Model Urban Design Guidelines

Niagara Region

BrookMcIlroy/

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Land Acknowledgement

Niagara occupies much of the Niagara Peninsula and is bounded by the Niagara River, Lake Ontario and Lake Erie. This land is steeped in the rich history of the First Nations, including the Hatiwendaronk, the Haudenosaunee, and the Anishinaabe, and the Mississaugas of the Credit First Nation.

Niagara is situated on lands bound by the Niagara Purchase and Between the Lakes Treaty, and was the location of one of the first treaties with the British Crown in 1764, known as the Treaty of Niagara. There are many First Nations, Métis, and Inuit from across Turtle Island that live and work in Niagara today. The Regional Municipality of Niagara stands with all Indigenous peoples, past and present, in promoting the wise stewardship of the lands on which we live.

Contents

1.0 Introduction

Figure 1: Niagara Region is a vibrant and enticing destination for people to live, work, and play.

The Model Urban Design Guidelines update (the "MUDG update") has been developed to provide a set of design approaches and best practices for the Niagara Region. Building upon the 2005 Model Urban Design Guidelines, the guidelines reflect the Region's changes over the past 20 years within its diverse 12 Local Area Municipalities.

Where local design guidelines are not available, the MUDG update will be referenced while evaluating development projects subject to the Planning Act. The guidelines are intended to promote high-quality places for people, architecture, and reflect Niagara's unique local contexts and diverse landscapes.

The MUDG update reflects current and emerging demands for sustainable development and ensures that Niagara is equipped with appropriate design parameters to support the continued development of healthy, sustainable, and climate resilient communities. The MUDG update will help raise the level of design excellence for new developments and will preserve, compliment, and enhance the existing natural and cultural landscapes in the Region.

Design guidance emphasizes the promotion of local well-being, landscape driven design, placemaking, built-form transitions to sensitive areas including agriculture and natural heritage features, and enhanced public realms.

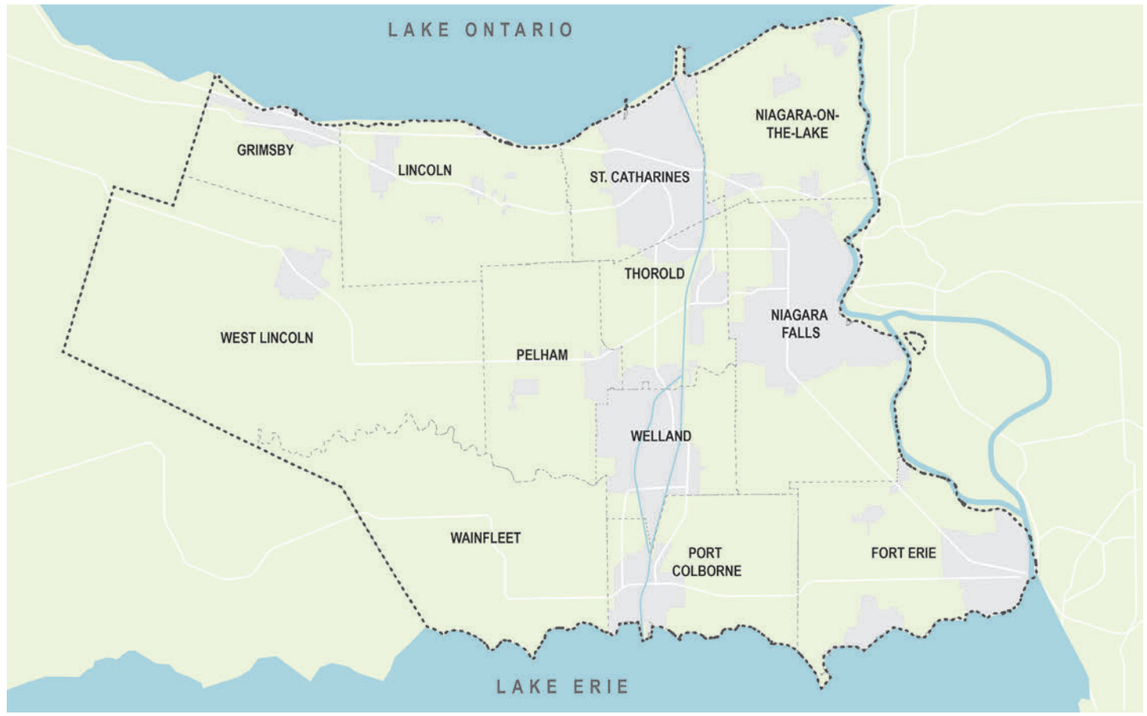


Figure 2: Map of the 12 Local Area Municipalities in the Region of Niagara.
Figure 3: 2051 Population and employment forecasts by Local Area Municipality (table on the right).

In addition, the update complements policy efforts many municipalities have undertaken to advance complete streets, integrating active transportation facilities into the street, and establishing a multi-modal road network.

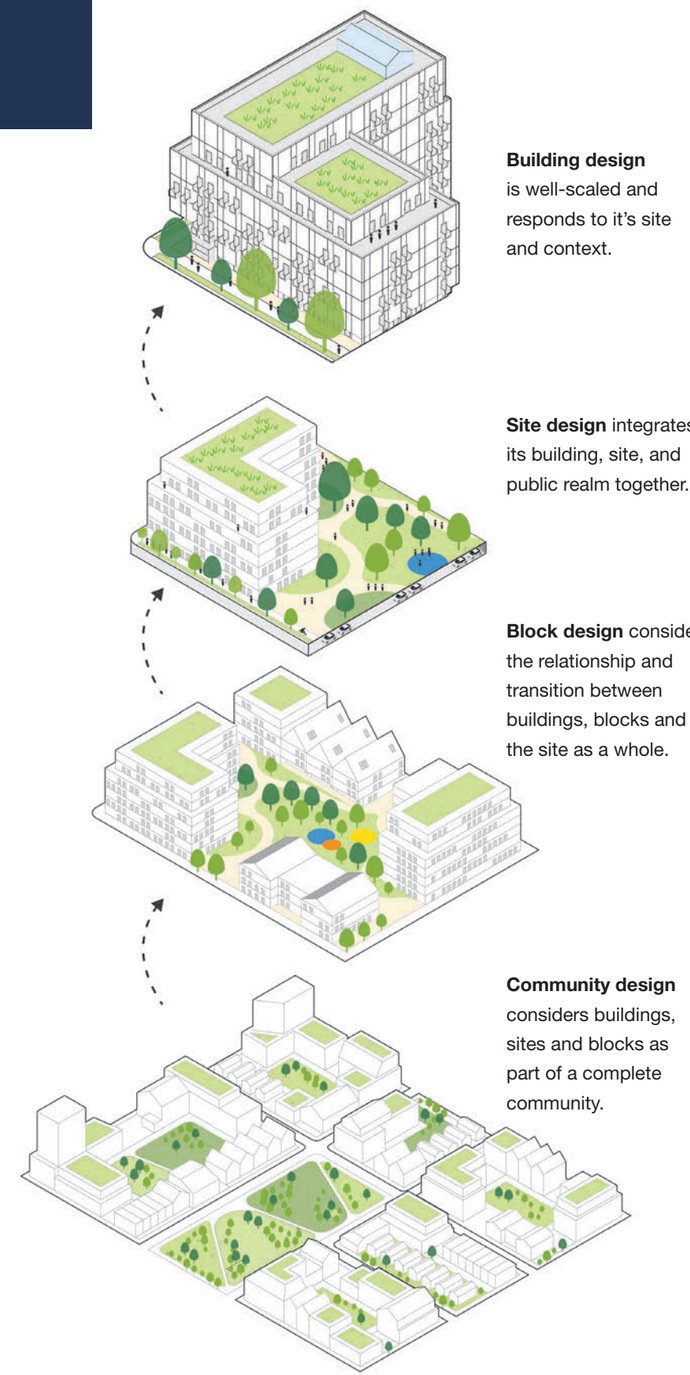
The population of Niagara is forecasted to be 694,000 and 272,000 jobs by 2051. This substantial growth provides Niagara with an opportunity to continue to evolve to meet the needs of its growing population and visitors. The continued investment into the Region will attract new residents, businesses, visitors, and encourage positive development opportunities.

