to include active frontages, seating and landscaping where possible.

Rooftop Amenity Spaces

6. Design shared rooftop amenity spaces to be accessible and to ensure a balance of amenity and privacy by:
   - Limiting sight lines from overlooking residential units through the use of pergolas or covered areas where privacy is desired; and
   - Controlling sight lines from the outdoor amenity space into nearby residential units by using fencing, landscaping, or architectural screening.

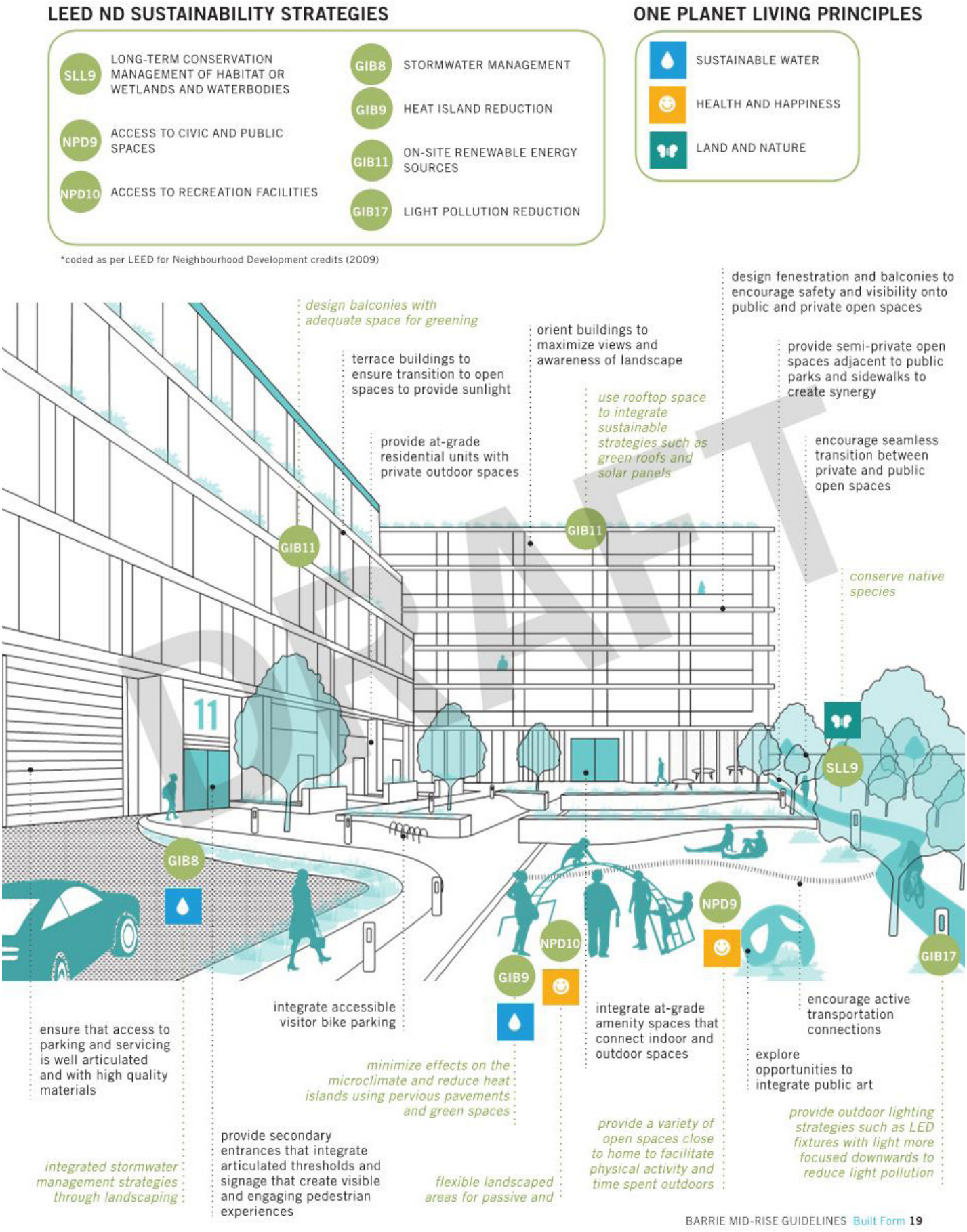
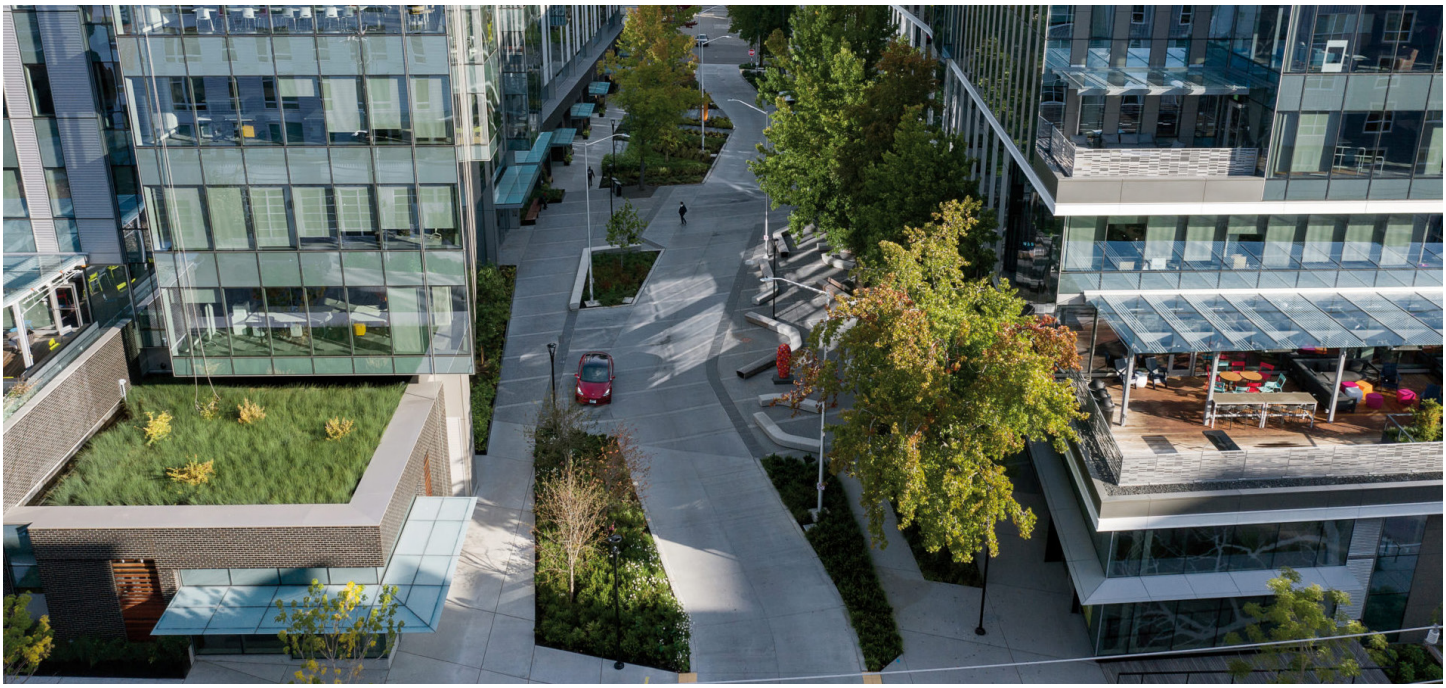


Illustration in development: Demonstrating principles and guidelines related amenity and open space.



