Urban Design Guidelines for Neighbourhoods and Streets

Transit Oriented Developments

Ottawa

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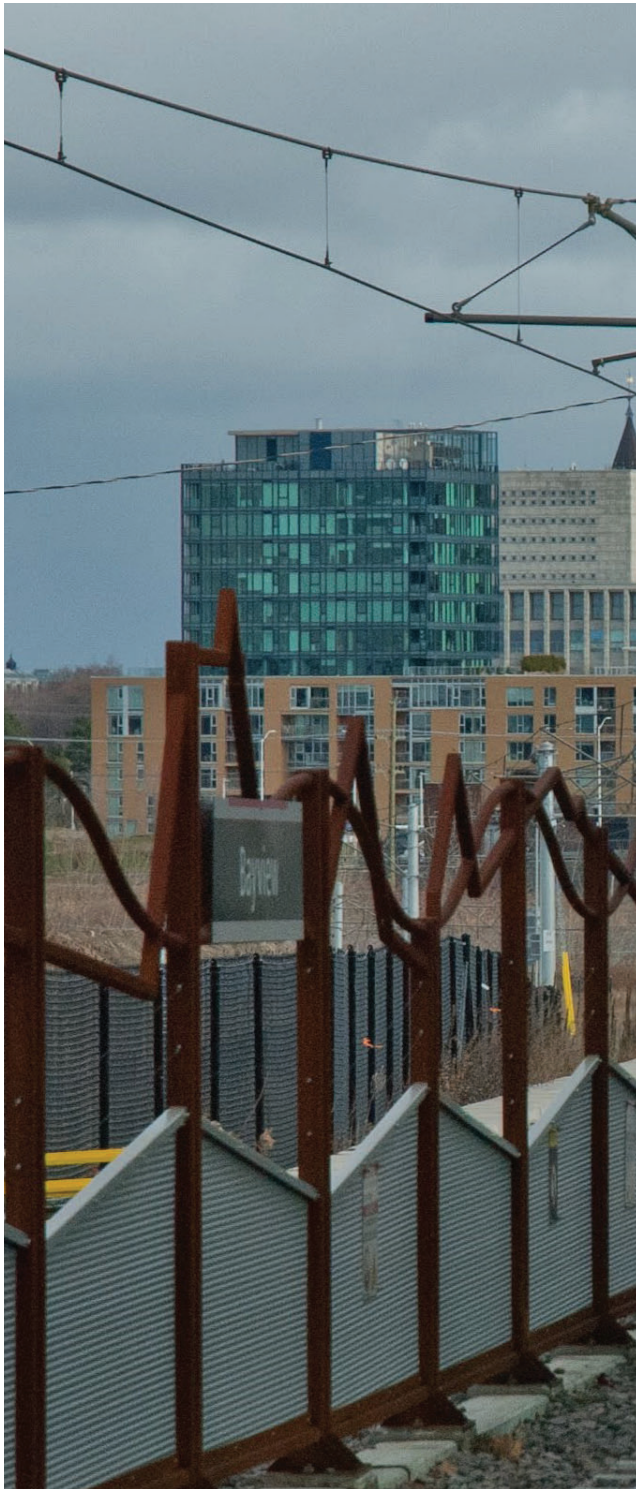
Glossary: See the urban design guideline page on Ottawa.ca for definition of terminologies (search "urban design guidelines glossary").



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INTRODUCTION

This section outlines:

- The objectives of this guideline document
- The applicable Official Plan and By-law directions
- Key issues related to different context
- Responsibilities related to sustainable design

INTRODUCTION

Definitions

Transit-Oriented Development (TOD) is a mix of moderate to high-density transit-supportive land uses located within a comfortable walking distance of a rapid transit station.

Use and Application

These guidelines are to be used during the preparation and review of development proposals that include a transit oriented development to achieve objectives of the Official Plan.

These are general guidelines. They are a tool kit and not intended to be used as a checklist for evaluating a proposal and not all of the guidelines are applicable to every site. The context of each development proposal will inform the application of, and the emphasis on, the particular guidelines that are relevant. Where specific policies are provided in an area-specific policy document, such as a Secondary Plan or a Community Design Plan (CDP), Heritage Conservation District Plan, the area-specific policies will take precedent. Guidelines in this document may augment such area-specific policies. The guidelines will also be a resource for the preparation of CDPs.

Objectives

The purpose of these guidelines is to provide guidance to assess, promote and achieve appropriate Transit- Oriented Development within the City of Ottawa. These guidelines will be used:

- To provide direction to the design and review processes for plans of subdivision, site plan control, rezoning and Official Plan Amendments.
- To assist in the preparation of new community design plans or secondary plans for undeveloped or redeveloping communities.
- To complement design considerations in approved community design plans or existing secondary plans.
- This guidance is reflective of a more integrated approach that blends transit with urban planning and will be particularly important as the City expands its rapid transit network with a focus on increasing transit ridership when opportunities for Transit-Oriented Development are presented.

Official Plan and By-Law Direction

Big Policy Move 2 of the Official Plan states that by 2046, the majority of trips in the city will be made by sustainable transportation. Achieving this Big Move relies heavily on leveraging the City's generational-level investments in transit, particularly the Light Rail Transit and Bus Rapid Transit. The Official Plan aims to create a compact and connected city and encourages higher-density development and major employment in areas that are close to transit.