Municipality	Population	Employment
Fort Erie	48,050	18,430
Grimsby	37,000	14,960
Lincoln	45,660	15,220
Niagara Falls	141,650	58,110
Niagara-on-the-Lake	28,900	17,610
Pelham	28,830	7,140
Port Colborne	23,230	7,550
St. Catharines	171,890	79,350
Thorold	39,690	12,510
Wainfleet	7,730	1,830
Welland	83,000	28,790
West Lincoln	38,370	10,480
Niagara Region	694,000	272,000

The Model Urban Design Guidelines will be used by planners, designers, propert developers and municipal and regional staff to evaluate development applicatio support the development of master plan inform Environmental Assessments, and design processes that shape developme The Guidelines will also support and infc the development of municipal design po zoning regulations, and the review of site building elevations, and landscape plans Guidelines are intended to be easily acc to the public, facilitate dialogue, and cre common understanding of urban design

The MUDG update provides design guid for a range of building typologies, site de and connections to the public realm incl streets, parks, natural and other green s The guidelines complement and support municipal Official Plans and regional pol documents such as:

- Niagara Official Plan (2022)
- Transportation Master Plan (2017)
- Complete Streets Design Manual (2023)
- Access Management Guidelines (2
- Niagara Region Stormwater Management Guidelines (2022)



Building design is well-scaled and responds to it's site and context.

Site design integrates its building, site, and public realm together.

Block design considers the relationship and transition between buildings, blocks and the site as a whole.

Community design considers buildings, sites and blocks as part of a complete community.

The Model Urban Design Guidelines reflect the Region's commitment to growth that balances economic, social, and environmental needs:

- The Guidelines are intended to be a starting point for urban design by demonstrating best practices.
- The Guidelines show how future plans consider urban design comprehensively in relation to an existing and planned context.
- The Guidelines promote a framework for well-defined and balanced development within buildings and sites. They do not prescribe architectural styles, construction standards or built projects.
- The Guidelines are intended to be applied holistically alongside other applicable policies, guidelines, and legislative documents.
- Each guideline requires the reader to consult other applicable guidelines and/or other applicable sources and references that apply to the development.

These guidelines are available to municipalities and should be adapted for the community context. Where municipalities do not have specific area guidelines, the Model Urban Design Guidelines should be referenced.

Over time, municipalities are encouraged to share their experience using the guidelines with the Region and one another to guide changes for future updates. This reciprocal engagement model will contribute to the diversity and richness of Niagara's built and natural environments.

Figure 4: Niagara's communities include historic centres that are attractive to visitors and residents alike.
Figure 5: Niagara Falls is a world class destination that capitalizes on the natural beauty of the area.

1.2 How to Use This Document

The MUDG update is organized into seven sections and is intended to provide guidance on urban design best practices across the Niagara Region. The guidelines guide community, block, site, and building design for a variety of building typologies and the public realm in urban settings and fringe areas where these abut rural lands. Each scale of design includes sustainability and well-being guidelines. While the guidelines provide a strong foundation for establishing design guidance for Niagara, it is recommended that Area Municipalities prepare context-specific guidelines for their communities based on these guidelines.

Section 1.0 Introduction, provides introductory information on the purpose and application of the guidelines, explains how to use the document, and elaborates on the historical background and context of the Niagara Region.

Section 2.0 Guiding Principles, establishes a series of Guiding Principles, which sets the vision and key objectives for urban design across the Region. The Principles are intended to inspire Area Municipalities in the preparation of context-specific guidelines.

Section 3.0 Community Design, contains guidelines to inform development related to broader community design considerations, including streets and blocks, laneways, views and vistas, and interfaces with natural heritage, parks and open spaces, cultural heritage properties, waterfronts, waterways, PMTSAs, and intensification areas, inclusive community placemaking, and neighbourhood structure.

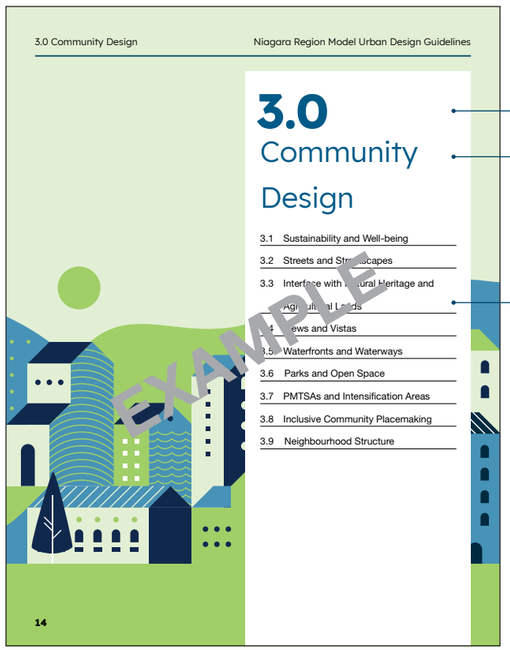
Section 4.0 Block Design, provides Design Guidelines for block design. Guidelines provide direction on various site design elements including block design and structure, laneways and mid-block connections, utilities and services, community facilities, lot design, and public art.

Section 5.0 Site Design, contains Design Guidelines and direction on various site design elements including microclimate design, pedestrian circulation, parking, landscaping, site signage and wayfinding, site lighting, and servicing, storage and loading areas.

Section 6.0 Building Design, provides general building design guidelines that are applicable to the development of all new buildings and buildings forms within the region. Form-specific standards for low-rise, mid-rise, and tall buildings should be applied to new development as relevant, in addition to the general building design standards.

Section 7.0 Building Uses, contains design guidelines based on building uses, which include commercial, multi-unit residential, mixed use, community facilities, amenities, and employment building uses. These guidelines should be applied to new development as relevant.

Development applications should reference the MUDG update where applicable as well as relevant Municipal and Regional design Terms of References and policies to ensure requirements for development applications are met.



Section Number

Section Title

Section Table of Contents

Section Number and Title

Context and Rationale

3.1 Sustainability and Well-being

Communities should be intentionally designed to support the creation of healthier places to live, work and play for people of all ages, incomes, and abilities. Designing healthy and resilient communities promotes the well-being of residents and prepares for future climate challenges and events such as extreme heat, drought, and floods.

Complete communities create compact, well connected, safe, accessible neighbourhoods, supporting well-being for residents and visitors alike. Complete communities create a sense of place, provide residents and visitors with essential resources and services for daily living, encourage active living, and reduce the greenhouse gas emissions produced by transportation and human activities (for example: agriculture, industry, and commercial and residential land uses). As the Niagara Region continues to grow, the development of complete communities will be an integral approach to achieving sustainability goals.