Credit: Hewitt Architecture

7. Reduce the heat island effect by including plants or designing a green roof, with the following considerations:
    - Secure trees and tall shrubs to the roof deck; and
    - Ensure soil depths and types are appropriate for proposed plants and ensure drainage is accommodated.



Credit: TACT Architecture Inc.

5.5.6 Access, Parking, and Site Servicing

Design Intent: to ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety and attractiveness of the public realm..

Guidelines:

1. Vehicular access should be from a lane. Where there is no lane, and where the (re) introduction of a lane is difficult or not possible, access may be provided from the street, provided:
   - Access is from a secondary street, where possible;
   - Impacts on pedestrians and the streetscape is minimized; and,
   - There is no more than one curb cut per property.

2. Above-grade structured parking should only be provided in instances where the site or high water table does not allow for other parking forms.

3. Buildings with ground floor residential may integrate half-storey underground parking to a maximum of 1.2m above grade, with the following considerations:
   - Semi-private spaces should be located above to soften the edge and be at a comfortable distance from street activity; and.
   - Where conditions such as a high water table do not allow for this condition, up to 2m may be permitted, provided that entryways, stairs, landscaped terraces, and patios are integrated and that blank walls and barriers to accessibility are minimized and treated with attractive landscape design.

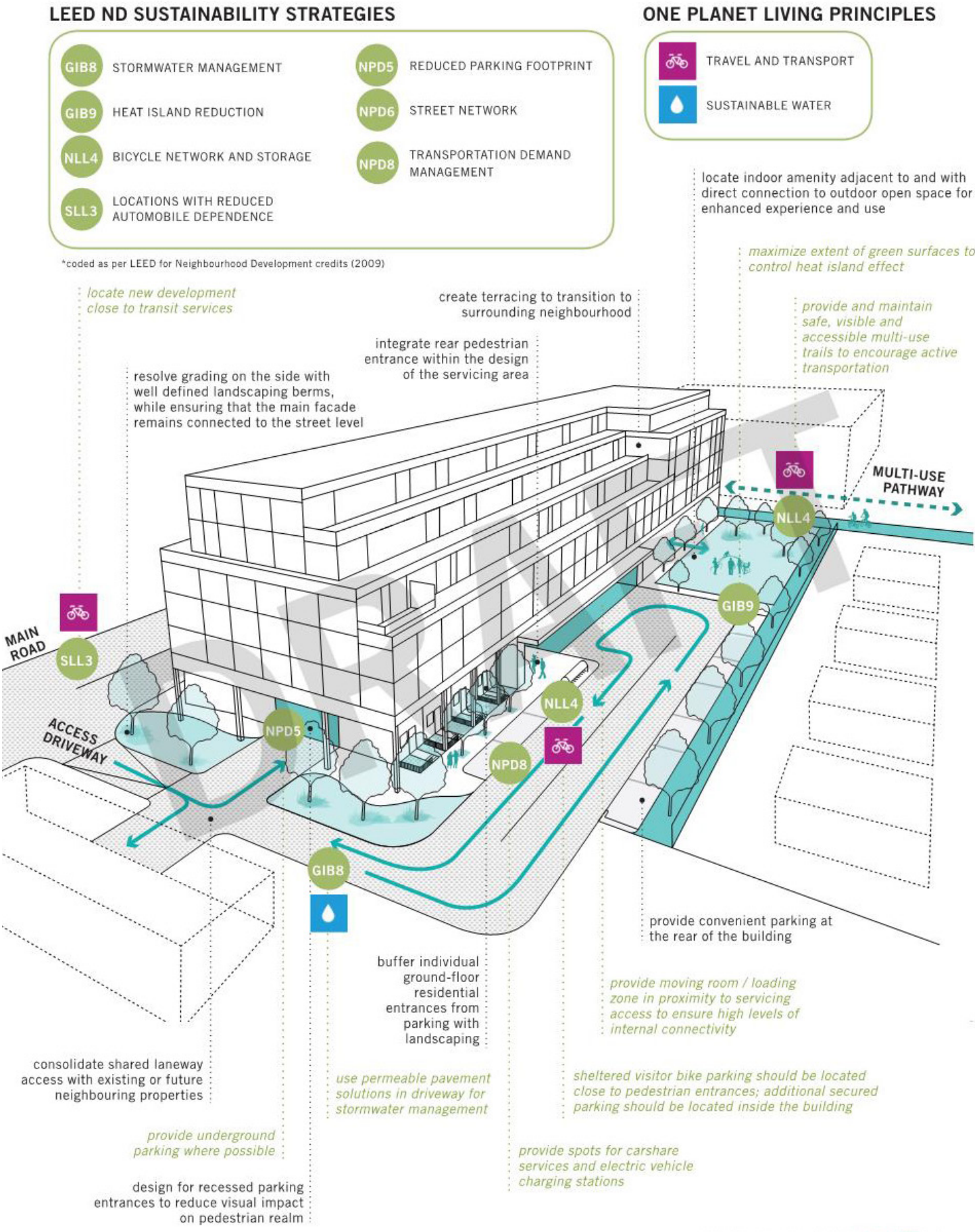


Illustration in development: Demonstrating principles and guidelines related to access, loading and parking.

