



Urban Design Guidelines for High-Rise Housing

Draft for Discussion Purposes only

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Definition

A high-rise building is defined in the Official Plan as any building that is ten storeys or more. In high-rise housing, residential uses predominate but other land uses are often included in a mixed-use development including, retail, office, institutional, cultural and entertainment activities. Whether a building is “high rise” or not, a building may appear relatively “tall” when it is significantly higher than the surrounding context; or it is taller than the width of the right-of-way that it faces.

A high-rise building has three primary components that are integrated into the whole of the design: a base or podium; a middle or tower, and a top. The base is the primary interface with the city context of the street, people, and services. The tower is sized, shaped, orientated and clad to respond to functional and contextual requirements as well as the lifestyle of the residents. The top integrates the mechanical equipment, and contributes to sky views.

Purpose and Application

These urban design guidelines are to be used during the review of development proposals to promote and achieve appropriate high-rise development. The design guidelines will be applied wherever high-rise residential and mixed-use buildings are proposed. While these guidelines are aimed at residential development, they are a useful reference when considering high-rise commercial development as well as, mid-rise development that appears tall in relation to its context.

These are general guidelines, and not all will apply equally in all circumstances. Each context will inform the application of, and the emphasis on, various guidelines. Specific site context and conditions will be considered in conjunction with these guidelines.

A Community Design Plan (CDP), or other planning studies, may augment and refine these design guidelines for a specific area. The guidelines will also be a resource for the preparation of new Community Design Plans.

Objectives

The objective of these urban design guidelines is to highlight ways to:

- Address the compatibility and relationship between high-rise buildings and their existing or planned context;
- Integrate development with public transit, city services and infrastructure;
- Encourage a mix of uses that contribute to the amenities of urban living;
- Create human-scaled, pedestrian-friendly streets and attractive public spaces;
- Promote high-rise buildings that contribute to views of the skyline and enhance orientation and the image of the city;
- Promote development that responds to the physical environment and microclimate through design.

Official Plan and By-Law Direction

High-rises are one of the many possible building types contributing to land use intensification that meets provincially mandated growth targets and fulfills Official Plan direction to create compact liveable communities and support public transit. Official Plan Sections 2.5.1, and 4.11, and the Design Considerations in Annex 3, are key policy areas that direct high-rise buildings to specific areas of the city, including the downtown core, along mainstreets, in mixed-use centres, and near major transit stations. The Official Plan also provides policy direction to evaluate the appropriateness of individual sites, and to inform many aspects of high-rise design.

The Comprehensive Zoning By-law is also a tool that establishes the preliminary design framework for high-rise developments. Through detailed analysis of a site, amendments to the zoning bylaw may be required to address issues and opportunities relating to context, massing, shadows, and public space. A wide range of other applicable regulations and By-laws must also be met.

Context and Issues

While the existing context may set the present day framework for high-rise buildings, the planned context, laid out in documents such as Community Design Plans and the Comprehensive Zoning By-law, provides a reference for growth and change. Change, in the form of high-rise buildings, regardless of whether or not they are envisioned in approved plans, is often met with apprehension.

High-rise buildings, by their nature, stick up from the context and attract attention. As a result, there are a number of design concerns related to fit and compatibility, impact on the pedestrian environment and open spaces, the quality of materials, and the buildings' operations that requires extra attention.

When poorly done, high-rise buildings can be an unwelcome addition to a neighbourhood. Poor design can overwhelm pedestrian spaces, invade privacy, deteriorate neighbourhood character, and contribute to a negative microclimate and environmental issues such as wind tunnel effects, shadows, noise, and air quality.

When properly done, most negative issues can be addressed early in the design process creating a significantly positive outcome for the community. High-rise buildings that are well designed and integrated into a neighbourhood can include a mix of land uses that support urban services and amenities, contribute to an area's liveability, and shape and define public street and spaces at a human scale. They can be a distinctive community landmark feature, enhance the skyline, and contribute to the image of the city.

High-rises are often proposed in different contexts, each with their own challenges. For example:

- High-rise housing located in existing neighbourhoods is usually on smaller sites set in an established pattern of development along the street and within the block. Issues of connection, transitions, shadows, compatibility,

parking and servicing are often at the forefront. This type of infill creates opportunities to renew neighbourhoods, upgrade services, meet intensification targets, and achieve more sustainable communities.

- High-rise housing in new and emerging areas is often on larger sites with incomplete or fragmented patterns of development. Issues of scale, phasing, accessibility to services, and sensitivity to the natural and social environment are prevalent. This type of development can set the tone for continued mixed-use nodal development that is more compact, pedestrian oriented and supports rapid transit.

While these guidelines present a number of broad approaches, each context must be analysed to determine the appropriate scale, height, important views, situational opportunities and building efficiencies. High-rise building proposals often require detailed analyses of the area microclimate, social context, historic and existing land use patterns, public transit, services, utilities, and the planned function for the area.

Urban Design Guidelines

The urban design guidelines for high-rise housing are organized into the following six sections:

- Context
- Built Form
- Pedestrians and the Public Realm
- Open Space and Amenities
- Environmental Considerations
- Site Circulation and Parking
- Services and Utilities
- Glossary and list of Figures

Context

Guideline 1a:

In an *established* urban fabric, orient a high-rise building to:

- Integrate into the context and address compatibility with the existing or planned context through the massing, setbacks, transitions in building height, and through the design qualities and character;
- Maintain a building line along the street that is similar to neighbouring buildings;
- Complement the existing pattern of streets, blocks, open spaces, and the building morphology (shape, structure, colour, pattern, and materials);
- Define the lower portion of the building with a base or podium that is similar in height, proportions and rhythm to the neighbouring buildings to visually unify the street;
- Provide direct links to public transit, sidewalks and streets.