Best Practices:

- **Complete and Diverse Communities:** Encourage a mix and balance of residential, commercial, employment, cultural and community spaces, and recreational spaces within and proximate to neighbourhoods to support healthy and vibrant communities. This reduces the need for long commutes, fosters a sense of community, and supports local businesses.
- **Landscape Driven and Nature-Inclusive Design:** Integrate green infrastructure, agriculture, parks and urban forests into neighbourhood designs. These spaces provide opportunities for recreation, reduction of urban heat island effect, and promote biodiversity.

Energy Efficient and Renewable Energy: Encourage the responsible use of land, material, and energy resources to ensure long-term sustainability, reduce greenhouse gas emissions, and reduce demands on energy, water, and waste systems.

Precedents, Supporting Images or Diagrams

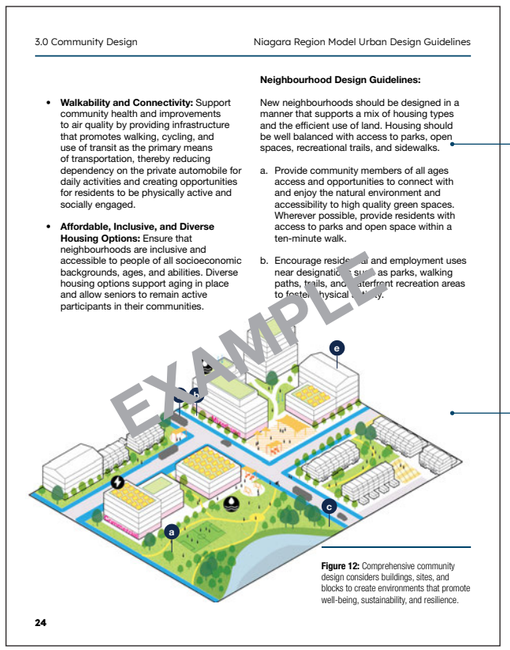
Figure 11: High quality landscaped spaces can contribute positively to site sustainability and citizen well-being.

Figure caption

Section Title

Best Practices

- Example Page 1 of the Niagara Region Model Urban Design Guidelines.



Guidelines

Guideline Graphics

Section Title

c. Future growth and development should be planned and constructed in such a way as to preserve important natural heritage system features, while also providing access to educational and recreation activities through a network of parks, trails, and public spaces.

d. Neighbourhood design and development should support adequate densities and a range of complementary uses. Transit facilities should be convenient to use and situated at key destinations, where pedestrian activity is high and used as a viable alternative to the automobile to help reduce pollution and road congestion.

e. Promote greater land use efficiency by siting increased density close to transit facilities and within mixed-use centres to support transit and pedestrian mobility choices. Higher residential densities, mixed uses, retail, and employment opportunities should have access to high order transit from neighbourhood centres.

f. Neighbourhood design and land use designations should consider impacts on community health especially for vulnerable populations (e.g. children and seniors) when located adjacent to high traffic, trucking and highway corridors. Exposure to noise can introduce or aggravate stress-related health outcomes including those on the cardiovascular system, immune system, sleep, task performance, behaviour and mental health.

g. Promote alternative modes of travel, such as walking, bicycling and public transit can be promoted through the design of high-quality streets with adequate sidewalks, bicycle lanes, and transit facilities (bus stops, seating, etc). Alternative modes of travel can help reduce automobile congestion, pollution and improve public health.

Precedents, Supporting Images or Diagrams

Figure 13: Active street frontage should be animated and vibrant, and supported by strong relationships between built form and the public realm.
Figure 14: Neighbourhood design should encourage sustainable modes of transportation, including connections for active transportation such as cycling connections, bicycle parking and related infrastructure.

2.0 Guiding Principles

Figure 6: Niagara is home to a thriving viticulture industry that promotes regional tourism, such as the 13th Street Winery in St. Catharine's.

The following Guiding Principles are meant to serve as a base for area municipalities as they prepare municipal or area-specific urban design guidelines. Municipalities should adapt or change the Guiding Principles to speak to the unique urban design goals and opportunities of their community.

1. New development will enhance the unique character of Niagara's communities by:

- Supporting and complementing the scale of existing built-forms and landscapes while also providing appropriate density.
- Integrating community streets and trails with existing networks.
- Promoting placemaking that deepens a respectful relationship with Niagara's Indigenous communities and equity-deserving groups.
- Creating sustainable developments for a holistic approach to climate change and community well-being.

2. Walkable, bikeable, transit-oriented communities will support a healthy Niagara by:

- Locating pedestrian boulevards, dedicated cycling routes, and multi-use trails to connect neighbourhoods with vibrant main streets and employment areas.
- Creating universally accessible connections throughout public and private spaces.
- Promoting a high quality public realm that provides options for active transportation to support healthy living, activation of streets, and enjoyment of the unique qualities of Niagara's communities.
- Reflecting the cultural diversity of the region in streets, parks and open spaces through public art, high-quality architecture, and landscape installations.

3. Development of urban areas will help protect and preserve agricultural land and natural resources by:

- Ensuring appropriate transitions through built-form and landscaped buffers along fringe lands to protect important agricultural and natural resources.
- Promoting publicly accessible and vibrant waterfronts.
- Protecting and enhancing the Niagara Escarpment as a UNESCO World Heritage Biosphere.
- Encourage the design of developments to feature views and vistas to agricultural or natural areas unique to Niagara, reinforcing a sense of place.

4. Development and open spaces will be sustainable and resilient by:

- Creating sustainable development models that will promote best practices in buildings, site design, and landscaped open spaces.
- Encouraging passive building design through site and building orientation to maximize sunlight access, mitigate heat island and wind effects.
- Protecting and strengthening Niagara's system of parks and open spaces as important community assets.
- Increasing Niagara's tree canopy to promote a green streetscape and a sustainable, comfortable public realm.
- Fostering innovation in design and development by integrating green energy generation, water conservation, grey water usage, and drought tolerant planting.

5. Compact built form will optimize use of land and resources by:

- Designing and locating buildings to protect and celebrate Niagara's unique natural setting and the Niagara escarpment for future generations.
- Providing well-scaled and appropriate intensification based on place-specific characteristics of each area.
- Designing human-scaled and varied built form that transitions well to adjacent lands and properties.
- Balancing density and ensuring that people have access to ample amenity spaces, sunlight, views and privacy to nurture human health and well-being.

6. A mix of uses will support vibrant and complete communities by:

- Providing options for living and working in close proximity.
- Supporting local amenities and community uses on main streets as an additional way of activating core areas throughout the day.
- Creating public realm improvements along streets, parklands and waterfronts which will enhance Niagara's thriving tourism sector.

7. A range of housing opportunities will support affordability by:

- Blocks should offer varied housing options through form and unit type, including physically accessibility.
- Providing varied housing options to ensure people have a diversity of housing types available at all stages of life.
- Creating a mix of housing options that will offer greater affordability throughout the region and within urban centres.