5.6
High-Rise Buildings

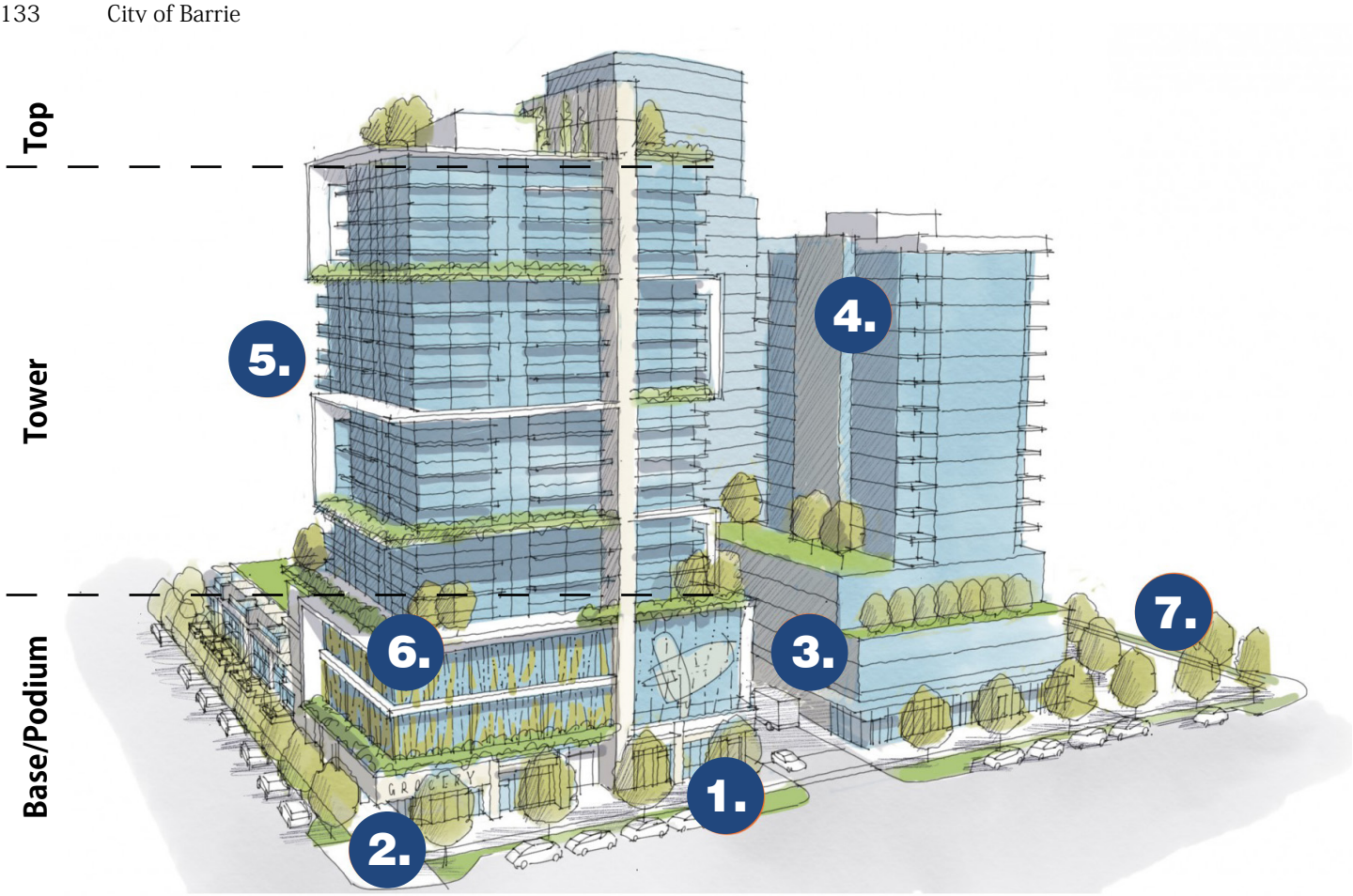
High-rise buildings are expected within Barrie's Urban Growth Centre, Major Transit Station Areas, and may be considered in Strategic Growth Areas. They are mostly mixed use, but may also be wholly residential, and/or wholly commercial buildings.

Common design challenges include reducing the mass of podiums and bulk of towers, reducing the visual and use impacts of above-grade structured parking, and having active frontages on primary and secondary streets.

As a result, these projects should have a strong relationship to the street with active frontages, break up the mass of podiums by providing vertical and horizontal articulation, and have slender towers with reduced floor plates.

Building Type Characteristics

- 13 - 25 storeys
- A shared main entrance and secondary access to units within the building
- Street-oriented units (residential/commercial/retail/institutional) accessed at-grade



Credit: City of Kelowna

Objectives

To achieve the design goals of the City, all high-rise buildings should:

1. Provide a ground floor height of 4.5 m, and limit base building/podium height to 80% of adjacent Right-of-Ways.

2. Activate street frontages with transparent commercial, retail, and residential units accessible from the street.

3. Provide access to parking and loading areas via laneways or secondary streets. Where underground parking is not feasible, screen above grade parking using store fronts or architectural screening to mitigate any visual impacts.

4. Site podiums to frame and activate the street. Locate towers with appropriate separation distances and design them with slender and simple forms.

5. Design buildings to balance a cohesive architectural style with a distinct base/podium, tower, and top.

6. Break up base/podium massing by providing simple vertical and horizontal articulation of facades; e.g., stepping back or projecting forward a portion of the facade, using color and texture.

7. Provide opportunities for mid-block connections, plazas, and other semi-public open spaces.

5.6.1 Site Planning

Design Intent: to site podiums and towers to create a consistent streetwall and minimize visual and shadow impacts on the public realm.

Guidelines:

Building Placement

1. Site podiums parallel to the street and extend along the edges of streets, parks, and open spaces to establish a consistent street wall.

2. Additional considerations for building placement:
   - Site towers to be setback from the street wall and closer to interior lanes.
   - Greater setbacks may be provided at strategic points or along the entire frontage for increased architectural interest and improved pedestrian experience and public realm treatment; for example to provide space for tree planting, wider sidewalks, plazas, and other open spaces.
   - 3-4m setbacks can be provided along retail frontages to accommodate street cafes and patios.
   - Wherever possible, retain existing landscaped streetscapes by providing generous setbacks for trees and plantings.

Building Separation

3. Maintain a minimum spacing distance of 25m between towers, measured from the exterior wall of the buildings, excluding balconies.

4. Place towers away from streets, parks, open space, and neighbouring properties to reduce development impacts.

5. Provide minimum 15m separation of podium faces for pedestrian mid-block connections

Neighbourhood Fit and Transition

6. Create transition between tall buildings and lower-scaled buildings and open spaces by applying angular planes, minimum horizontal separation distances, and other strategies such as building setbacks and stepbacks to limit development impacts.

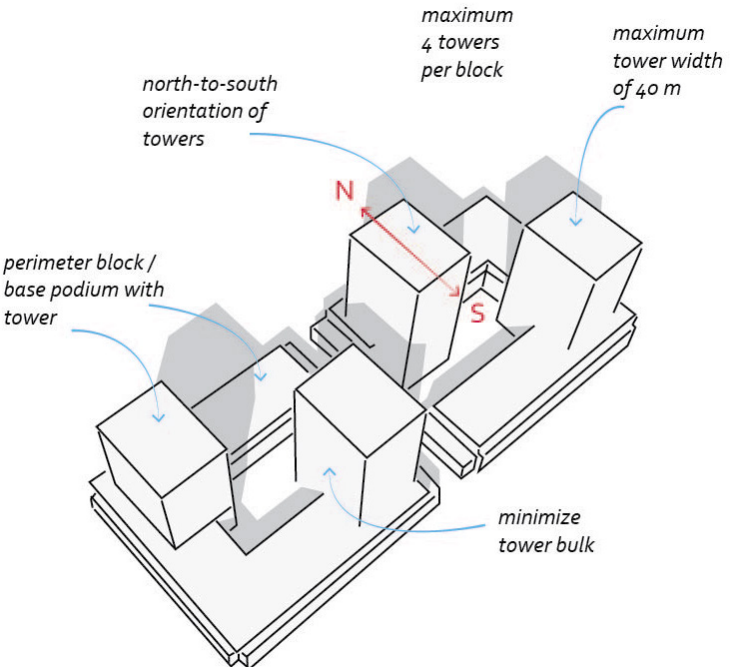
7. Where sites in Growth Areas are adjacent to Neighbourhood Areas, apply a 45-degree angular plane from the nearest Neighbourhood Area property line(s), to guide appropriate transitions in height from mid-and high-rise areas to the lower ground-related Neighbourhood Areas.