The Official Plan promotes healthy 15 minute neighbourhood that is equivalent to a radius of 900 metres or a distance of 1200 metres on the pedestrian network, and direct significant growth to Hubs and Corridors. The Plan sets directions for Protected Major Transit Station Areas (PMTSA) in effort to increase the future density of development around transit. TODs are designed to prioritize transit use, active transportation and compact urban form. Opportunities to create Transit- Oriented Development exist in Downtown, Inner Urban, Outer Urban and Suburban Transects, where the designated growth areas and rapid transit stations and stops coincide.

The Plan requires the provision of safe and convenient pedestrian routes and facilities within the following distances from transit:

a. 600 metre radius or 800 metres walking distance, whichever is greatest, to existing or planned rapid transit stations; and

b. 300 metre radius or 400 metres walking distance, whichever is greatest, to existing or planned frequent street transit stops, and street transit stops along a Transit Priority network. In areas where development is adjacent to existing low-rise areas, heritage assets, and sensitive uses, careful integration through design is important to success.

Schedules B and C of the Official Plan (and Annex 1 of this document) show the Transect and Transit Network and provide direction regarding the location and policy framework for Transit- Oriented Development within the City of Ottawa.

Context and Issues

People are more likely to choose transit if they can easily walk between many destinations at the beginning and end of their trip. This can be achieved through providing increased densities, mixed-uses, and pedestrian-oriented design within easy walking distances of high-quality transit. Numerous benefits result, in terms of creating healthier and more livable communities where people can live, work and shop; improved affordability by reducing the need for private motor vehicles; more efficient public infrastructure, such as water, sewer, roads, recreation, fire and police services; and greater opportunities for economic vitality through an increase in the diversity and scale of development.

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The main challenges associated with Transit-Oriented Development include providing a mix of uses and densities that complement both transit users and the local community; ensuring built form is designed and orientated to facilitate and encourage transit use; managing the safe circulation of pedestrians, cyclists, vehicles and parking; and creating quality public spaces that provide direct, convenient, safe and attractive access to transit. In addition, Transit Oriented Development at different locations can also face different challenges. In the Urban Transects, where development is often close to existing uses and neighbourhood, compatibility, built form transition, and character of the place are important considerations in design.

In the Suburban Transect, planning for greenfield communities should include opportunities for Transit-Oriented Development that are identified in a Community Design Plan (CDP). For instance, the CDP should identify the location of key transit stops or stations and park-and-ride lots and ensure the surrounding street network and land uses facilitate access to transit for future residents.

Sustainable Design

One of the objectives of the Official Plan is to build a city that is energy conscious, mitigates emissions and is more resilient to the impacts of climate change. All development should consider opportunities to reduce resource consumption during construction, and provide buildings that conserve energy, reduce peak demand and provide resilience to power disruptions throughout their life cycle. All buildings should consider using efficient mechanical and electrical systems as well as incorporating renewable energy generation features. The design of buildings should prevent thermal bridging and providing appropriate wall thickness and window to wall ratios to insulate the building.

Building resiliency to flooding and future climate risks is an objective of the Official Plan. Proponents are encouraged to design stormwater infrastructure to be durable, adaptive and resilient to future climate events. Low-impact development or nature-based solutions should be considered where possible.

The City of Ottawa encourages proponents of any development to explore and apply best sustainable practices for the full life cycle of the site and buildings. The City encourages the use of sustainable design standards, such as the Canadian Green Building Council (CaGBC) Zero Carbon Building Standards, rating system and the International WELL Building Institute WELL Building Standard in the planning, design, construction and operation stages of a development.

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The Official Plan prioritizes the safety and movement of people using active transportation and transit. The City of Ottawa encourages proponents of any development to explore and apply best sustainable practices for the full life cycle of the site and buildings.

The design of the transit-oriented development carries the responsibility to achieve this objective. The design guidelines included in this document support sustainable design by promoting sustainable design attributes for dense and connected network, sustainable transportation orientation and giving priority to sustainable modes of transportation

1.0 COMMUNITY LAYOUT AND DESIGN

The right kinds of land use, the combination of uses, and the intensity of activities have a direct relationship to the efficiency of transit. Locating uses close to transit that will either generate or attract a high percentage of riders, or combinations of uses that will do so throughout the day or night or that will enable people to perform multiple tasks at one location will enhance the level and frequency of service that can be provided and the efficiency of the transit system. Additional functional efficiencies and synergies can be obtained if these uses are built at medium to high densities as greater concentrations of people justify higher levels of transit service.

The following guidelines provide design guidance as it relates to Community layout and design offers direction on:

- Land use
- Pedestrian and Cyclists
- Vehicles and Parking
- Services and Utilities

1.1 Land Use

1 Provide transit supportive land uses such as high-density residential and non-residential uses, including compatible employment uses within a 600 metre radius, or 800 metre walking distance of a rapid transit stop or station.

2 Discourage non transit-supportive land uses that are oriented primarily to the automobile and not the pedestrian, cyclist or transit user, such as automobile repair service, car dealership, gas station, commercial surface parking, warehouse storage etc, as they are not appropriate in the Transit Oriented Development context.

Diagram 1: Encourage transit supportive land uses within 600 metres of a rapid transit stop or station. Illustrative example of LeBreton Flats where high density mixed-use development is proposed near O-train station. LeBreton Flats Master Concept Plan, 2021

3 Create a multi-purpose destination for both transit users and local residents by providing a mix of different uses that support a vibrant community and enable people to meet many of their daily needs locally. Elements include a variety of different housing types, employment, local services, and amenities. The different uses can be in one building or different buildings close to each other.