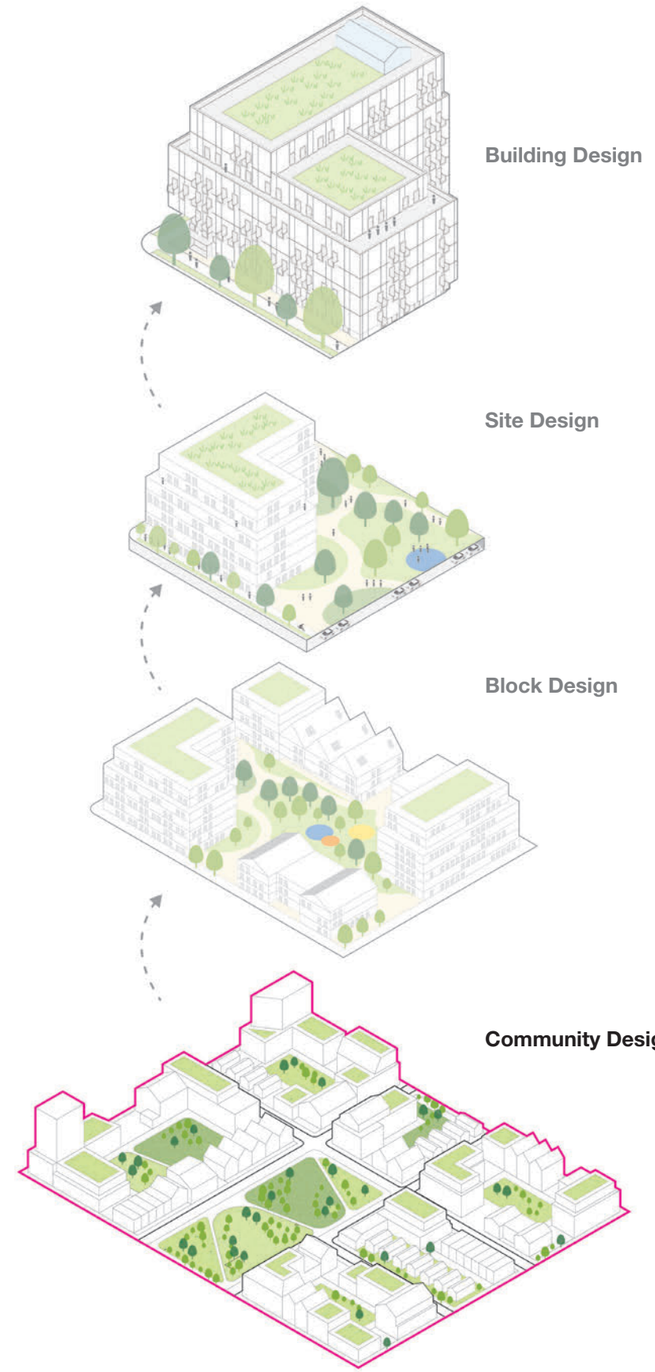
Figure 7: A high-quality public realm and enhance the identity of Niagara's communities.

3.0 Community Design

Urban design is an important part of creatin successful and resilient complete communi with a sense of place. Community design shapes the physical, social, and cultural asp of communities. Through intentional plannir design, development, and management of spaces, communities can foster a sense of belonging and well-being among residents. Community design encompasses various elements and requires the consideration by municipalities of urban planning, architectu landscape architecture, environmental sustainability, social equity, and public participation. Section 3.0 provides guidance on Community Design that should inspire th preparation of Secondary Plans, Block Plan Master Plans, and Neighbourhood Plans throughout the Niagara Region.

At its core, community design aims to enha the quality of life for individuals by creating environments that are functional, inclusive, resilient. Community design relies greatly or landscape design approach in laying out th parts of the community to reflect the natura beauty of the Niagara Region, with the natu environment woven into the urban and rural fabric. Architecture should reinforce commu values and complement the natural beauty of Niagara. This approach should be at the forefront of policy and design decisions for communities in the Region.

Communities should be designed in a comprehensive manner to ensure the well-being of residents and visitors, allowing the to meet their needs in a local context. By applying a comprehensive community desig context-specific elements such as integrate open space and built forms with considerat transitions to open spaces, including public realm, parks and other open space element Emphasizing human scale building design, architectural expression, and climate respor design, including wind mitigation, sunlight access and shade, are key elements of how communities are designed in a comprehens manner.



Applying a comprehensive community design manner in Niagara may include:

- Well-defined and integrated community structures as outlined in high-level municipal documents to set a vision for hierarchy of built-form and density across a municipality, such as the location of intensification areas and corridors.
- Thorough analysis that considers the impact of community structure, planning, and urban design policies on the health, well-being, inclusivity, vibrancy, and sense of place within new and existing communities.
- Accessible and sustainable developments should include a high standard of urban design.
- Cohesive and efficient use of existing land and building stock including infill buildings and sites adjoining new urban areas to existing neighbourhoods.
- Consideration for interfaces between differing components of a community such as natural heritage and agricultural lands, natural and cultural elements, views and vistas, cultural heritage properties, waterfronts, parks and open spaces, MTSAs, intensification areas, are critical to community cohesion and success.

Individual developments within the Region should be informed by design considerations that influence the broader community, including the design of streets and blocks, public and private interfaces, land use transitions, inclusive community placemaking and public art. The design of all sites should contribute to the enhancement of the overall community through compact and efficient growth, and a vibrant public realm that is contextually appropriate, and should celebrate the unique sense of place in each neighbourhood and community.

Figure 8: Accessible public spaces and placemaking are vital for fostering social inclusion and community cohesion by providing environments where people of all ages, abilities, and backgrounds can interact and engage. These spaces contribute to the vibrancy and livability of cities, promoting physical activity, mental well-being, and a sense of belonging among residents. Image of Bay Beach Park in Fort Erie.

3.1 Sustainability and Well-being

Communities should be designed to support the creation of healthier places to live, work, learn, and play for people of all ages, incomes, and abilities. Designing healthy and resilient communities promotes the well-being of residents and prepares for future climate challenges and events such as extreme heat, excessive rainfall, drought, and floods. Communities can benefit from analyzing existing opportunities and challenges with respect to environmental sustainability.

Complete communities create compact, well connected, safe, accessible neighbourhoods, supporting well-being for residents and visitors alike. Complete communities create a sense of place, provide residents and visitors with essential resources and services for daily living, encourage active living, and reduce the greenhouse gas emissions. As the Niagara Region continues to grow, the design and development of complete communities will be an integral approach to achieve sustainability goals.

Best Practices:

- **Complete and Diverse Communities:** Encourage a mix and balance of residential, commercial, employment, cultural and community spaces, and recreational spaces within and proximate to neighbourhoods to support healthy and vibrant communities. This reduces the need for long commutes, fosters a sense of community, and supports local businesses.
- **Landscape Driven and Nature-Inclusive Design:** Integrate green infrastructure, agriculture, parks and urban forests into neighbourhood designs. These spaces provide opportunities for recreation, food security, reduction of urban heat island effect, retention and reuse of rainwater, and promote biodiversity.
- **Efficient and Renewable Energy:** Encourage the responsible use of land, material, and energy resources to ensure long-term sustainability, reduce greenhouse gas emissions, and reduce demands on energy, water, and waste systems.

Figure 9: High quality landscaped spaces can contribute positively to site sustainability and the well-being of people.

- **Walkability and Connectivity:** Support community health and air quality by providing infrastructure that promotes walking, cycling, and use of transit as the primary means of transportation, thereby reducing dependency on the private automobile. Recognize that not everyone is able or wants to drive, and connected communities allow all people to participate in daily activities. This is especially important to youth that need safe ways to get to school and employment.