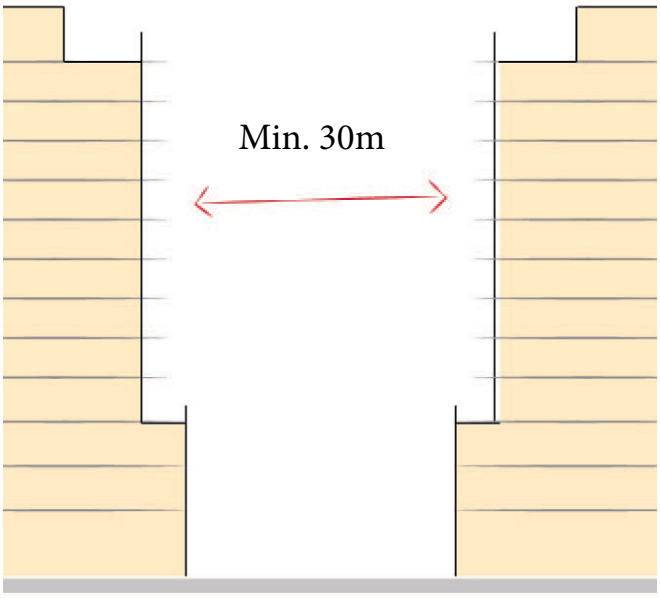
Solar Access

8. Orient buildings to maximize solar access to adjacent streets and public spaces, while also considering optimizing for solar orientation to improve energy performance and occupant comfort. Strategies for minimizing impact on solar access include:
   - Limiting the scale and height of the podium;
   - Designing slender towers with small footprints and generous separation distances;
   - Varying the heights of towers on sites with multiple towers; and
   - Locating towers on site to minimize shadowing adjacent buildings and open spaces.

Views

9. Site buildings and towers to protect, create, frame, or extend views from the public realm to important natural and human-made features and landmarks (e.g., to Lake Simcoe).





Credit: Image City of Kelowna

5.6.2 Scale and Massing

Design Intent: to ensure buildings contribute positively to the neighbourhood context and provide a sensitive transition in scale to existing and future buildings, parks, and open spaces.

Guidelines:

Podiums/Base Buildings

1. Provide a minimum first floor height of 4.5 metres, measured from average street grade.

2. Provide a minimum podium height of 2 storeys and a maximum podium height of 6 storeys, and ensure that the total podium height does not exceed 80% of the adjacent street right-of-way width (up to a maximum of 8 storeys).

3. On corner sites, vary the height and form of the podium to respect and respond to the height and scale of the existing context on adjacent streets.

4. When adjacent sites are lower in height and are not anticipated to change, provide a transition in the podium height down to the lower-scale neighbours.

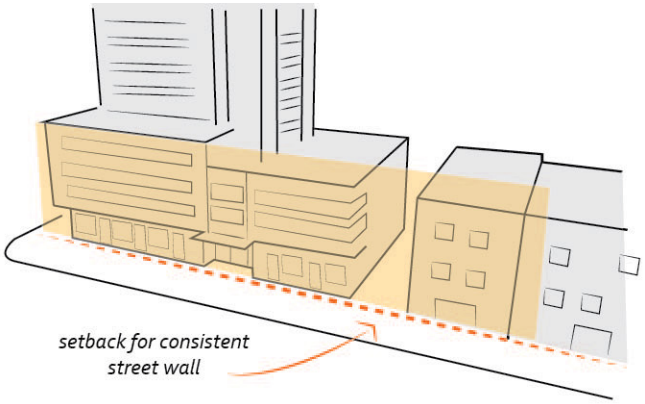
5. When adjacent sites include heritage buildings, design the scale and height of the podium to align with the heritage building height.

Towers

6. Orient towers in a north/south direction, wherever possible.

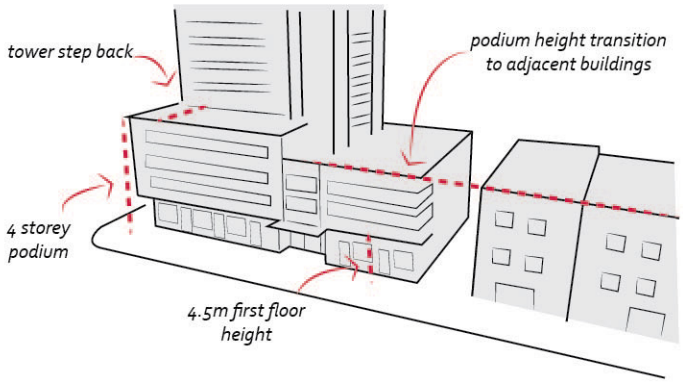
7. Generally, a maximum of four towers should be located within an individual block, with a staggered tower spacing.

8. Where multiple high-rise buildings are being considered, a master plan or wider block planning effort may be required.



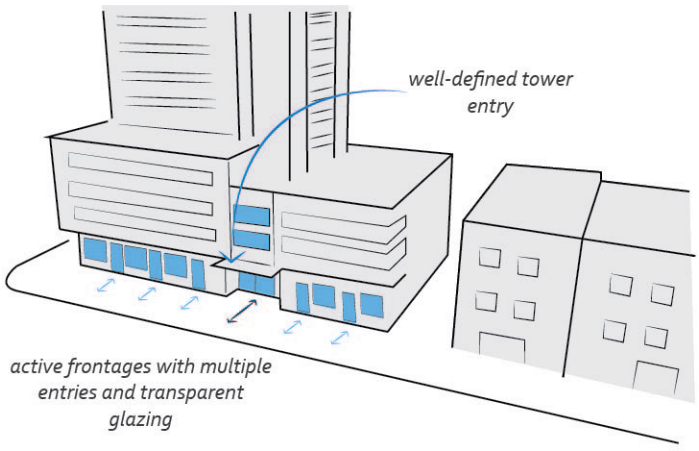
Siting and Orientation

Site podiums and building base's parallel to the street and create a consistent streetwall condition.



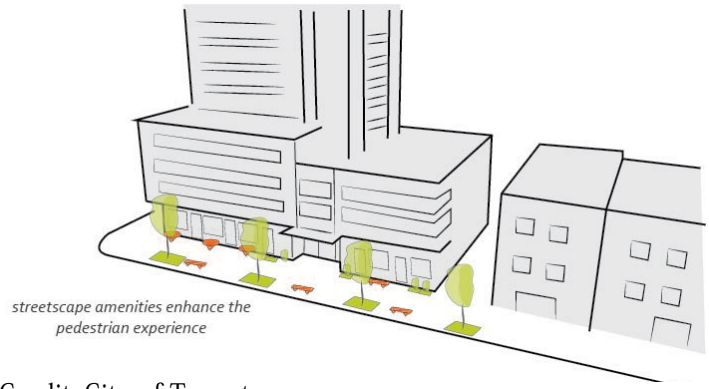
Contextual Considerations

Vary the height and form of the podium to respond to existing and envisioned future context on neighbouring sites, and adjacent street widths.