Guideline 1b:

In areas of *new* urban fabric, or when renewing a disconnected or transitional fabric, orient a high-rise building to:

- Establish a pattern of development blocks, street edges, and site circulation that defines a public realm of streets and open spaces and reflects or integrates the surrounding street pattern;
- Use the proportions, rhythm and height of the building base and tower to define relationships to other buildings;
- Use distinctive design features, building forms and shapes to contribute to a sense of place;
- Provide direct links to public transit, sidewalks and streets;
- Create transitions that integrate the new urban fabric with areas of established urban fabric.



Figure 1: Existing urban areas are a complex relationship of streets, blocks, parks, open spaces and low and high-rise buildings (Escarpment Area District Plan, 2008, Urban Strategies)

Guideline 2a:

Determine if a high-rise should be designed as a “landmark” building by assessing its physical location, its role in the community, and its existing or planned context.

A “landmark” building is usually:

- distinctive in form and detail when viewed close-up or from a distance;
- located at a prominent intersection, or along an important city axis/avenue, or the termination of a vista or view;
- located at or near a major destination (public transit station, public square, memorial, etc.);
- situated near natural settings such as along water or open spaces;
- headquarters of significant civic, cultural, business or institutional functions requiring public status and prestige;
- created with extra richness and quality in architectural design, materials, detail and colour.



Figure 2: A landmark building demonstrates its place within the community through its design, prominent location or function. It can assist in way-finding or act as a gateway.

Guideline 2b:

Determine if a high-rise should be designed as a “background” building that integrates and blends in with the fabric of the surrounding context by assessing its context and purpose.

A “background” building usually:

- maintains a similar form and design detailing as surrounding buildings;
- enhances and frames the context of significant places, public open spaces, streets, and landmark or historic buildings;
- provides amenities and services to meet the needs of the local area;
- creates view corridors and frames the views to neighbouring significant places, as well as sky views.



Figure 3: The simple design of background buildings provides a context for more prominent buildings and outdoor activities.

Guideline 3:

Use built form to define a human-scaled street space. Different ratios of building base / podium heights to street width create different perceptions of space. Depending on the context, a 1:1 ratio is appropriate for dense downtown locations, and a ratio of 1:2 and 1:3 may be appropriate for other intensification areas such as Traditional Mainstreets, Arterial Mainstreets, and Mixed-Use Centres.

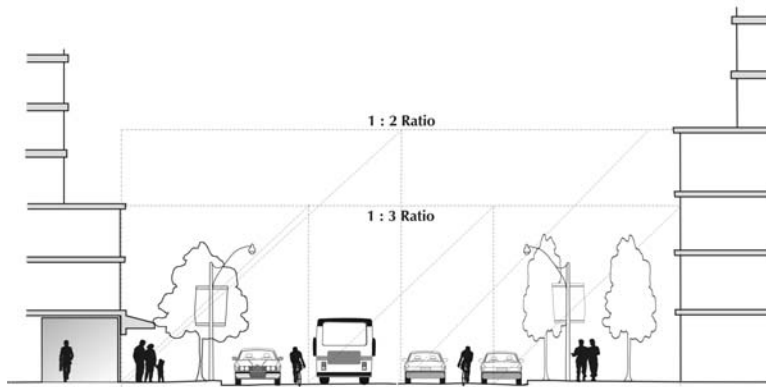


Figure 4: A street cross section illustrates the relationship between “the right-of-way width and the building height” to determine a comfortable enclosure for pedestrians. Arcades offer extra room and weather protection for the pedestrian

Guideline 4:

Locate and orient other building components, such as the base and tower, and various site elements, to create a sense of transition between high-rise buildings and existing, adjacent lower profile areas.

Choose transition techniques appropriate to the context including:

- *Stepping down* – incrementally changing the building height, often using 45 degree angular planes to adjacent lower development;
- *Setbacks & Buffers*– separating adjacent development with landscaped open space, parking, site circulation or service areas;
- *Scale / Massing* – placing the taller building components strategically on the site to reduce visibility; wrapping the higher rise building with low rise development or with a building base that defines the street scale;
- *Design & Character* – establishing the design qualities and treatment of the lower component or building base based on a human scale and ensuring that the ground floor is active, relevant and a well-designed pedestrian experience;

Guideline 5:

Create a sense of transition between high-rise buildings and existing adjacent lower-profile areas through the location and orientation of the building base or podium and the tower. Create buffers with landscaped open space, parking, site circulation, and lower profile buildings and the building base.



Figure 5: The building base and lower profile buildings create a transition between the high-rise and adjacent development and continuity along the street.



Figure 6: Transitions are created by stepping down using an angled plan defines the building envelope

Guideline 6:

Distribute the building form and massing in a manner appropriate to the scale and proportion of the built surroundings. Be sensitive to historic built form and land use patterns of the existing neighbourhood and the area's planned function.



Figure 7: The scale and form of the building podium (with a tower set behind) complements the street scale of the adjacent historic building.



Figure 8: A modern building fits in by reflecting the massing and form of the existing buildings

Guideline 7:

Identify and enhance the pattern of activity nodes, community gateways and prominent sites. Use innovative designs and site treatments to contribute to way-finding, and place-making.

Guideline 8

Design corner sites with inviting open spaces and pedestrian amenities, and buildings that wrap around the street corner. Align the building base with existing setbacks on each of the street frontages. Corner sites that have design details at the corner and building frontage on both streets emphasize the intersection and are prominent focus points or features in the area.



Figure 9: The corner open space includes public seating, a clock and seasonal planting

Guideline 9:

Locate high-rise development to preserve and enhance important views and vistas. Do not block or detract from views to landmarks, historic buildings, monuments, public art, parks, gardens and rivers.