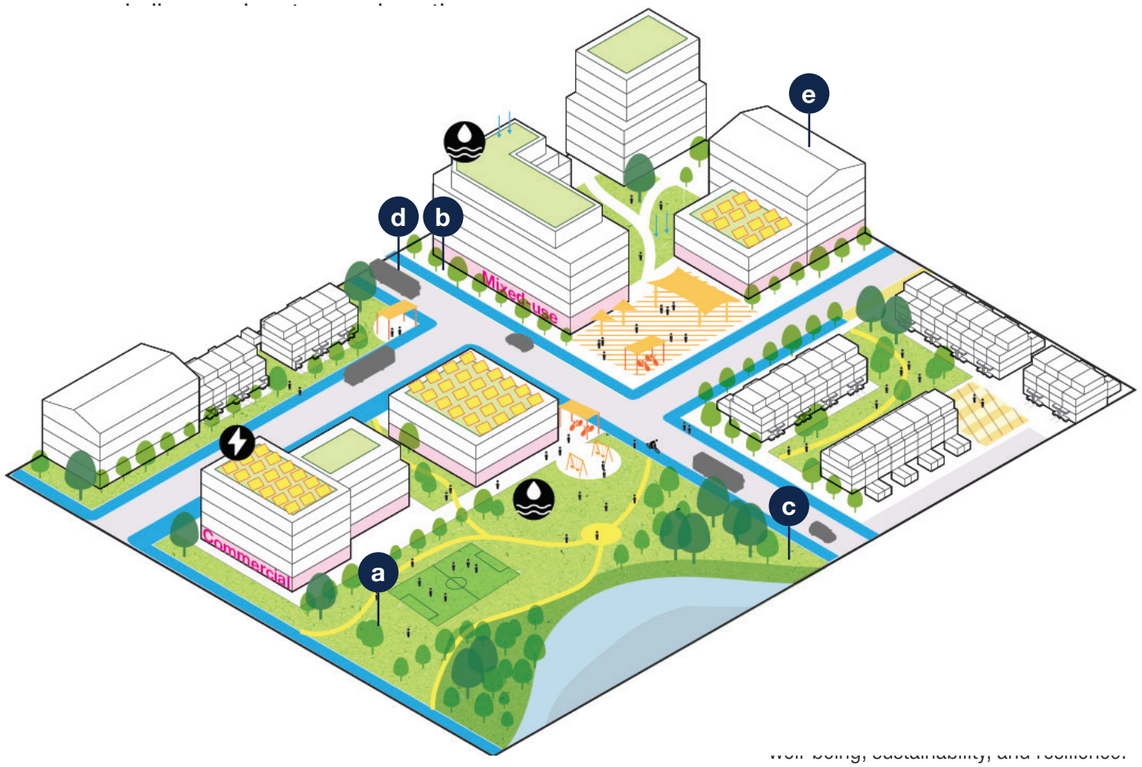
- **Affordable, Inclusive, and Diverse Housing Options:** Ensure that neighbourhoods are inclusive and accessible to people of all socioeconomic backgrounds, ages, and abilities. Diverse housing options support aging in place

Neighbourhood Design Guidelines:

New neighbourhoods should be designed in a manner that supports a mix of housing types and the efficient use of land. Housing should be well balanced with access to parks, open spaces, recreational trails, and sidewalks.

a. Provide community members of all ages access and opportunities to connect with and enjoy the natural environment and accessibility to high quality green spaces. Wherever possible, provide residents with access to parks and open space within a ten-minute walk.

b. Encourage residential and employment uses near designations such as parks, walking paths, trails, and waterfront recreation areas to foster physical activity and enjoyment of the natural environment.



well-being, sustainability, and resilience.

c. Future growth and development should be planned and constructed to preserve important natural heritage system features, while also providing access to educational and recreation activities through a network of parks, trails, and public spaces.

d. Neighbourhood design and development should support adequate densities and a range of complementary uses. Transit facilities should be convenient to use and situated at key destinations, where pedestrian activity is high.

e. Promote greater land use efficiency by siting increased density close to transit facilities and within mixed-use centres to support transit and pedestrian mobility choices. Higher residential densities, mixed uses, retail, and employment opportunities should have access to higher order transit from neighbourhood centres.

f. Neighbourhood design and land use designations should consider impacts on community health especially for vulnerable populations (e.g. children and seniors) when located adjacent to high traffic, trucking and highway corridors. The design of the community should reduce exposure to noise that can introduce or aggravate stress-related health outcomes.

g. Community design should promote alternative modes of travel, such as walking, bicycling and public transit can be promoted through the design of high-quality, complete streets. Alternative modes of travel can help reduce automobile congestion, pollution and improve public health.

h. Development and intensification should occur within existing urban areas to reduce pressure on natural features, open spaces, rural and agricultural lands.

Figure 11: Active street frontage should be animated and vibrant, and supported by strong relationships between built form and the public realm.
Figure 12: Neighbourhood design should encourage sustainable modes of transportation, including connections for active transportation such as cycling connections, bicycle parking and related infrastructure.

Environmental Sustainability Guidelines:

Healthy communities are designed with a focus on environmental sustainability. The guidelines support community design that considers energy demand, stormwater management, and the lifecycle of materials.

i. Through the preservation of natural vegetated environments, extensive landscaping, and the appropriate use of porous surfaces, urban design strategies can improve water quality, and reduce water runoff and urban heat island effect. Reducing water runoff helps control erosion, river and stream pollution, and can recharge depleted groundwater resources.

j. Preserve and expand existing tree cover to connect and buffer protected woodlands and other natural areas to help mitigate heat island impacts.

k. New developments should incorporate both active and passive strategies to reduce demand and increase energy efficiency to minimize the impact on the conventional energy distribution network, while also promoting the use of alternative clean and renewable energy sources.

l. Adaptive re-use of existing buildings and structures is encouraged to minimize the embodied carbon footprint of new communities.

m. Stormwater management features should be strategically located, maintained, and protected to take advantage of the existing topography and drainage patterns. Naturalized ponds should incorporate native plantings and overbank shade to enhance biodiversity.

Figure 13: Bioswales located at walkways and parking lots can collect stormwater runoff to minimize the dependency on stormwater sewers.

Reference Guidelines:

- Niagara Region Complete Streets Design Manual
- Accessibility for Ontarians with Disabilities Act, 2005 (AODA) standards
- Crime Prevention Through Environmental Design (CPTED)
- Niagara Energy Conservation and Demand Management Plan
- Niagara Official Plan 2022, Chapter 3.1

Figure 14: Farmer's markets exist throughout the region and feature locally grown, seasonal produce, and artisanal goods. Consumers who are able to support sustainable agricultural practices and local foods typically have a smaller carbon footprint compared to products that are transported over long distances.

3.2 Streets and Streetscapes

Complete streets accommodate multiple modes of transportation, people of all ages and abilities, and support adjacent land uses. Complete streets include infrastructure that improves circulation, comfort, the public realm, and encourages active forms of transportation. The benefits of complete streets include increased investment into local businesses, improved community health through active transportation, increased property values, universal accessibility, and a reduction in vehicle traffic and carbon emissions. Streetscapes help to define a sense of place, identity and character.

This section provides guidance for municipal streets. For guidance related to Regional Roads, see the Region's Complete Streets Manual. Dimensions are meant to reflect best practices and a starting point for street design. As the street design evolves, it may be necessary to vary the dimensions to suit existing conditions.