Access and Street Permeability

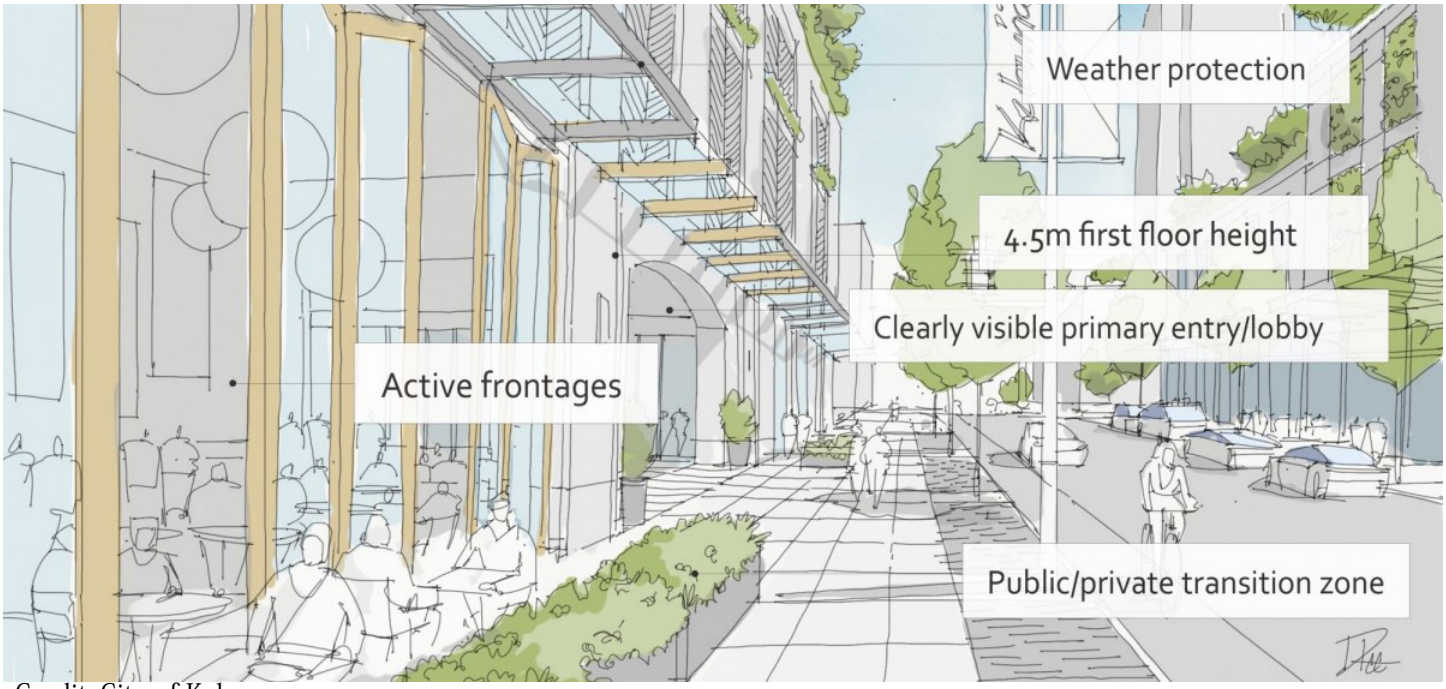
Create well defined, clearly visible and universally accessible primary building entrances.



Streetscape Integration

Provide streetscape amenities, such as street trees, landscaping, seating, and lighting to enhance the pedestrian experience.

Credit: City of Toronto



Credit: City of Kelowna

5.6.3 Relationship to Street

Design Intent: to site and design buildings to positively frame and activate streets and public open spaces.

Guidelines:

1. Design podiums to have frontages with high degrees of activity and transparency to promote 'eyes on the street' using strategies such as;
   - Having continuous commercial and retail uses with windows and primary entrances facing the street; and
   - Having ground-oriented residential units with windows and primary entrances facing the street.

2. For buildings on corner sites with retail frontages, ensure there are active frontages on both facades by wrapping the primary retail facade to the secondary frontage. The primary facade can be emphasized by using higher quality materials and detailing and creating a more prominent entrance.

3. For residential podiums with townhouse frontages, refer to the Townhouse Built Form Guidelines for that portion of the building.

4. Locate private, indoor amenity facilities such as bicycle storage along secondary street frontages as opposed to primary street frontages.

5. Blank walls over 5m are strongly discouraged and should be avoided.

Building Address and Access

6. Use architectural and landscape features to create well-defined, clearly visible, and universally accessible primary building entrances.
   Additionally:
   - Differentiate between residential and commercial entrances;
   - Design lobby entryways to ensure they are well-defined and visually emphasized in the facade;
   - For retail frontages, provide small format retail storefronts with frequent entrances and a minimum depth of 10 m; and



Credit: Image City of Kelowna

- Locate main building entries close to transit stops.

Sidewalk Interface

7. Design the streetscape fronting high-rise buildings to have defined zones as follows.
   - Frontage zone next to the building that may include patios, seating, or space for pedestrians to access building entrances;
   - Pedestrian zone that accommodates pedestrians walking along the sidewalk;
   - Furnishing / planting zone that provides space for street trees, landscaping, seating and lighting; and
   - Edge zone that provides a buffer from moving vehicles.

8. If the street is planned to accommodate cycling facilities, locate them between the edge zone and the furnishing / planting zone.

9. Provide a generous sidewalk width and space for streetscape amenities in the furnishing and planting zone, such as street trees, lighting, signage and public wayfinding elements, benches, trash receptacles & patios etc.



Credit: Hobin Architecture

5.6.4 Building Articulation, Features and Materials

Design Intent: to enhance liveability, visual interest, identity, and sense of place through building form, architectural composition and materials. .

Guidelines:

1. Design tall buildings to have a cohesive architectural look with a distinct podium, tower, and top. Strategies for achieving this include changes in articulation, materials, and the use of step backs.

2. Integrate service connections, vents, mechanical rooms and equipment with the architectural treatment of the building, and/or locate to minimize visual impact and screen from view with materials and finishes compatible with the building.

Podiums/Base Buildings

3. Provide architectural expression in a pattern, scale and proportion that is in relation to neighbouring buildings and that differentiates it from the tower. Examples of such design elements include the use of:
   - Cornice lines
   - Window bays;
   - Entrances;
   - Canopies;
   - Durable building materials; and
   - Energy efficient fenestration.

4. Highlight primary facades with high quality materials and detailing, with particular attention to building entrances.

5. Avoid blank walls, but if necessary, articulate them with the same materials and design as the other active frontages and consider these spaces for architectural features and public art, if appropriate.

6. Along intensification corridors, collectors, and arterial street frontages, avoid locating balconies (projecting or inset) within the first 2 storeys of the podium. Between 3 and 6 storeys, inset balconies behind the streetwall.

Towers

7. On sites with multiple towers, provide variation in the design and articulation of



Articulated masonry frames the ground podium while the glass tower rises above visually minimizing it's impact. Credit: Studio JCI

each tower facade to provide visual interest while maintaining a cohesive architecture overall.

8. Wrap-around balconies are strongly discouraged, but if proposed, may require smaller tower floor plate or greater separation distances to offset impacts.

9. Design balconies to meet sustainability objectives while reducing the visual mass of the building. Balconies should become an extension of interior living space, while balancing the significant potential for heat loss through thermal bridge connections which could impact energy performance.

10. Consider that inset or partially inset balcony arrangements may offer greater privacy and comfort, particularly on higher floors.

Tops

11. Design the top of tall buildings to be unique and distinguishable from the middle building and to make a positive contribution to the skyline.

12. The design of mechinical room screening, incorporation of roof top amenity spaces, and architectural lighting can be used to distinguish the tower top.

13. Where architectural lighting is considered, use energy efficient fixtures and avoid uplighting and overlighting.



Credit: Perkins+Will, photographers Andrew Latreille and Ed White

5.6.5 Landscape and Open Spaces

Design Intent: to design landscapes and open spaces to respond to an open space program that relates to its users and provides flexible, accessible open space.