Figure 1: American Plaza in San Diego is an example of a mixed-use TOD building with uses geared towards both local and non-local residents alike, featuring office space (49 000 m2), retail (2000 m2) and a museum (1000 m2).

Figure 2: Blair O-Train Station is a multi-purpose destination offering a diverse mix of transit supportive uses that help enable people to meet many of their daily needs, thereby reducing their overall need to travel.

Figure 3: The ByWard Market is within 600 metres of rapid transit and offers a variety of different uses throughout the day and evening.

Figure 4: Spark Street near the transit station provides opportunity to use outdoor public space and increase the vibrancy of the space.

4 Locate the highest density and mixed uses (apartments, offices, etc.) immediately adjacent and as close as possible to the transit station. This could be provided within one building or within several adjacent buildings.

5 Support the development of certain park & ride lots identified in TMP for high-density, mixed-use housing and commercial amenities.

Figure 5: The Plano transit station in Dallas, Texas includes a mixed-use complex between the station and the parking garage to provide passengers who utilize this Park & Ride with a short, attractive walk featuring amenities such as street-level retail.

Figure 6: Several large federal government office buildings are located immediately adjacent to the Tunney's Pasture O-Train Station.

Diagram 2: Transit-oriented development opportunities increase at park & ride stations when vehicle parking is located in close proximity, but not immediately adjacent to the station.

1.2 Pedestrian and Cyclists

1 Lay out new streets, laneways, pedestrian and cycling connections in a connected network of short block lengths that offer route choice.

2 Design street blocks to be no more than 150 metres in length with pedestrian and bicycle friendly intersections.

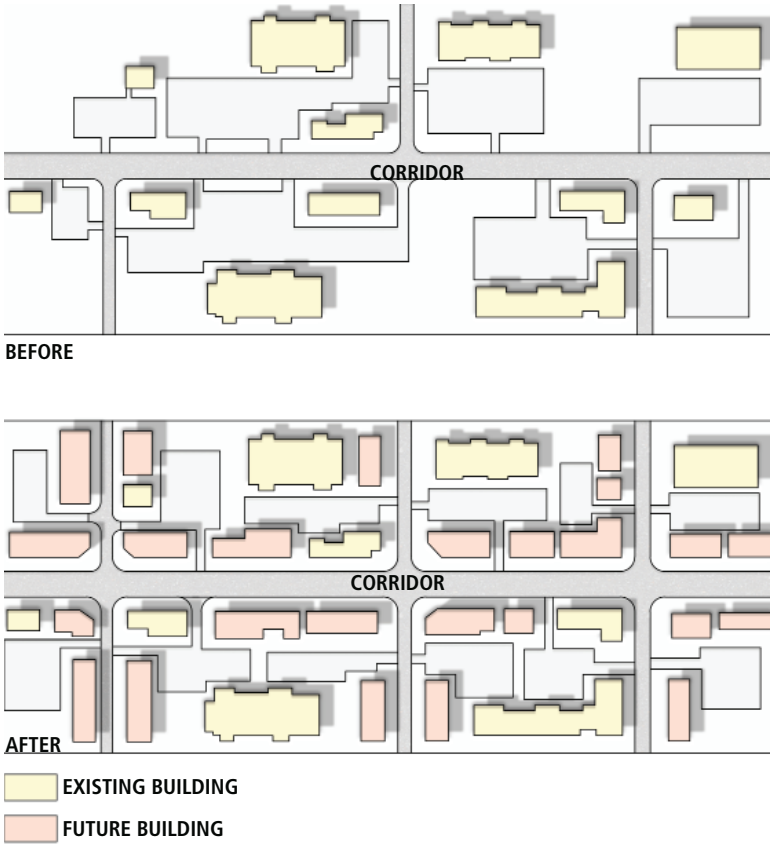

Diagram 3: Incorporate new streets to create a grid pattern of short block connections of no more than 150 metres in length.

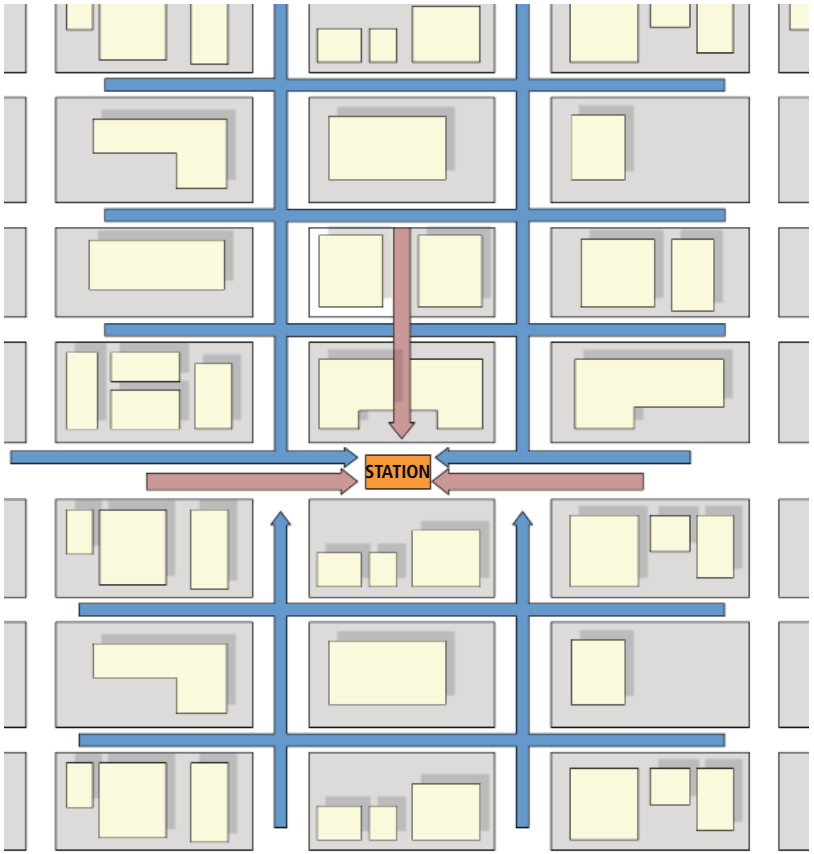

Diagram 4: Shorter block lengths with pedestrian friendly intersections make transit more accessible.