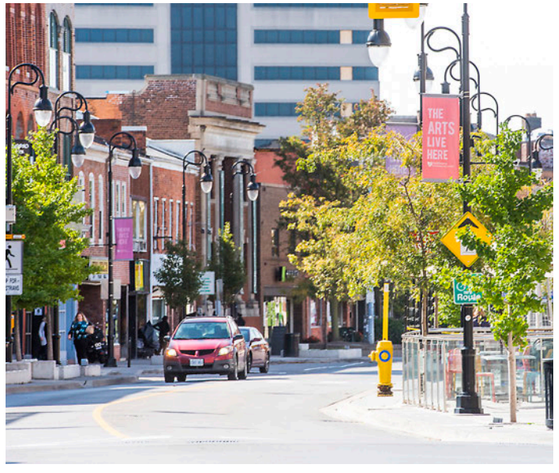


Figure 15: Niagara's streetscapes should be welcoming, green, and vibrant to support thriving businesses, attract intensification, and promote social interaction and well-being.

Best Practices:

- **Active Transportation:** All newly designed or retrofitted streets should consider active transportation and ensure that pedestrians, cyclists, and transit passengers can travel safely. Where transit is available, transit facilities should be incorporated in the design of all streets to encourage high levels of ridership and cost-efficient operation.

- **High-Quality Spaces:** Through the integration of amenities such as street furniture, banners, art, street trees and special paving, wayfinding signage, along with historical elements and cultural references, promote a 'sense of place' and enhances the pedestrian experience.

- **Scale:** Pedestrian through zones and planting and furnishing zones should be designed according to the function and nature of adjoining land uses. For example, wide sidewalks are important for many commercial areas with high pedestrian volumes.

- **Safe and Accessible:** Pedestrian through zones and planting and furnishing zones should be designed and built free of hazards and to minimize conflicts with external factors such as vehicular movements and protruding architectural elements.

- **Flexible:** Road design should reflect adjacent land use types and requirements. Road design can be flexible so that a variety of land use types can be adequately served by the same road.

- **Positive Appearance:** All streets should be designed to provide a strong visual quality that enhances the amenity of adjacent properties using high quality landscaping, lighting, pavement materials, and on-street parking where appropriate.

- **Living Streets:** Tree-lined streets soften the visual quality of the public realm by creating a physical buffer between the pavement, the sidewalk and private developments, and calm traffic, contributing to a more inviting and comfortable space while reducing the urban 'heat island' effect.

- **Minimize Pavement Width:** The widths of streets should be developed in accordance with the land-use needs and operational safety requirements and the provision of an enhanced pedestrian realm. The width of travel lane pavements should be kept as narrow as practically feasible, to encourage traffic to slow down, create more intimate streetscapes, and facilitate pedestrian crossings.

- **On-street parking** should be provided at existing established commercial locations and in downtowns. On-street parking can reduce requirements for surface parking lots, generally reduces traffic speeds, and supports pedestrian activity by providing a physical barrier between the sidewalk and moving traffic. It should be balanced with generous pedestrian facilities, cycling facilities, and street trees.

Right-of-Way and Street Infrastructure:

Street infrastructure such as bioswales, street trees and landscaping can help promote stormwater infiltration and promote more sustainable communities.

a. Bioswales are a viable approach for maximizing water infiltration and cleansing stormwater runoff and should be incorporated into road cross sections wherever possible. Refer to Section 5.5 Landscape Design for guidance.

b. Permeable pavers can be used to reduce water runoff.

c. Street trees and street landscaping should be local native species. Plants that grow naturally in the Region of Niagara are adapted to the local climate and soil conditions and have a better than average chance of surviving with minimum upkeep, use of fertilizer, pesticide or irrigation.

d. Solar power should be incorporated into the design of street lighting and transit facilities to supplement the power requirements of street infrastructure.

e. The selection of streetscaping elements should be determined by suitability, durability, ease of maintenance and cost effectiveness, considering whole of lifecycle costing, and achieving energy savings and reduction in greenhouse gas emissions over the life-cycle.

f. Street trees should be located in a manner that supports adequate street tree soil volumes of at least 30 cubic metres.

Street Furniture Guidelines:

Street furnishings contribute to the identity of a community and promote placemaking.

g. Street furnishing may be selected with reference to the Niagara Region Complete Streets Design Manual. Furnishings should be AODA compliant.

h. Street furnishings should be developed within an overall thematic concept and should provide a consistent and unified streetscape appearance. Preference should be given to durable materials.

i. Street furnishings should be placed in a coordinated manner that does not obstruct pedestrian circulation on sidewalks, and vehicular circulation to driveways, parking, loading and service areas.

j. Street furnishings should be placed within a distinct furniture zone and furniture oriented to face passers by, shows, and other points of visual interest.

k. Consideration should be given to providing additional pedestrian-scale lighting in areas along arterial roads where there is a high volume of pedestrian activity, such as at key intersections, transit stops, trail crossings, etc. Pedestrian lighting may be designed as a freestanding fixture or be added to existing vehicular light poles.

l. Benches and multi-stream waste receptacles should be provided at all transit shelters and at 'gateway' and arterial and collector street intersections, where there is significant pedestrian activity.

m. Opportunities for cultural heritage commemoration should be explored and prioritized, especially where intangible and Indigenous heritage can be acknowledged and celebrated.

Figure 16: High quality street furnishings and plantings can encourage pedestrian activity and enjoyment of the public realm (Oakville Streetscape Lakeshore Rd, Brook McIlroy, Photographer: Tom Ridout)

Street Lighting Guidelines:

Street lighting is an important component of the feeling as well as utility of our streets.

n. All lighting should be located within the road boulevard, at least 1.0m from the curb.

o. The design and location of lighting should consider the impacts of light pollution, energy efficiency, and any potential negative impacts on adjacent Natural Environment areas, wildlife habitats. Downcast lighting is recommended.

p. Character lighting fixtures should be located on all roads considered for gateway treatments.

q. Energy efficient LED light technology should be considered for all municipal lighting.

r. Road scale lighting no greater than 9.0 metres high should be provided to contribute to the safety and comfort of the streetscape. Lighting should be downcast to reduce light pollution.

s. Pedestrian-scale lighting no greater than 4.5 metres high should be provided to contribute to the safety and comfort of the streetscape. Lighting should be downcast.