Guidelines:

Publicly Accessible Open Spaces

1. Wherever possible, include publicly accessible open space on-site, such as hard or soft landscaped setbacks, plazas, courtyards, and mid-block pedestrian connections.

2. Define and animate the edges of open spaces with well-proportioned podiums and active uses at-grade.

3. Locate and design publicly accessible open space to:
   - Be directly accessible from the fronting public sidewalk;
   - Maximize access to sunlight and encourage year-round use through the use of landscaping, seating, and weather protection;
   - Where possible, complement and connect with publicly accessible open space on neighbouring properties; and
   - Maximize safety, comfort, amenity, and accessibility.

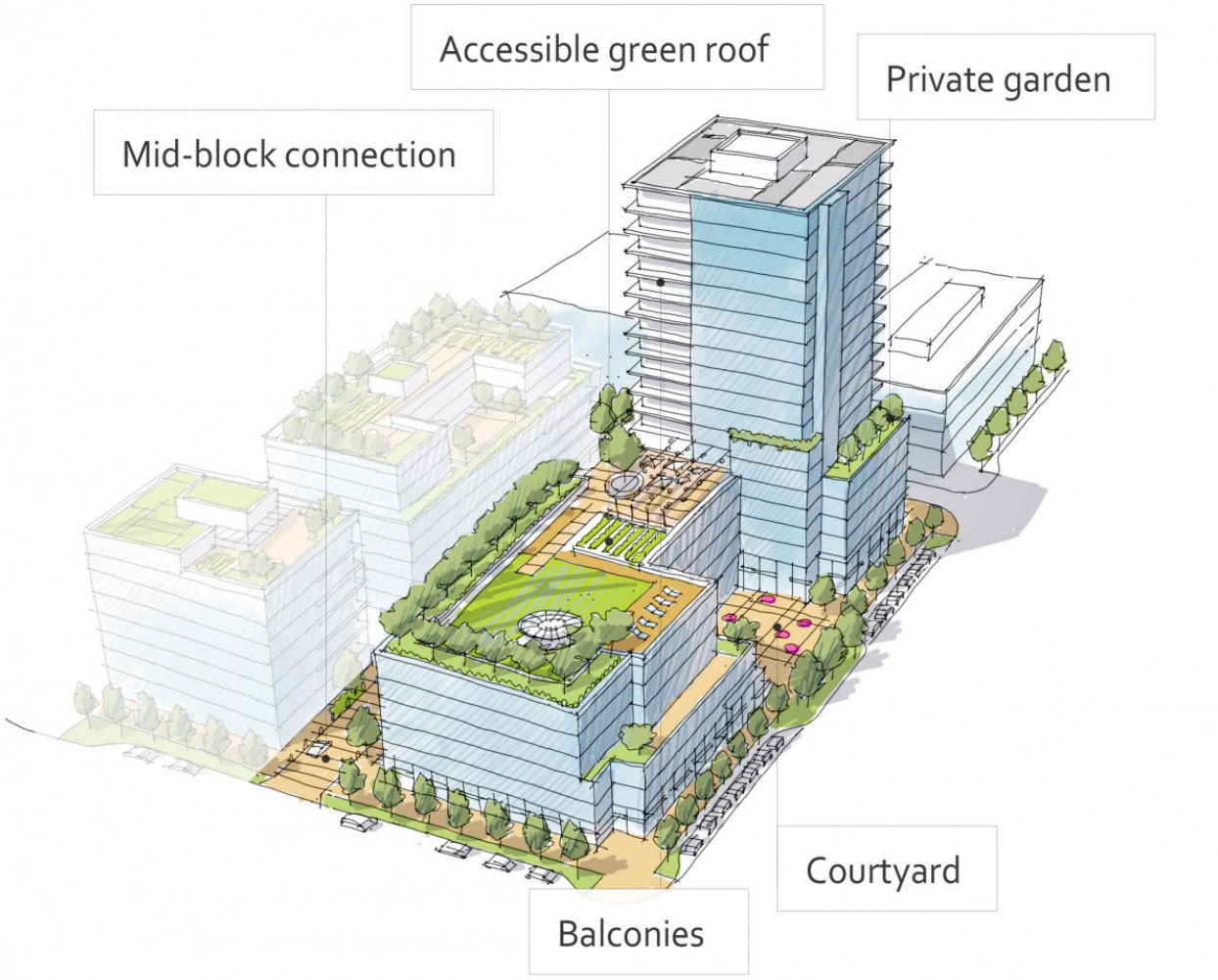
4. On larger sites, use publicly accessible open space to provide through-block pedestrian connections.

5. Where provided, tailor furniture elements as appropriate to encourage a range of seating and gathering opportunities, including both fixed and unfixed seating to allow for flexibility of use.

Private Open Spaces

6. Provide private outdoor amenity spaces on site, such as balconies, private courtyards, private gardens, and accessible green roofs.

7. Locate and design shared private outdoor amenity space to:
   - Maximize access to sunlight;
   - Minimize noise, smell and/or visual impacts from site servicing or mechanical equipment; and
   - Provide seating, lighting, trees, shade structures, and weather protection.



8. Locate private patios and gardens to minimize overlook from neighbours.

9. For shared rooftop amenity spaces (e.g., on the top of the podium parkade), ensure a balance of amenity and privacy by:

10. Limiting sight lines from overlooking residential units to outdoor amenity space areas through the use of pergolas or covered areas where privacy is desired; and

11. Controlling sight lines from the outdoor amenity space into adjacent or nearby residential units by using fencing, landscaping, or architectural screening.

12. Design private balconies to be large enough to provide usable outdoor space.

13. Locate indoor amenity areas adjacent to shared outdoor amenity areas and allow access between the two areas.

Public Art

14. Where applicable, integrate public art on-site to generate interest and activity and reflect the unique natural, Indigenous, or human history of Barrie.

15. Provide adequate building setbacks and space to accommodate the pedestrian view and experience of public art installations.

16. Site artwork at key pedestrian spaces such as courtyards, mid-block connections, lanes, and plazas.



Credit: City of Kelowna

5.6.6 Access, Parking and Site Servicing

Design Intent: to ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on the comfort, safety, and attractiveness of the public realm.

Guidelines:

1. Provide access to site servicing and parking at the rear of the building or along a secondary street. Utilize through laneways to minimize the need for vehicle turnarounds on site.

2. Where parking cannot be located underground due to high water table, and is to be provided above ground, screen the structure from public view as follows:
   - Where a building fronts an intensification corridor, collector, or arterial street, line the parking structure with active retail frontage;
   - Where a building fronts onto local or side streets, line the parking structure with an active residential frontage, such as ground oriented townhouse units;
   - Where active frontages cannot be accommodated, screen parking structures by using architectural or landscaped screening elements;
   - On corner sites, screen the parking structure from view on both fronting streets using the strategies above.
   - A setback between the ground floor and upper storeys of the podium that can accommodate significant soil volumes for planting trees and other landscaping to screen the parking structure may also be considered.

3. Public art can also be used to mitigate visual impacts from blanks walls on upper storey podium levels.

4. Minimize the visual impact of garage doors, parking entrances and service openings on the public realm by using strategies such as recessing, screening, and size minimization.