3 Create pedestrian and cycling "short cuts" that lead directly to transit.Ensure these "short cuts" are maintained and free of ice and snow in winter. Look for opportunities to link "short cuts" to the larger greenspace, pedestrian and cycling networks. Note that carefully planned street networks should not require "short cuts".

4 Design pedestrian connections that are convenient, comfortable, safe, easily navigable, continuous and barrier-free and that lead directly to transit.

5 Design infrastructure to enhance the cycling environment and to help increase access to transit for cyclists.

Figure 7: Nicholas Street is a pedestrian street that connects to Rideau Street transit corridor.

Figure 8: Pedestrian connections should be convenient, safe, barrier free and directly lead to transit.

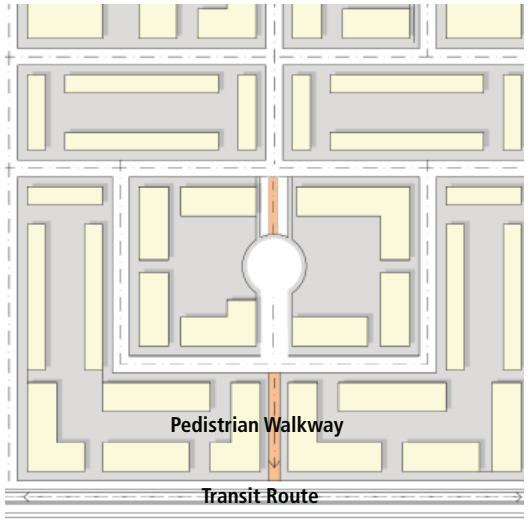

Diagram 5: The City of Ottawa Transit Service Policy aims to provide transit service within 400 metres of 95 percent of Urban Transit Area residents.

6 Provide convenient and attractive bicycle parking that is close to building entrances, protected from the weather, visible from the interior of the building and that does not impede the movement of pedestrians.

7 Provide cycling amenities such as change rooms, lockers and shower facilities for employees to help encourage cycling and the integration of cycling and transit use.

8 Provide areas where motorists, including taxis, can drop off or wait for transit passengers. Passengers require a direct connection to the transit station.

Figure 9: Bicycles ramps on staircases help to facilitate enhanced mobility for cyclists.

Figure 10: Transport Canada recommends one shower per 100 employees as a good ratio for providing showers and change room facilities in the workplace.

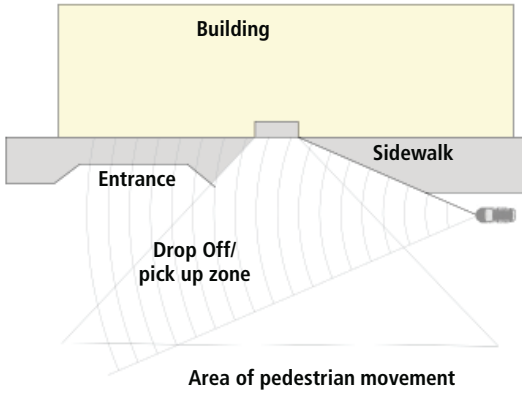

Diagram 6: The illustration shows the area covered by vehicular and pedestrian circulation.

1.3 Vehicles and Parking

1 Encourage the sharing of parking spaces for uses that have peak parking demands at different times of the day, such as offices, restaurants and cinemas.

2 Locate parking lots to the rear of buildings and not between the public right-of-way and the functional front of the building. For buildings on corner sites, avoid locating parking lots on an exterior side.