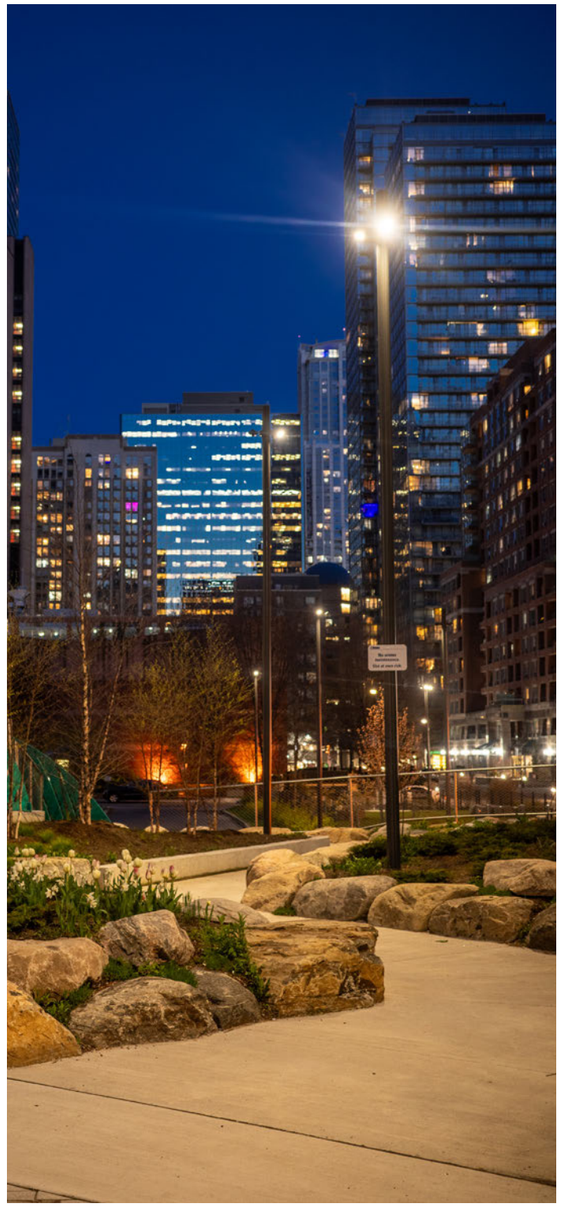


Figure 17: Street lighting should integrate well with the built environment and public realm.

Road Hierarchy and Road Function:

The road network is characterized by the road function and the following hierarchy which is generally guided by Transportation Master Plans that examine existing and projected land use and anticipated traffic trips and roadway volumes.

- Regional Roads: Regional road design should be planned and designed in accordance with the Niagara Region's Complete Streets Design Manual, Niagara Region's Access Management Guidelines, TAC Geometric Design Guide for Canadian Roads, Ontario Books and local design standards. Municipal roads of all types must integrate well with Regional Roads and should offer similar amenities to promote cohesion.

- Municipal Arterial Roads: Arterial Roads provide long-range and efficient access throughout the municipality and serve a range of travel modes, including passenger vehicles, trucks, and transit.

- Urban Collector Streets: Urban Collector Streets provide important connections for residential neighbourhoods with commercial, employment and tourism areas, and typically include an urban cross section with curbs and sidewalks. Collector Streets are often well suited to provide frontage for mid-rise and tall buildings.

- Local Streets: Local Streets are situated in predominantly residential areas and are a defining element of residential neighbourhoods. They are well suited to provide frontage for mid-rise and low-rise buildings.

- Residential Laneways: Laneways provide access to private garage facilities and accessory dwelling units.

Figure 18: Cycling infrastructure attracts visitors to Niagara and helps people of all ages and abilities arrive safely at their destinations.

Municipal Arterial Road Guidelines:

t. A key design objective for Arterial Roads is to balance safety, visual amenities, and pedestrians, with a wide variety of functions including:

   - Large volume transport corridor
   - Transit
   - Gateways and entrances to town centres and neighbourhoods
   - Connections to Collector Roads
   - Potential connected cycling network, subject to cycling master plans

u. Arterial Roads rights-of-way may range from 21.0 to 36.0 metres and design standards should be flexible to reflect changes in adjacent land uses and traffic conditions.

v. The design of Arterial Roads should consider the following variables:

   - Lanes: The total number of lanes will range from 2 to 5, depending on traffic conditions.

   - Centre Median: A central median may be provided for traffic calming, help to visually break up large expanses of road surface, aesthetics, geometric design considerations, and access control in gateway locations. Medians can contribute to lengthening the pedestrian crossing distance of a street and should only be considered for specific purposes.

   - Sidewalks: Sidewalks should always be provided on both sides of the street and provide a pedestrian clearway width of at least 1.8 metres. This width should be increased to accommodate snow storage, enhance accessibility, and where existing or planned commercial uses are located.

   - Planting and furnishing zone: Boulevards are required for Arterial Roads in urban areas and should be at least 2.0 metres wide and planted with street trees and companion planting situated every 6.0 to 9.0 metres where adequate safety standards are met.

   - The location of sidewalks and plantings may vary depending on the level of traffic and adjacent land use. Sidewalks on high volume/speed Arterial Roads should be buffered by a landscaped boulevard. However, sidewalks on low volume/speed Arterial Roads or in village centres or downtowns may, for example, be situated adjacent to the curb.

   - Curbs: Curb design will vary depending on the nature of adjoining land uses. Typically, barrier curbs are required.

   - On-Street Parking: In the context of anticipated traffic volume/speed, adjacent land uses, and ability to maintain travel lanes, on-street parking may be permitted on Arterial Roads in commercial centres. Parking lane widths should generally not exceed 2.5 metres.

   - Bicycle infrastructure: Bicycle lanes should be curb separated and clearly identified with signage and/or pavements and be between 1.5 to 4.0 metres wide, depending on configuration and directionality. See the Niagara Region Complete Streets Design Manual for further information.

w. Connections to Arterial Streets should be provided at approximately 400 metre intervals, the average distance of a 5 minute walk.

x. Vehicle travel lanes should not exceed 3.5 metres in width. Wide travel lanes are required to ensure the safe movement of larger vehicles such as trucks, buses, and transit. However, 'reduced standards' should be used wherever feasible to promote traffic calming.

y. Private driveway access should be limited on arterial roads. Please refer to the Region's Access Management Guidelines for further details.

z. Arterial Road curb radii should be follow the guidance of the Complete Streets Design Manual.

aa. In downtown cores, main streets, and places with heritage value, utilities should be buried below grade - typically in the boulevard section of the right-of-way. The use of a joint utility trench is encouraged for access and maintenance benefits.