5. Avoid split level, raised or sunken parkade entrances.

6. Locate drop-off areas into the side or rear of the site and provide pedestrian access to the street frontage.

5.7
Retail, Commercial, Industrial

Large format retail developments are a product of the automotive age, and are designed for convenient access by motorists with large areas of surface parking separating building entries from public sidewalks. As such, they present many opportunities for improving design and functionality, including enhancing the architectural design of box-style buildings; enhancing the pedestrian environment; improving landscaping in order to mitigate environmental and visual impact of parking areas; and designing to improve the character of the street and surrounding neighbourhoods. Underutilized mall sites present many opportunities for redeveloped, they are important to design with consideration for future adaptability and intensification of the site.

Industrial and service commercial buildings play an important role in the function and economy of Barrie and are oriented primarily towards providing convenient and safe access for commercial vehicles. They also present many opportunities to improve design and functionality, including enhancing the pedestrian environment once motorists get out of their vehicles, and are oriented primarily towards providing convenient and safe access for commercial vehicles; improving landscaping in order to mitigate environmental and visual impact of parking areas and buildings; and designing to mitigate negative impacts on neighbouring uses.

Building Type Characteristics

- Large building footprint
- Multiple loading bays
- Accommodates a variety of uses, but are frequently single use buildings (commercial, employment, intstitutional)



Key Guidelines

To achieve the design goals of the City, all retail, commercial and industrial buildings should:

1. Avoid blank walls facing the public street and design buildings such that their form and architectural character reflect the buildings internal function and use

2. Distribute trees and landscaping throughout the site to soften public/private boundaries, define internal circulation routes, create pleasant pedestrian conditions, and maximize shade and stormwater management

3. Provide direct, safe, continuous and clearly defined pedestrian access from public sidewalks, parking areas, and transit stops to building entrances

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

5. Utilize stormwater management best practices to and provide on-site bio-retention facilities (e.g., bioswales, rain gardens) to collect, store and filter stormwater from parking and vehicle circulation areas



Credit: City of Kelowna

5.7.1 Site Planning

Design Intent: To site buildings and utilize landscaping to respond sensitively to topography; to enhance environmental performance; to enhance safety and accessibility; and to increase connectivity to surrounding public sidewalks and paths.

Guidelines:

1. Locate buildings to ensure good sight lines for vehicular and pedestrian traffic.

2. Provide direct, safe, continuous, and clearly defined pedestrian access from public sidewalks, parking areas, and transit stops to building entrances.

3. Multi-level retail is strongly encouraged to reduce overall building footprints and increase retail density within the Urban Growth Centre, Strategic Growth Areas, and mixed use developments.

Connectivity

4. Break up large buildings with mid-block connections which should be publicly-accessible, wherever possible.

5. Ground floors adjacent to mid-block connections should have entrances and windows facing the mid-block connection.

6. Large format retail stores should be integrated into a consistent pattern of streets or private drives and blocks.

Parking

7. Break parking areas into smaller blocks defined by landscaped islands and pedestrian paths (min. 1.5m wide) in order to minimize the amount of paved areas.

8. Where underground parking is not feasible, surface parking for large format retail and shopping malls should be:
   - Arranged on the site so that the built form can maintain some relationship with the street, and,
   - Located at the side and/or rear of the building.



Credit: City of Kelowna

Circulation

9. Design the internal circulation pattern to have direct connections to surrounding streets.

10. Walkways and other pedestrian amenities should connect parking areas to building entries, seating, and pedestrian-scaled lighting.

11. Pedestrian pathways should provide clear sight lines and connect the building to outdoor amenity spaces.

12. Pedestrian pathways should provide clear sight lines and connect the following:

    - Parking areas to building entrances.
    - Main building entrances to public sidewalks;
    - Main building entrances to transit stops; and
    - Between buildings on adjacent lots.

13. Provide separation between vehicular routes (especially truck access/loading) and pedestrian routes on-site to avoid conflict and distinguish pedestrian routes from driving surfaces by using varied paving treatments and/or raising walkways to curb level.

14. Base new development on an internal circulation pattern that allows logical movement throughout the site and that will accommodate, and not preclude, intensification over time.

Landscape and Open Space Planning

15. Provide publicly-accessible open space on-site to provide places to linger.

16. Provide site furnishings, such as seating, bike racks, and shelters at building entrances and amenity areas.

17. Open spaces between buildings should be well landscaped at the street edge and throughout parking areas.

Stormwater management

18. Consider providing landscaped green roofs to manage runoff, add visual appeal, improve energy efficiency, reduce heat island effect, and provide amenity value.



5.7.2 Relationship to Street

Design Intent: To site and design buildings to positively frame and, where possible, activate streets and public open spaces.

Guidelines:

1. Orient the long side of each building to be parallel to the public street.

2. Building entrances should be clearly visible and accessible along the primary street frontage with a pedestrian route from the public pedestrian clearway to the entrance of the building.

3. Buildings should have a continuous pedestrian clearway on all sides of the building where public entrances and parking areas are located.

4. Access to interior spaces should be level with adjacent Sidewalk Zones and be fully accessible.

5. Standalone large format retail stores are discouraged; where possible, they should be located behind smaller footprint stores that maintain a relationship to the street.

6. Locate active uses at grade, such as restaurants, boutique shops, food concessions and waiting areas and use clear windows and doors to make the pedestrian level façade highly transparent.

7. Where possible, smaller retail units should line part of the principal building and have display windows and separate entrances.

8. Site the building's primary facade parallel to the street and close to the minimum setback to establish a defined street edge.

9. Include glazing as a major component of street facing facades.

10. Maintain and enhance street edge definition by preserving or incorporating street trees.

11. Buildings on a corner parcel should orient frontages towards both streets if possible and include distinct architectural features,



Credit: GDB Architects - Slabtown

such as:

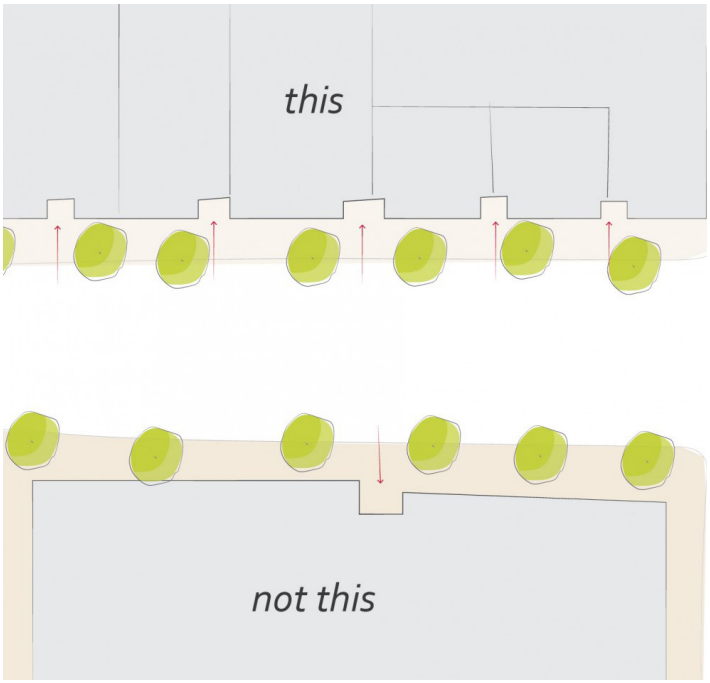
- Special or decorative canopies;
- Bay windows, balconies, turrets, or articulated roof line features; or
- A corner entrance.