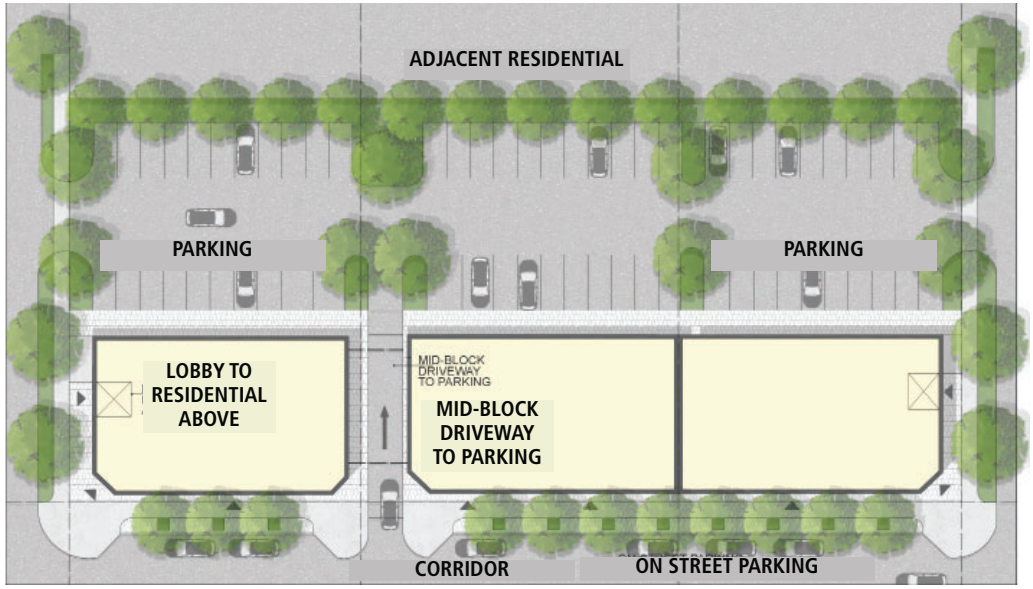

Diagram 7: Transit users should not have to navigate through parking lots to access transit.

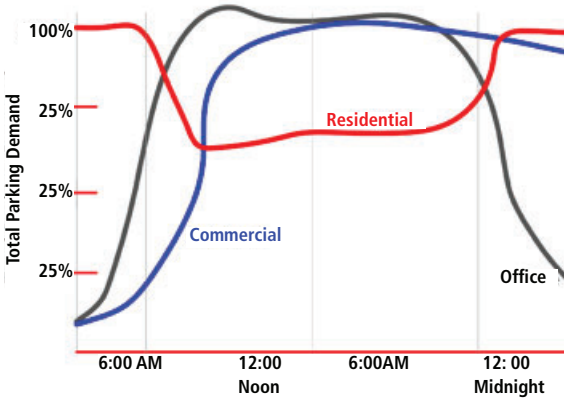

Diagram 8: This graph illustrates different peak parking times between commercial, residential and office facilities.

3 Design access driveways to be shared between facilities. This helps to improve the pedestrian environment by limiting the number of depressed curbs across public sidewalks and reduces potential points of conflict between pedestrians and vehicles.

4 Design and locate parking lots and internal roads to minimize the number of vehicle crossings over primary pedestrian routes.

5 Provide preferential parking spaces for carpools, car sharing, and ridesharing to help reduce vehicle parking demands.

6 Minimize parking near transit.

Figure 11: Separate vehicle and pedestrian functions within parking lots for safety and aesthetic reasons.

Figure 12: On-street parking may be a viable alternative accommodating all parking on-site. It also acts as buffer between pedestrians and vehicle traffic.

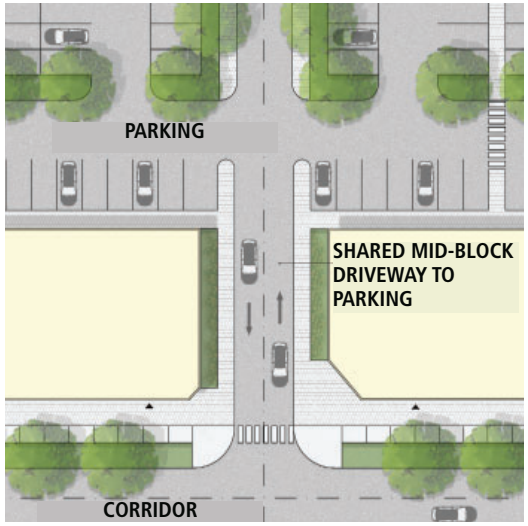

Diagram 9: Fewer curb cuts results in less interruption of the public sidewalk and contributes to a better pedestrian environment.

7 Encourage underground parking or parking structures over surface parking lots. Locate parking structures so that they do not impede pedestrian flows and design them with active street-level facades, including commercial uses and/or building articulation, nontransparent windows or soft and hard landscaping.

8 Design ground oriented multiple unit dwellings with shared driveways to maximize on-street parking and to limit the physical disruption of sidewalks.

9 Include a boulevard or planting strip along internal roadways and parking areas to buffer pedestrians from vehicles and road spray. Landscaping planning should consider Crime Prevention Through Environmental Design (CPTED) principles and sight triangle requirements.

Figure 13: This parking structure in the ByWard Market includes an active street façade that animates the pedestrian realm.

Figure 14: Landscaping along pedestrian walkways buffers pedestrians from vehicles and road spray.

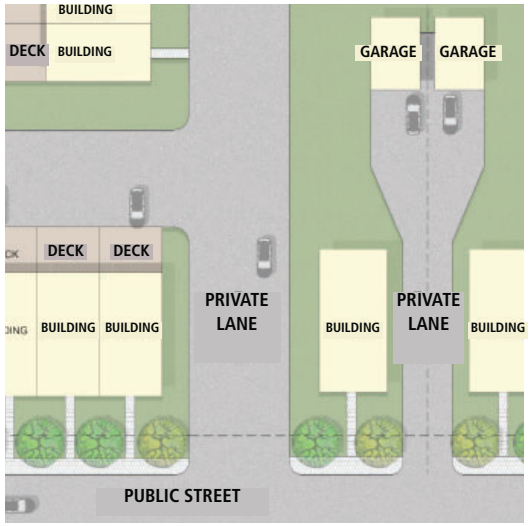

Diagram 10: Sharing driveways reduces paved areas within front yards and limits the number of disruptions to pedestrians along the front sidewalk.

1.4 Services and Utilities

1 Locate loading areas off the street, behind or underneath buildings. Avoid routing deliveries through parking areas and across primary pedestrian, transit and cyclist routes.