Figure 10: A pedestrian link (stairs and an elevator) includes the view to the adjacent landmark

Guideline 10:

Orient and shape the building’s tower to minimize microclimate impacts (such as shadowing, snow accumulation and winds) on the site and near-by area, and to respond to the existing natural and built environment that provides its context. Ensure that the building’s base has direct street frontage.

Guideline 11:

Orient, size and locate high-rise towers to minimize the extent or duration of the shadowing on adjacent sites, streets and open spaces. The height, bulk and orientation of the tower are factors that influence the type of shadow it will cast.

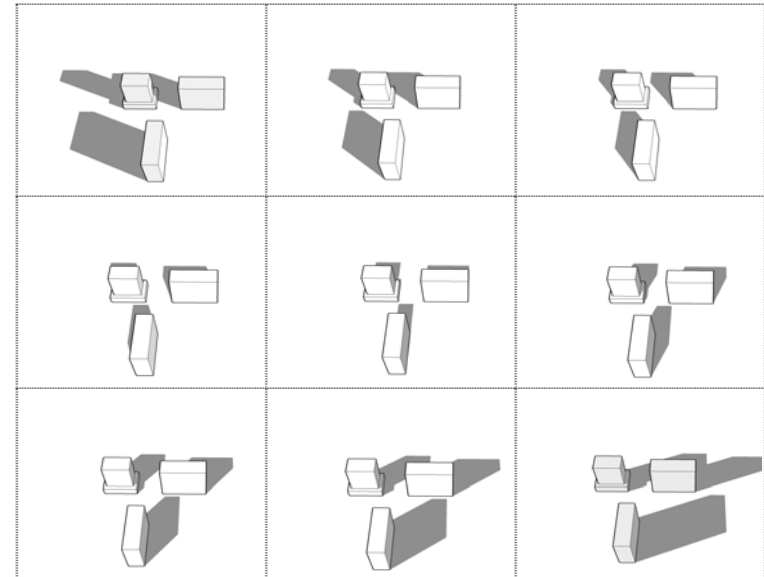


Figure 11: The shadows from point towers with smaller floor plates (approx. 750 square metres.) move quickly across the land. Shadows from elongated building blocks can create areas in constant shadow when oriented east-west instead of north-south.

Built Form

Guideline 12:

Establish the building form and massing that responds to function, site characteristics, the context, and the type and mix of uses – regardless of stylistic approaches. A high-rise building has three primary components or areas of interest that are integrated into the whole of the design: a base or podium; a middle or tower, and a top. The base is the primary interface with the city context and its street, people, and services. The tower is sized, shaped, oriented and clad to respond to functional and contextual requirements, as well as the lifestyle of the residents. The top integrates mechanical equipment, and contributes to sky views.



Figure 12: regardless of building style, a high rise has three main components that respond to its function, use and context. Depending on the design style, there may be significant or subtle differentiation in the character or detailing of each of these segments, but they are integrated in the whole of the design.

Guideline 13:

Design the lower portion of the buildings to support human-scaled streetscapes, open spaces and quality pedestrian environments. This can be achieved with fine-grain architectural design and detailing, quality materials, and through the use of human-scaled elements such as landscaping, site furnishings, awnings, and canopies.



Figure 13: Individual residential units (in the podium base of a high-rise building) are up half a level from the sidewalk and setback with landscaping for privacy. The property line is located where the stairs meet the sidewalk

Guideline 14:

Use clear windows and doors to make the pedestrian level façade highly transparent and accessible. Along retail streets, provide a nearly continuous band of windows. Ensure doorways in glass walls exhibit sufficient contrast to be clearly visible.



Figure 14: The views into this food store on the ground floor and restaurant above enliven the public street

Guideline 15:

Build higher floor-to-floor heights on the first few floors for flexibility to accommodate a range of uses such as retail, office, and institutional uses and be adaptable over time.

Guideline 16:

Locate active uses along the street façade to enhance the building's relationship to the public realm. Uses include: lobbies, dining rooms, seating areas, offices, retail stores, community or institutional uses, and residences.



Figure 15: A canopy provides weather protection for this community destination

Guideline 17:

Ensure that the pedestrian entrance is at-grade and directly accessible, clear, prominent, weather-protected with a canopy or recessed, and directly linked to the sidewalk. Mark the entrance with appropriate signage.



Figure 16: An inviting entrance is directly linked to the sidewalk; it is the threshold between the public realm of the street and the private realm of the residents.

Guideline 18:

Ensure that buildings have architecturally detailed façades, where publicly visible, with no blank or featureless sides in anticipation of abutting to potential development in later phases or on adjacent land.

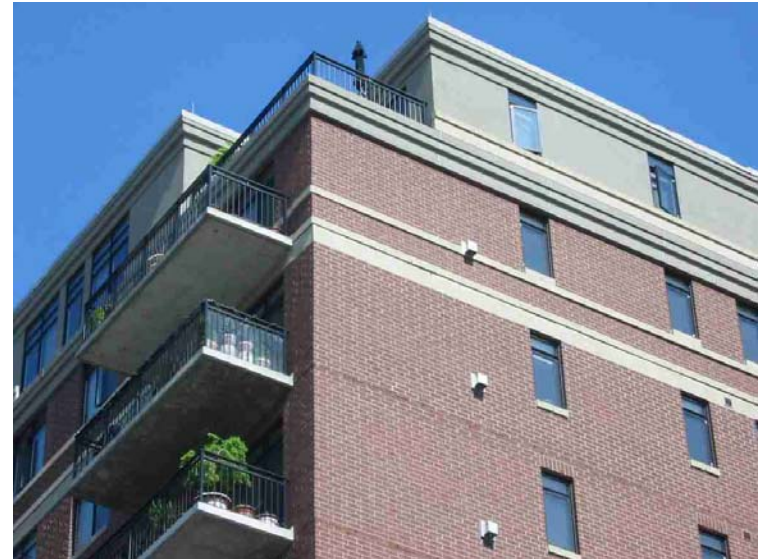


Figure 17: Design high-rise housing with four façades or “faces”.