12. For Industrial and service commercial locate the office, reception, or sales component of the building closer to the street than the plant or warehouse component.

13. Do not locate service doors (e.g., an overhead loading door) facing the street.

14. For buildings fronting highways, entries can be located away from the street, as long as there is a direct pedestrian connection to the site.

15. Avoid blank walls adjacent to the highway, streets, walkways, parks, or other amenity spaces.



Credit: City of Kelowna



Credit: Dunlop Street, Barrie

5.7.3 Building Articulation and Materials

Design Intent: To enhance visual interest, identity, and sense of place through building form, architectural composition, and materials.

Guidelines:

1. Design the façade of buildings with multiple storefronts so that each is defined through individual signage, entrances, canopies and/or materiality.

2. Design primary entrances to face the street, exhibit design emphasis, and provide weather protection by means of canopy or recessed entry.

3. The width of store frontages at grade should generally be limited to a maximum of 20.0 metres.

4. Integrated canopies that provide weather protection in support of retail uses are encouraged, particularly in entrances and waiting areas.

5. Setbacks should be used for minor retail spill-out uses such as benches, displays, menus and planters.

6. Avoid facing unarticulated facades to the street and use projections, recesses, arcades, awnings, color, and texture to improve the pedestrian experience.

7. Design buildings such that their form and architectural character reflect the building's internal function and use (e.g., an industrial building, a large format retail mall).

8. False upper floors are discouraged and all floors visible from the street should be functional.

9. Create transparent retail frontages with visual access to the interior of retail stores, and avoid the use of:

    - Materials such as black out advertising panels;
    - Dark and/or reflective glass

10. Wrap large format retail uses with smaller retail units around the periphery with individual entries accessed from the fronting sidewalk or open space.

11. Use different exterior materials to distinguish between the plant/warehouse component of a building from the office/ sales component.

12. For industrial and service commercial avoid facing unarticulated facades to the street and use projections, recesses, plantings, awnings, color and texture to reduce the visual size of any unglazed walls (See above)

13. Ground floor building heights should be sufficient to accommodate full retail uses, such as a minimum of 4.5 metres.

14. The ground floor of commercial buildings should contain active commercial or office space. Office or residential uses on the second floor are also encouraged in designated mixed use areas.

Signage

15. Design signage as an integral element of the building's facade, and to be compatible in scale and design with the design, color, and material of the building.

16. Allow for brand identification where there are multiple buildings and uses on a site, but avoid individual corporate image, color, and signage back-lit signs from dominating the site.

Lighting

17. Provide shielded, down lighting to provide security and ambient lighting while minimizing light pollution and spill over lighting into adjacent properties.

Weather Protection

18. Provide weather protection at building entrances, close to transit stops, and in areas with pedestrian amenities.

Materials

19. Incorporate substantial, natural building materials such as masonry, stone, and wood into building facades.

20. Use an integrated, consistent range of materials and colors and provide variety by, for example, using accent colors.



Urban bio-retention Credit: Dean Young, Sustainable Technologies Evaluation Program

5.7.4 Landscape and Open Spaces

Design Intent: to design landscapes and open spaces to respond to an open space program that relates to its users and provides flexible, accessible open space.

Guidelines:

1. Use large canopy trees to define the public realm (e.g., at the sidewalk and property edge facing the street).

2. Areas between buildings that are not required for servicing should be well landscaped.

3. Distribute trees and landscaping throughout the site in order to:

    - Soften property edges facing the street;
    - Define internal roads, pedestrian routes, and open spaces;
    - Create pleasant pedestrian conditions;
    - Screen parking, loading, service, and utility areas;
    - Maximize shade, especially in parking areas;
    - Manage stormwater on-site; and
    - Break up large rows of parking by substituting a parking stall with a canopy tree in planter every 8-10 parking stalls.

Stormwater Management

4. Provide on-site bio-retention facilities (e.g., bioswales, rain gardens) to collect, store and filter stormwater from parking areas.

5. Use permeable materials such as paving blocks or permeable concrete in parking areas to maximize rainwater infiltration.



Credit: Spur, Design for Walkability

5.7.5 Access, Parking, and Site Servicing

Design Intent: To ensure the provision of adequate servicing, vehicle access, and parking while minimizing adverse impacts on pedestrians and neighbouring properties.

Guidelines:

Access

1. Design site accesses to provide the potential for future shared access with neighbours and to minimize curb cuts.

2. Where practical, link access drives and parking lots of adjacent properties in order to allow for the circulation of vehicles between sites.

3. Provide sheltered bicycle parking in visible and well-lit locations near building entrances and pedestrian walkways.

Parking

4. The preferred location for main parking areas is at the rear and/or side of the building. Avoid locating large parking areas between the building and street.

5. Where parking areas are visible from the street, screen them using strategies such as tree planting, berming, low walls, decorative fencing and/or hedging.

6. Break parking areas into smaller blocks defined by landscaping in order to minimize the amount of paved areas.

Storage, Servicing, Utilities, Loading and Garbage

7. Locate loading, utilities, mechanical equipment, storage and garbage collection areas away from public view by:
   - integrating these facilities into the footprint of the building; or
   - locate within rear yards and/or interior side yards and screened from street view.
   - screening using fencing, walls and/or landscaping.

8. Provide areas for temporary snow storage that do not conflict with site circulation, landscaping and access to utility boxes. For example, by providing access via a lane away from public view.

5.8
Community Hubs

Wholly institutional developments are sometimes exempt from guidelines or not given specific guidelines. In some cases, the City may not have jurisdiction over Institutional developments, but desires to have an influence and provide direction to ensure these developments help the City to achieve its community design objectives.

A master planning process is encouraged for institutional development projects to ensure a comprehensive and cohesive design that contributes, connects well to, and expands on the existing and/or planned future context; responds sensitively to natural and ecological features; and supports liveability and sustainability, informed by the Design Vision and Principles, Context, and the General Building Design Guidelines of this document.

Building Type Characteristics

- 1-12 storeys
- A range of built forms depending on the site context; can include places of worship, flex buildings, low-rise buildings, and mid-rise buildings.
- The City encourages Community Hubs to provide a mix of uses.
- A shared main entrance



Credit: Tom Arban Photography Inc.

Key Guidelines

To achieve the design goals of the City, all retail, commercial and industrial buildings should:

1. Consider a mix of uses to efficiently utilize sites. Design Community Hub buildings to respond to the Design Principles and General Building Design Guidelines, while respecting the need for functional (e.g., access or parking) or site-specific design solutions.

2. Community Hubs should incorporate landmark or emblematic design features, such as prominent vertical elements, significant corner treatments, and entry plazas or large extensions of the public realm.

3. Large-scale projects should demonstrate variety in massing and materiality.

4. Avoid blank walls facing the public street and design buildings such that their form and architectural character reflect the buildings internal function and use

5. Distribute trees and landscaping throughout the site to soften public/private boundaries, define internal circulation routes, create pleasant pedestrian conditions, and maximize shade and stormwater management

6. Provide direct, safe, continuous and clearly defined pedestrian access from public sidewalks, parking areas, and transit stops to building entrances

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

8. Utilize stormwater management best practices to and provide on-site bio-retention facilities (e.g., bioswales, rain gardens) to collect, store and filter stormwater.

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