2 Design loading areas to avoid the need for back-in or back-out movements. Screen loading areas from public view through building design, location, landscaping and fencing while maintaining appropriate sightlines. Minimize the infiltration of exhaust fumes and noise into pedestrian areas or pathways

Figure 15: This loading area is located off the street and within the building, which helps to minimize disruptions to pedestrians, cyclists, and other vehicles.

Figure 16: On large sites, loading zones can be located underground to minimize impacts on pedestrians and cyclists. Pedestrians and cyclists should be clearly visible from the loading ramp exit.

3 Enclose air heating, ventilation, air conditioning equipment, garbage and recycling containers and other similar equipment within buildings or screen them from public view.

4 Consider opportunities to cluster and screen utilities together to minimize visual impact on the streetscape.

Figure 17: The waste collection area enclosed within the building is screened from the public view.

Figure 18: This fenced in area conceals unsightly utility equipment from the public realm and helps to provide a more appealing pedestrian environment.

2.0 BUILT FORM

'Place-making' is an important element in transit-oriented development. The area around a transit station can be a destination in its own right. The purpose of this particular set of guidelines is to encourage the creation of environments surrounding transit stations or stops that will be considered to be 'good places' and 'good neighbours' within the community of which they are a part. In this regard, understanding and responding to context as required by the Official Plan is important.

Throughout the Official Plan, references are made to urban and suburban built form and site design. These guideline for built form emphasize the importance of designing buildings that maintain and enhances the urban pattern of built form in terms of:

- Height and scale
- Building Orientation
- Architecture

2.1 Height and Scale

1 Create transition in scale between higher built form around the transit station and adjacent lower built form by stepping down building heights and densities from the transit station.

2 Buildings higher than 4 to 5 storeys should include stepbacks in order to maintain a human scale along the sidewalk and to reduce shadow and wind impacts on the public realm.

Figure 19: Building with setbacks above 4-5 storeys minimize massing and shadowing impacts on the public realm and allows more light to reach sidewalk.

Diagram 11: A transition in building scale protects the adjacent residential neighbourhood and enhances the ability of the station to become part of the neighbourhood.

2.2 Building Orientation

1 Design development opportunities that orient buildings to face, integrate, and/or connect them to the LRT station to provide direct pedestrian access and minimize conflict with vehicles.

2 Locate buildings close to each other and along the street frontage to encourage ease of walking between buildings and to public transit. Coordinate the location and integration of transit stops and shelters early in the design process to ensure sufficient space and adequate design

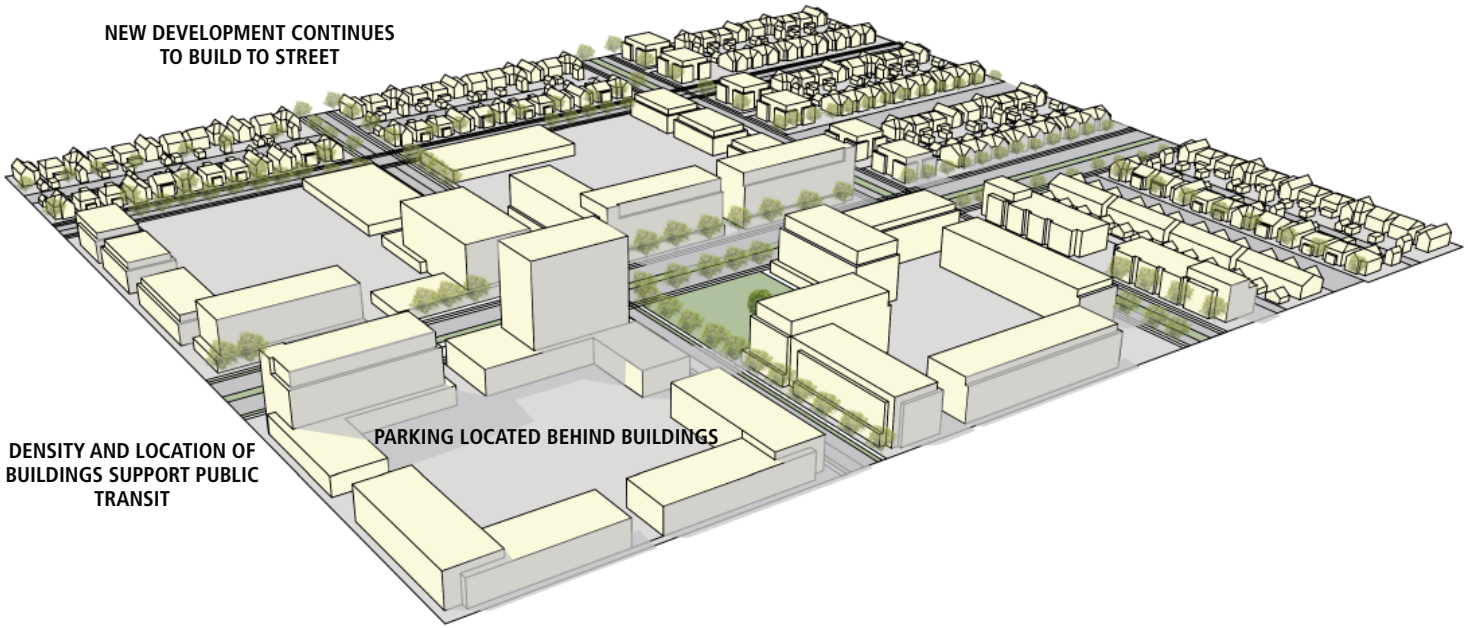

Diagram 12: The diagram shows the location of building oriented along the street frontage and encourages walking.