Guideline 19:

Design the middle segment or tower of the building to break up the overall bulk into smaller segments and address impacts such as shadowing and views. Reduce the perception of mass through architectural detailing such as changes of materials and colour.



Figure 18: The middle section, stepped back above a podium base, helps minimize the perception of the building's size

Guideline 20:

Create sufficient separation between towers to allow for adequate light, solar exposure, views and privacy for people in the building, as well as people on the street.

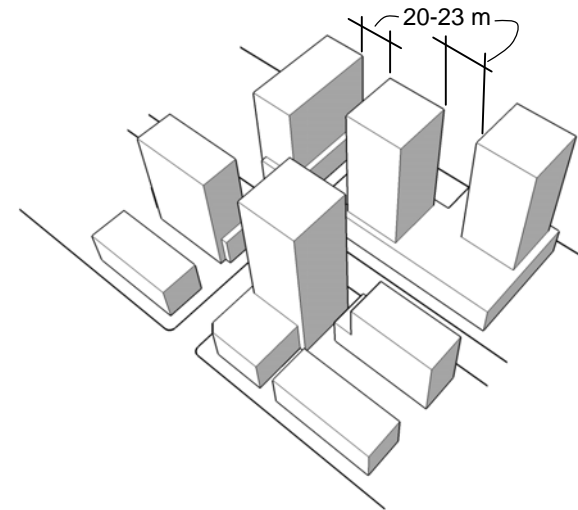


Figure 19: A 20 - 23 metre separation between towers provides sufficient separation to achieve adequate light, views and privacy. This distance is based on the typical separation of development across a public right-of-way. While a 20 - 23 metres separation between adjacent towers may be beyond some requirements set in bylaws or building and fire codes, it allows for large windows and balconies and further reduces the perception of a "canyon effect" at ground level.

Guideline 21:

Design the high-rise towers with compact floor plates to maximise views, light and ventilation for the interior spaces, to facilitate breezes and light reaching outdoor spaces; to minimize the perception of a canyon along the street and in public places, to create narrow shadows that track quickly across the ground, and to allow opportunities for sky views;



Figure 20: Recent high-rise residential projects in Canada with point tower floor plates of approximately 750 square metres accomplish many of these objectives. Compact commercial footplates are about 1,850 square metres. (Urban Strategies)

Guideline 22:

Orient high-rise towers and balconies to avoid close balcony-to-balcony facing between buildings within a development, or in the context of adjacent development.



Figure 21: These balconies are oriented to reduce direct views into units of adjacent towers.

Guideline 23:

Design the top of buildings to be a 'fifth façade' that may be distinctive against the skyline when looked up to or viewed from above. A well-designed roofline creates opportunities for sky views and views to distinctive landmarks; creates opportunities for sunlight to reach the ground, and orients the public when way-finding.



Figure 22: A unique feature on the skyline at the top can orient the pedestrian during the day or night.

Guideline 24:

Design the top of the building and/or the top of its podium to include opportunity for communal outdoor amenity space and/or a place for environmental innovation such as green roofs, rainwater recovery and solar panels.

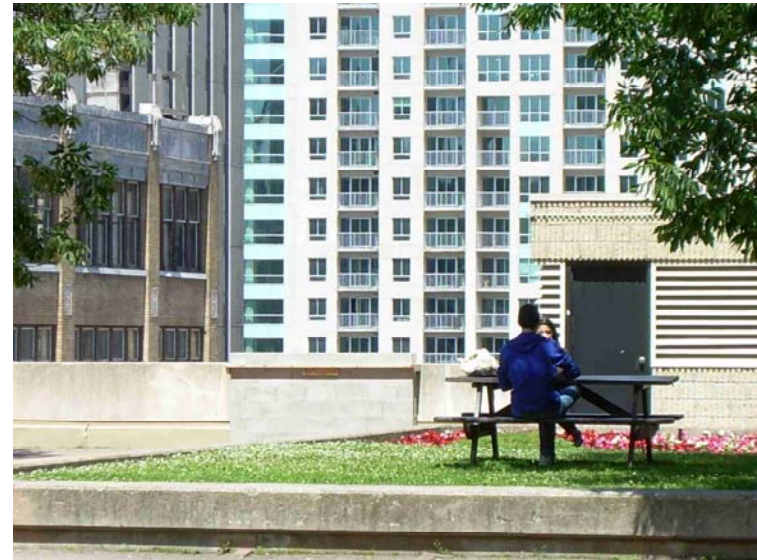


Figure 23: Roof terraces viewed from above

Pedestrians & the Public Realm

Guideline 25:

Provide wide sidewalks for locations with high pedestrian volumes, and/or provide wider boulevards to accommodate street furniture, signs, displays, vendor space, such as along Mainstreets, in the Central Area and in Town Centres. Implement City streetscape standards or local streetscape plans as part of a development or redevelopment project.

Guideline 26:

Plant trees between 6.0 and 8.0 metres apart along public streets and internal pedestrian walkways. On wider streets, or where setbacks permit, plant a double row of trees along either side of a clear walking surface leaving room for the pedestrian and for snow clearing. Provide continuous soil trenches for healthy growth. Select and maintain trees to create a canopy overhead.



Figure 24: Street trees on both sides of the walking area provide shade and an attractive streetscape for pedestrians. They are planted in long soil trenches under the paving and are maintained so that one can walk under the branches

Guideline 27:

In addition to the sidewalk area, provide a curb-side boulevard for street furniture, trees and utilities, and an area on-site, adjacent to the public right-of-way and sidewalk, for outdoor amenities to “spill-out” from the building such as canopies, planting areas, displays, and sitting areas.

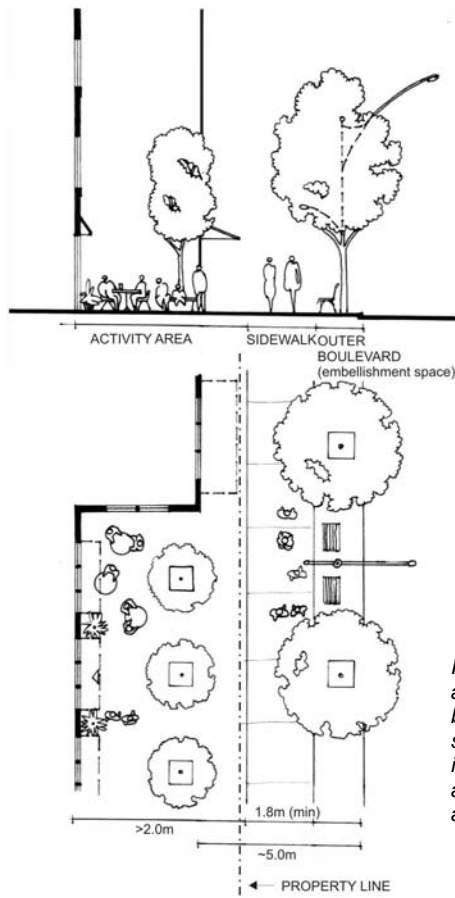


Figure 25: Urban trees and other amenities can be provided on both sides of the sidewalk, i.e. on private property and in the public road allowance



Figure 26: A low building base and broad space frames the public sidewalk and animates the street with active uses



Figure 27: A colonnade provides weather protection; the tables and benches (removable for the winter) offer a place to sit.

Guideline 28:

Use arcaded, colonnaded and cantilevered building bases/podiums to augment the width of the pedestrian space at grade, adjacent to the public street, while allowing for greater site coverage, weather protection and appropriate definition and framing of the street space.

Guideline 29:

Create safe, accessible, barrier-free pedestrian links and outdoor spaces that connect destinations such as the public street, transit stops, parking lots, and other building complexes. Maintain these links for year-round, day-long use through agreements with the City of Ottawa.



Figure 28: Pedestrian links and open space can be created through city blocks to link the public realm through a variety of accessible routes.



Figure 29: Trees, decorative paving, and an outdoor café animate this popular mid-block link between two public streets.



Figure 30: A well-designed pedestrian thoroughfare in a busy downtown location helps to link two popular shopping precincts.

Guideline 30:

Provide barrier-free, universal access and pedestrian circulation. Integrate any changes in level with direct, barrier-free access to the building. Streamline and setback site furniture from walkways to allow for unobstructed surfaces for those with wheeled assistance or with poor vision.



Figure 31: The accessible ramp is well integrated and direct; site furniture and planters are set back and integrated to reduce hazards for those with poor vision.

Guideline 31:

Provide opportunities for views from apartments to the streets, open spaces, and parking areas below for visual surveillance and neighbourliness. Apply CPTED principles and strategies (Crime Prevention Through Environmental Design). Integrate open spaces such as plazas, courtyards and patios with pedestrian routes and near-by destinations.

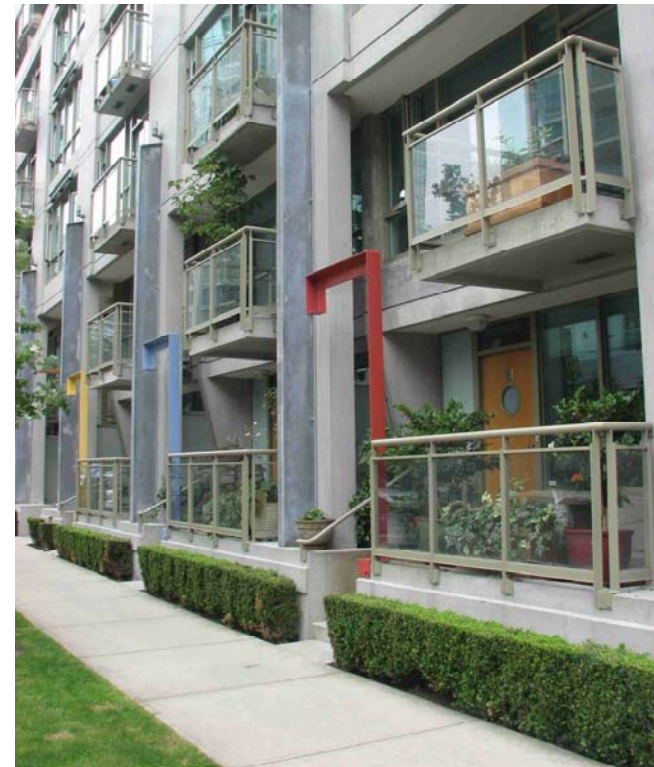


Figure 32: Living spaces animate the walkway and provide “eyes on the street”

Guideline 32

Protect pedestrians from wind, rain, snow and intense sun with such features as arcades, canopies, arbours or other elements to moderate the microclimate and facilitate year-round use.



Figure 33: A canopy shelters pedestrians from the wind and rain.

Guideline 33:

Provide a setback of landscaping with trees, shrubs, walls and fences where residential units are at grade to define the pedestrian space, provide a sense of privacy for residents, and enhance the character of the street.



Figure 34: Setbacks, planting and decorative walls on private property can give ground floor units privacy and enhance the quality of public spaces.