3 Set large buildings back between 3.0 and 6.0 metres from the front property line, and from the side property line for corner sites, in order to define the street edge and to provide space for pedestrian, cyclists, transit users and landscaping. If there is an established built form context, consider setbacks that reinforce that, if beneficial..

Figure 20: The BDC building has an angled setback to provide space for pedestrian movements around the Metcalfe Rapid Transit.

Figure 21: The Place Bell building provides extra wide sidewalks and a building canopy that helps to define the street edge and shelter pedestrians.

Figure 22: Several University of Ottawa buildings are oriented towards the O-Train Station with direct pathway connections to transit.

3.3 Architecture

1 Create highly visible landmarks through distinctive design features that can be easily identified and located. For example, taller buildings can create a landmark location because they stand out on the skyline.

2 Provide architectural variety (windows, variety of building materials, projections) on the lower storeys of buildings to provide visual interest to pedestrians.

3 Use clear windows and doors to make the pedestrian level façade of walls facing the street highly transparent in order provide ease of entrance, visual interest and increased security through informal viewing.

Figure 23: The Rideau Center serves as a landmark building adjacent to the O-Train Station.

Figure 24: Large clear street level windows help animate the streetscape and provide a sense of security for pedestrians and cyclists.

Figure 25: Generous windows with changing displays can both animate the public realm, contributing to quality and interest at transit stops, and benefit the private realm by engaging the attention of transit users.

3.0 PEDESTRIAN REALM

The quality and design of the spaces along public sidewalks and pedestrian walkways internal to a site (public or private) particularly those that lead to and from transit stops or stations, is an important element in the overall transit experience. Care taken with these environments can contribute to a positive experience for transit users and the achievement of Transit-Oriented Development.

The transportation network needs to be planned so that it not only minimizes negative impacts on the public realm but can potentially maximize positive impacts. The Official Plan calls for enhancing and animating the public realm to improve overall user experience.

The Pedestrian Realm Design guideline focus on the following key areas:

- Pedestrian environment
- Streetscape
- Pedestrian connectivity

3.1 Pedestrian Environment

1 Provide amenities and services within grade-separated linkages to generate activities and enhance security. Public telephones, benches, automated banking machines, news stands, retail kiosks, promotional marking activities and public art programs should be considered, in conjunction with Crime Prevention Through Environmental Design (CPTED) Principles.

2 Provide clear indoor and outdoor signage and way finding elements to help direct transit users towards the transit station.

Figure26: Corner mirrors allow pedestrians to see around tight corners for continuous visibility, which helps to build a sense of security.

Figure 27: This grade separated pedestrian connection includes retail services that help to generate pedestrian activity and avoids a "tunnel" feeling.

Figure 28: This O-Train sign directs transit users towards the station.

3.2 Streetscape

1 Provide quality benches, tree guards, street lighting, bicycle racks, and garbage receptacles.

2 Provide seating along walkways and sidewalks longer than 50 metres in length and at key scenic viewing locations. Ensure benches and other amenities are located as to provide at least two metres of unencumbered sidewalk.

Figure 29: This consistent use of tree guards, streetlighting, bicycle racks and garbage receptacles helps tie together the streetscape.

Figure 30: These benches do not impede pedestrian circulation.

3 Incorporate special street lighting in significant areas to create define a pedestrian realm that encourages a safe and attractive walking experience to and from transit.

4 Design lighting so that there is no glare or uplighting onto surrounding uses. Reference should be made to the City's Right-of-Way Lighting Policy.

5 Plant shade trees and shrubs and use permeable surfaces and light coloured hard surfaces where possible to help reduce urban heat and to create a more comfortable microclimate.

6 When using special pavers, be mindful of maintenance issues such as frost heaves and plowing issues with paving stones.

Figure 31: These trees are planted in a permeable surface and are well spaced.

Figure 32: Special streetlights along Sparks Street help to define its rich historical character and complement the pedestrian realm.

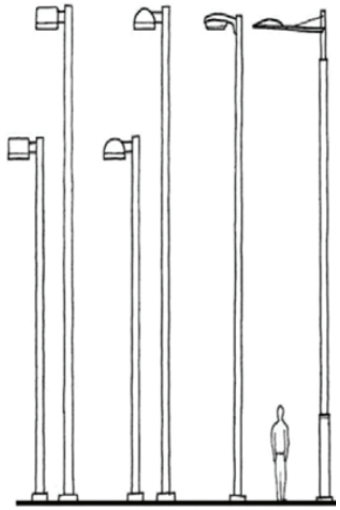

Diagram13: These streetlight designs can illuminate the street without negatively affecting adjacent uses with glare or light spill.

7 Concentrate amenities at transit stops for convenience and to reduce visual clutter along the streetscape.

8 Incorporate signage that respects building scale, architectural features and the established design objectives of the streetscape.

Figure 33: A transit stop is an excellent location for locating amenities such as newspaper boxes, public telephones and garbage containers.

Figure 34: These signs are oriented towards a pedestrian environment rather than for occupants of private motor vehicles.

3.3 Pedestrian Connectivity

1 Minimize changes in floor levels. Pedestrians should not have to walk more than 100 metres to escalators, ramps or elevators to change floor levels in order to access transit. Vertical connections should also be within the building interior rather than as freestanding structures added to the building's exterior.