Guideline 34:

Coordinate, and where possible integrate, public transit stop amenities such as benches, shade and shelters with the site and building design. Ensure the sidewalk and pedestrian area are open, clear and easy to maintain year-round.



Figure 35: In inner urban areas, integrating transit with near-by mixed-use development enhances convenience. In other areas, direct access, with amenities along active streets and pedestrian routes, improves transit options.

Open Space & Amenities

Guideline 35:

Frame the edge of the open spaces to create a high quality public environment within the site and along its street edges. Create courtyards and other open spaces surrounded by buildings.

Guideline 36:

Locate open spaces in coordination with the tower location and existing buildings to address sun, wind and views and to create pleasant outdoor spaces.

Guideline 37:

Surround open spaces with indoor and outdoor active uses that animate and support open space activities. These may include stores, restaurants, patios, coffee shops, etc. Adjacent building uses that support the open space are to be directly accessible to the open space.



Figure 36: Building bases frame public open space



Figure 37: Outdoor open space is enhanced by patios and services that directly front onto the open space

Guideline 38:

Provide a range of uses and amenities in the open spaces, appropriate to the context, to meet the needs of a diversity of potential users including seniors and children, residents and visitors, and the broader public. Open space amenities include tables, chairs, benches, fountains, public art, umbrellas and shady places; gardens, flowers and landscaping; habitats for urban wildlife; games and play equipment; areas for gatherings, performances and entertainment. Create places for social interaction and quiet places for solitude.



Figure 38: Open spaces near high-rise housing can meet the needs of all residents



Figure 39: Public art enlivens outdoor spaces

Guideline 39:

Locate spaces for public use at grade. Make them visible and directly accessible from the public street. Ensure these spaces are visible and integrated into the building and site circulation.



Figure 40: This inner courtyard is open to the public sidewalk

Guideline 40:

Communal spaces for residents and tenants can be at grade, above grade (on roof decks of parking structures and buildings), or below grade in courtyards – or a combination of all three. Ensure that the communal amenity space is sufficient in size for gatherings and is directly accessible and visible from common areas within the building for convenience and security. Spatial requirements are laid out in the Zoning By-law.



Figure 41: With building bases brought up to the street edge, opportunities are created for internal courtyards that can be filled with trees, fountains and natural light

Guideline 41:

Provide required outdoor amenity space for residents as both communal and private areas. Integrate useable private outdoor amenity space, such as balconies, into the architecture of the building, and ensure that the size and proportion of private amenity space creates a useable area.



Figure: 42: Balconies provide direct access to the outdoors. The shape and size is key to their usefulness and amenity value.

Environmental Considerations

Guideline 42:

Orient the building towards the sun for potential “daylighting” benefits to reduce the need for artificial lighting; for passive solar gain to reduce the need for space heating; and for energy generation opportunities such as photovoltaic or active solar panels.

Guideline 43:

Harness the potential of the wind for natural ventilation and as a possible building energy source.

Guideline 44:

Design and position the building to minimize wind funnelling and the creation of uncomfortable microclimates on the street and in the open spaces. While the position, orientation, mass and height of a building are all factors in wind patterns, add features to the building to help dissipate the wind as it travels down the sides of a high-rise building to help avoid the wind tunnel effects at grade. These include elements such as screens, awnings, landscaped areas, colonnaded base buildings and articulated tower faces.

Guideline 45:

Maximize resource and energy efficiency, and the building’s energy/ecological performance and quality, through the application of “green building” and environmental site design principles and techniques. These include building orientation, advances in construction technology and building operating systems, consumption and load on infrastructure and utilities, and recycling and renewal.



Figure 43: This mixed-use building built on a brownfield site features active solar technology and uses 45% less energy and 45% less water than a conventional building (Windmill Development Group)

Guideline 46:

Choose quality materials that are durable and selected for their high levels of energy conservation. Minimise environmental demands during construction and operation through modern building technologies and operating systems.

Guideline 47:

Employ building technologies such as “greenroofs”, with vegetation to delay stormwater discharge and reduce the demand on stormwater systems; and/ or reflective roof surface materials with high solar and thermal reflectivity, to reduce the “Heat Island Effect”.

Guideline 48:

Protect birds from collisions with glass by ensuring buildings are not built with, and green spaces are not flanked by, untreated reflective glass or clear glass that reflects trees and sky. Glass placed between birds and their habitat should have visual markers and any reflections should be muted within the first 12 meters of building height. Furthermore, locate and manage lighting to reduce reflections that may cause confusion for migratory birds.



Figure 44: The horizontal banding etched in the glass at the left helps with visibility (Refer to the City of Toronto Bird Friendly Development Guidelines, March 2007).

Guideline 49:

Use light-coloured, heat-reflective and permeable paving materials for hard surfaces, such as parking areas and walkways, to improve environmental benefits including the reduction of heat-island effects and improved water infiltration.

Guideline 50:

Maximize landscaped areas and trees on the street, on the site and on buildings and structures. These soft surface areas improve local environmental conditions including reducing the urban heat-island effect, improving air quality, moderating sun and wind, and improving ground water infiltration. They also provide amenity space for residents and the community, and habitats for urban wildlife.



Figure 45: This broad greenspace adjacent to the sidewalk is not only improves local environmental conditions but is a landscape amenity for the community.

Site Circulation and Parking

Guideline 51:

Provide amenities at building entrances that accommodate arrival and departure by different travel modes. Amenities include benches, lighting, waste containers, bike racks, bus stops, vehicle lay-bys, and seating in lobby areas with views to the street and drop-off areas. Landscape amenities such as shady areas and plant and floral displays further enhance the arrival/departure areas.

Guideline 52:

Provide a direct, safe, continuous and clearly defined pedestrian walkway, a minimum of 2.0 metres wide, from the main doors to the public sidewalk, transit stop, drop-off and parking areas.

Guideline 53:

Ensure that the public sidewalk is continuous across private vehicle access and egress points and that vehicles do not interfere with pedestrian priority.

Guideline 54:

Distinguish walkways from driving surfaces by using varied paving treatments and by raising crosswalks to the sidewalk height.



Figure 46: A private drop-off zone includes decorative paving and planting adjacent to the building entrance

Guideline 55:

Locate vehicle drop-off zones or lay-bys at the side or rear of the building to be convenient and accessible without blocking the priority of pedestrian access to the building.

Guideline 56:

Avoid parking lots, drive lanes, and parking garage entrances that are adjacent to the street. Locate parking and service areas within the building, underground, inside structures, or within the interior of the site. Locate parking in structures behind ground floor uses when adjacent to a major street and in the Downtown. Where parking structures are adjacent to other streets, screen with tinted windows, decorative grills, soft and hard landscaping, etc.

Guideline 57:

Provide a landscape buffer of 3.0 metres or greater along surface parking areas and drive lanes where they are adjacent to the public street. Include trees and shrubs, and decorative landscape elements such as fencing, screens, masonry walls, etc.



Figure 47: Car access (to the underground parking) is tucked in off the side of the block



Figure 48: Extensive green buffers help separate surface parking from the sidewalk while allowing views for surveillance.

Guideline 58:

Locate garage entry points internal to the block or at less prominent locations on the block and recess the doors. Do not allow garage entrances to interfere with pedestrian flow or to be too prominent on the streetscape. Set garage doors back from walkways to create spaces for vehicles to pause and wait. Maintain open and clear views between drivers and pedestrians. Use screening and landscaping to soften the appearance of the garage entry from the street.



Figure 49: An unobtrusive garage entrance on an internal lane is well integrated into the building design.

Guideline 60:

Provide convenient spaces for carpooling and for vehicle-share programs such as "VrtuCar" (<http://www.vrtucar.com>).

Guideline 59:

Provide bicycle parking close to building entrances that is easily accessible from the bike lanes and the street; visible from the interior of the building, and protected from the weather. Provide secure long-term bicycle storage within the building or lock-up area.



Figure 50: Highly visible and accessible covered outdoor bike parking is well used

Service and Utilities

Guideline 61:

Integrate within the design of the building enclosure, conceal from view and acoustically dampen mechanical and electrical equipment, elevator housing, and heat, ventilation and cooling (HVAC) systems, whether located on the rooftop or at the base of a building. Clad mechanical penthouses with materials complementary to the building design.

Guideline 62:

Locate transformer vaults, utility meters, service and loading areas within the building and/or internal to the site and away from public view and away from public areas on site and on adjacent sites.



Figure 51: Building utilities are incorporated in the design of the top away from view



Figure 52: Garbage and recycling is located in a service area behind these doors

Guideline 63:

Locate service and utility areas away from public view and open spaces, but with regard for easy access, safe operation and maintenance. Conceal these areas with fencing, screens, and landscaping, and use materials that coordinate or blend with the main structure. Cluster or group utilities to minimize the visual impact on the streetscape and public spaces

Guideline 64:

Enclose garbage and utility areas, which are external to the building, on all four sides and top with the materials complementary to the main building. Manage impacts of noise, smells, and fumes.

Guideline 65

Design outdoor site and building lighting to be task oriented. Select and locate lighting to limit “light spillage” or glare on near-by properties and those living in the building above. Protecting the “dark sky” reduces the effect of unnatural lighting on birds and animals; allows views of the night sky, and considers human well-being.



Figure 53: A decorative screen hides the loading area



Figure 54: Decorative gates and screens hide utility areas in this service area of the site.

Guideline 66:

Locate and conceal building exhaust and other service intakes or outputs to avoid impact on public sidewalks, outdoor spaces and adjacent development. Consider the acoustical, visual and air quality impacts early in the design process. Manage noise, smells, fumes, that may emanate from on-site services or utilities, that may impact sensitive land uses such as near-by residents and those who live in the building above. Environmental regulations and by-laws provide more specific direction. See the *Environmental Noise Control Guidelines* on the City's web site.



Figure 55: The building vents at the left are well concealed from the sidewalk due to their location and screening

Guideline 67:

Respect safety clearances and setbacks from both overhead and underground services and utilities. Creative solutions may include creating architectural gestures that respond to setbacks and clearances such as stepping back upper stories, creating plazas and open space areas at-grade or terraces above; coordinating landscaping and site features, and streamlining services to reduce the setbacks and clearances.



Figure 56: Each utility and service has specific spatial requirements and setbacks – the utility companies or agencies have the most up to date information.

Other available City of Ottawa guidelines developed by the Planning and Growth Management Department

- Regional Road Corridor Design Guidelines (2000)
- Infill Housing Design Guidelines for Low-Medium Density (2005)
- Urban Design Guidelines for Development along Traditional Mainstreets (2006)
- Urban Design Guidelines for Development along Arterial Mainstreets (2006)
- Urban Design Guidelines for Drive-Through Facilities (2006)
- Urban Design Guidelines for Gas Stations (2006)
- Outdoor Patio Design Guidelines (2006)
- Urban Design: A Reference Guide to Creating Great Places and Great Spaces (2007)
- Urban Design Guidelines for Greenfield Neighbourhoods (2007)
- Transit Oriented Development Guidelines (2007)
- Guidelines for Gateway Features (2008)
- Community Design Plans for various areas in the City of Ottawa

Glossary

Amenity area: passive or active recreational area for the personal, shared or communal use of the residents; includes balconies, patios, rooftop gardens and other similar features.