2 Design connections for continuous visibility of any area 20 metres ahead. Eliminate hidden areas or recessed areas that could be used for hiding. These include hidden areas above or below grade, alleys, walls, dense planting, and storage and service areas.

Figure 35: The Rideau Centre provides several escalators, ramps, stairs and elevators within 200 metres of walking distance on each floor.

Figure 36: A ramped floor with gradual level changes that meet accessibility requirements is preferred over stairs.

Figure 37: Development agreements can ensure public access when transit services are available. This connection between the Rideau Center and the O-Train Station is accessible after store hours when transit services are still operating.

3 Ensure pedestrian walkways are an adequate width to accommodate anticipated pedestrian volumes, with a minimum width of 2.0 metres with accessible grade changes.

4 Design parking lots to include direct and safe pedestrian linkages while maintaining pedestrian comfort and access. This includes dividing large surface parking lots into smaller areas through landscaping and walkways.

5 When transit services are operating, ensure that all pedestrian routes connecting to a bus stop or LRT station are maintained and accessible for users. This includes when pedestrian access is through a building who prinicipal business hours are closed.

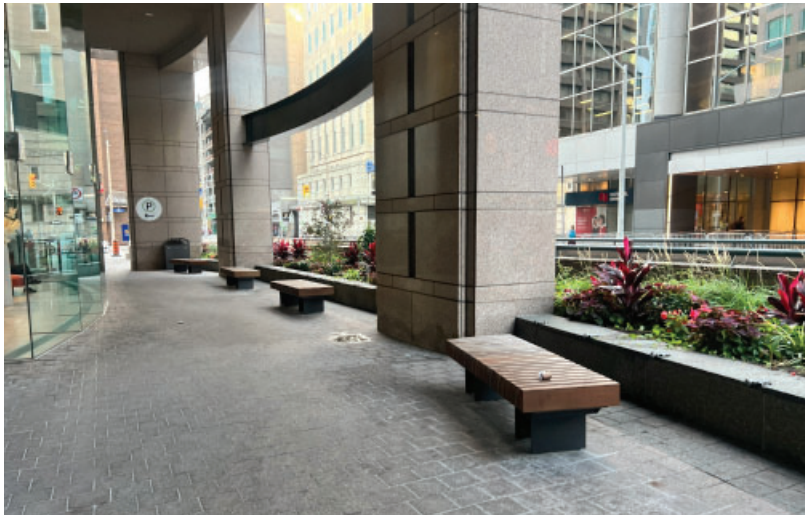

Figure 38: The colonnaded pedestrian space has sufficient height and width to accommodate pedestrian volume.

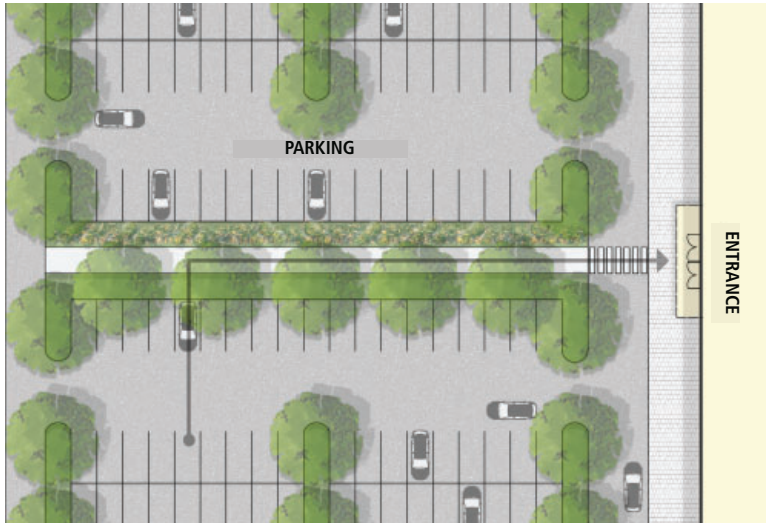

Diagram 14: Several small parking areas help to reduce vehicle speeds and minimize the number of pedestrian conflict points.

6 Use different materials such as concrete for crosswalks or treatments such as painted patterns to provide visual identification of pedestrian routes for motorists.

7 Reduce or limit grade separated pedestrian connections. Where pedestrian grade separation is required, the connection should be continuous and integrated. Elevated connections are preferred over below grade connections for reasons of cost, reduced interruption of below grade services, safety and provision of views into the public realm.

8 Incorporate glazing and natural lighting into the design of below grade linkages.

Figure 39: This below grade pedestrian connection that links the Rideau Centre to the O-Train station and National Defense Headquarters is well illuminated.

Figure 40: This pedestrian crosswalk at Parliament O-Train Station is made from pavers, which makes it stand out from the roadway asphalt.

Figure 41: Billings Bridge station provides a grade separated pedestrian connection to retail services.

9 Ramps must have a maximum slope of 1:20. A level walking space should be provided at the top of the ramp.

10 Provide weather protection to make waiting for and getting to and from transit stops more comfortable. This can include covered waiting areas, building projections, colonnades or arcades, awnings and use of landscaping.

11 Design ground floors to be appealing to pedestrians, with such uses as retail, personal service, restaurants, outdoor cafes, and residences.

Figure 42: This outdoor patio helps to animate the streetscape for pedestrians.

Figure 43: The ramp is artistically designed with stairs and provides a levelled area at the top.

Figure 44: The Billings Bridge Plaza is connected to the Transitway via several covered pedestrian walkways..

IMAGE CREDIT

IMAGE CREDIT

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