Angular planes: a calculation to reduce the building mass and any shadowing and overview impacts next to established areas such as Traditional Mainstreets and low-rise residential areas

Background buildings: may be appropriate as quality development that fills a gap and supports the character of an established neighbourhood; can be special within its surroundings

Base building: the lower portion of the building, aka “podium” that frames the pedestrian and public street edge, supports the human

scale, fits into the context and provides uses that animate the street, not deaden it

Boulevard: the area between the curb and the sidewalk, often filled with underground utilities

Building mass: the combined effect of the shape and bulk of a building or group of buildings, including height, width and depth

Built form: the shape of buildings and structures

Character: the unique identity of a place

Clear Walking surface: sidewalk area where a pedestrian can walk (or a snowplough can navigate) without being encumbered by fixed street furniture, trees, signs, vendor boxes etc.

Context: the natural and built surroundings

Driveway: a private way across land used for vehicular access from a public street - includes a private right-of-way

Glazing: clear or lightly tinted glass windows

Façade: the principal face of a building (also referred to as the front wall)

Gateway: a main point of entrance into a district or a neighbourhood

Green roof: a roof that is covered with vegetation and soil, or a growing medium, planted over a waterproofing membrane.

Hard landscaping: features in the landscape other than plant materials e.g. decorative pavers, planter boxes, walks, fences, retaining walls, etc.

Heat-island effect: A "dome" of elevated temperatures over an urban area caused by structural and pavement heat fluxes, and pollutant emissions. (EPA)

High-rise: ten or more storeys; high-rise housing may be exclusively residential or include a mix of other uses

Human scale: the proportional relationship of the physical environment to human dimensions and abilities, acceptable to public perception and comprehension in terms of the size, height, bulk, and massing of buildings or other features of the built environment.

Infrastructure: includes: sewerage and water systems, waste management systems, electric power generation and transmission, communications/ telecommunications, transit and transportation, and oil and gas pipelines.

Intensification: development of a property, site or area at a higher density than currently exists through: redevelopment,

including the reuse of brownfield sites; the development of vacant and/or underutilized lots within previously developed areas; infill development; and the expansion or conversion of existing buildings.

Landmark building: can serve as navigation beacons and focal points. They should exhibit the highest level of architectural excellence and achieve a variety of community objectives. (not all buildings are landmark or 'icon' buildings.)

Lane: a narrow street at the back of buildings generally used for service and parking

Low rise: up to four storeys

Mid-rise: five to nine storeys

Morphology (from biology) refers to the outward appearance including shape, structure, colour, and pattern and materials)

Pedestrian walkway: paved area for pedestrian travel internal to a site

Podium: a building base, usually three to six storeys, that frames the street, defines the human scale and from which the high-rise tower projects

Point tower: tall building with a residential floor plate less than 750 sq.meters

Public realm: the streets, lanes, parks and public open spaces that are free and available to anyone to use

ROW: Right-Of-Way: the public space between the property line on one side of the street to the property line on the other, a public or private area that allows for passage of people or goods, including, but not limited to, freeways, streets, bicycle paths, alleys, trails and walkways.

Scale: the size of a building or an architectural feature in relation to its surroundings and to the size of a person

Skyline: the effect a building top has on the skyline, both daytime and night time effects

Step-backs: Stepping back floors of a building to reduce its mass and allow more light to reach the ground

Setbacks: the required distance from a road, property line, or another structure, within which no building can be located

Skyscraper: With no precise definition, buildings over 80 metres (approx. 24 stories) are considered skyscrapers depending on their context

Streetscape: the overall character and appearance of a street

formed by buildings and landscape features that frame the public street. Includes façades of buildings, street trees and plants, lighting, street furniture, paving, etc

Street frontage: the front of the property facing the street

Streetwall: a continuous wall of a building that frames the street at a human scale of roughly two to six storeys.

Tower: the main body of the high rise that extends up from the podium to the building top

Urban design: the analysis and design of the city's physical form; the art of place making

Urban form: the pattern of development in an urban area

Utilities: services provided to the public, such as electric, natural gas, communication/telecommunication, cable, sewer and water.

Walkways: sidewalks on private property

Weather protection: canopies, overhangs or colonnades along the base of buildings that shield pedestrians from the wind, sun and rain

Figure Locations

Figure 1: illustration-Ottawa; Figure 2: Ottawa; Figure 3: Ottawa; Figure 4: illustration; Figure 5: Toronto; Figure 6: Montréal; Figure 7: Toronto; Figure 8: NYC; Figure 9: NYC; Figure 10: Ottawa; Figure 11: Illustration; Figure 12: Ottawa; Figure 13: Toronto; Figure 14: NYC; Figure 15: Vancouver; Figure 16: Vancouver; Figure 17: Ottawa; Figure 18: Toronto; Figure 19: Illustration; Figure 20: Vancouver; Figure 21: Ottawa; Figure 22: Ottawa; Figure 23: Ottawa; Figure 24: Toronto; Figure 25: Illustration; Figure 26: Vancouver; Figure 27: Toronto; Figure 28: Illustration; Figure 29: Toronto; Figure 30: Ottawa; Figure 31: Ottawa; Figure 32: Vancouver; Figure 33: Ottawa; Figure 34: Ottawa; Figure 35: Ottawa; Figure 36: Toronto; Figure 37: Toronto; Figure 38: Vancouver; Figure 39: Ottawa; Figure 40: Ottawa; Figure 41: Toronto; Figure 42: Ottawa; Figure 43: Illustration; Figure 44: Ottawa; Figure 45: NYC; Figure 46: Ottawa; Figure 47: Toronto; Figure 48: Ottawa; Figure 49: Vancouver; Figure 50: Ottawa; Figure 51: Ottawa; Figure 52: Markham; Figure 53: Toronto; Figure 54: Toronto; Figure 55: Ottawa; Figure 56: Ottawa;