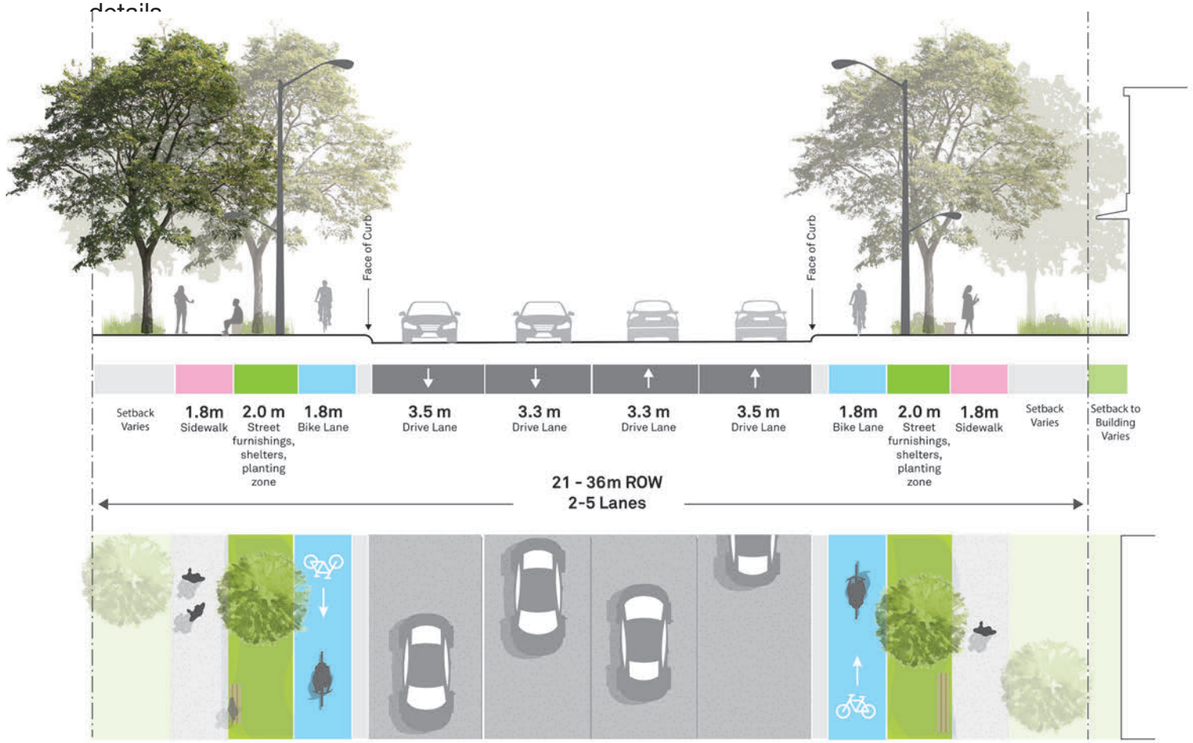


Figure 19: Sample section for a Municipal Arterial Road.

Collector Street Guidelines:

ab. Collector Streets should be designed to serve a variety of functions including:

- Transit
- Connections between neighbourhoods
- Connections to Local Streets
- Connections to Arterial Roads

ac. Collector Street rights-of-way may range from 19.5 to 26 metres and design standards should be flexible to reflect changes in adjacent land uses and traffic conditions.

ad. The design of Collector Streets should consider the following variables:

- Lanes: The total number of lanes will range from 2 to 4, depending on traffic conditions.

- Centre Median: A short centre median may be provided in gateway locations.

- Sidewalks: Sidewalks should always be provided on both sides of the street and contain a pedestrian clearway of at least 2.1 metres for accessibility. This width should be increased to accommodate snow storage and where existing or planned commercial uses are located.

- Planting and furnishing zones: Planting and furnishing zones are important to Collector Streets in urban areas and should be at least 2.5m wide and planted with street trees every 6.0 to 9.0m where adequate safety standards are met.

- Curbs: Curb design will vary depending on the nature of adjoining land uses. In some areas, 'soft shoulder' and bioswales may be provided. See Section 5.5 Landscape Design for guidance.

- On-Street Parking: On-street parking should be permitted on Collector Streets. Parking lanes should generally not exceed 2.5 metres. Where Collector Streets have more than 2 travel lanes, on-street parking should be located within parking laybys and curb extensions at intersections used to reduce the street crossing distance for pedestrians.

- Intersections: Where Collector Streets have more than two travel lanes, on-street parking should be located within parking laybys and curb extensions at intersections used to reduce the street crossing distance for pedestrians.

- Bicycle infrastructure: Bicycle infrastructure of 1.5m ~4.0m wide may be located on the roadway.

- Property Buffer: A 1.0m wide property buffer should be provided on both sides of the street. When applicable, a green vegetated property buffer is encouraged.

ae. Travel lane widths should not exceed 3.25 metres and may be reduced to 3.0 metres where off-peak on-street parking is provided.

af. To support active transportation facilities and reduce conflict points, alternatives to single access driveways to individual properties should be explored, (i.e., through joint access driveways). 'Right-in right-out' movements are preferred on Collector Streets.

ag. Curb radii from Collector Streets to Local Streets should be reduced to slow and calm vehicles as these enter local streets.

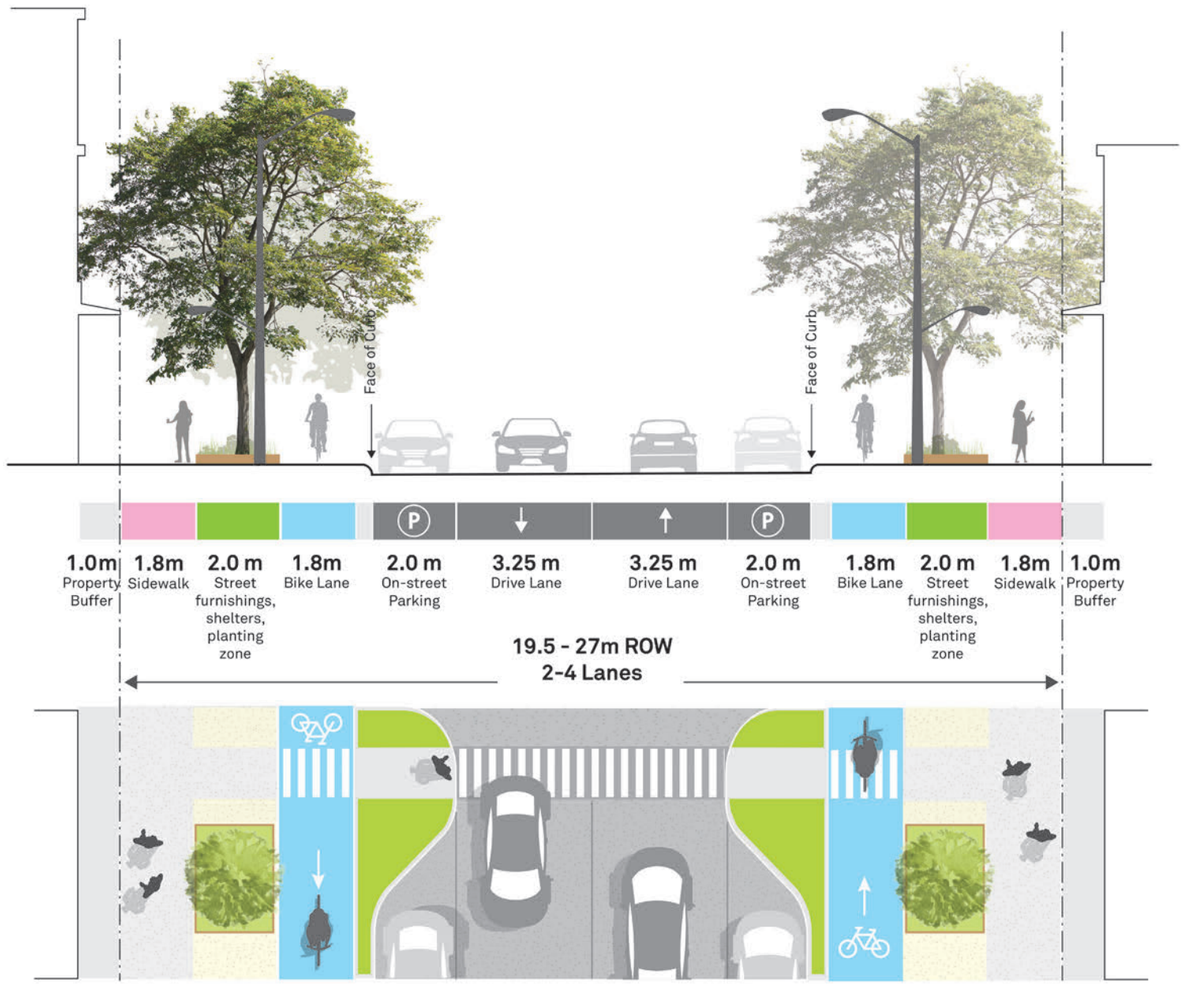


Figure 20: Sample section for a Municipal Collector Street in a Main street configuration with curb bump-outs that help shorten the crossing distance for pedestrians.

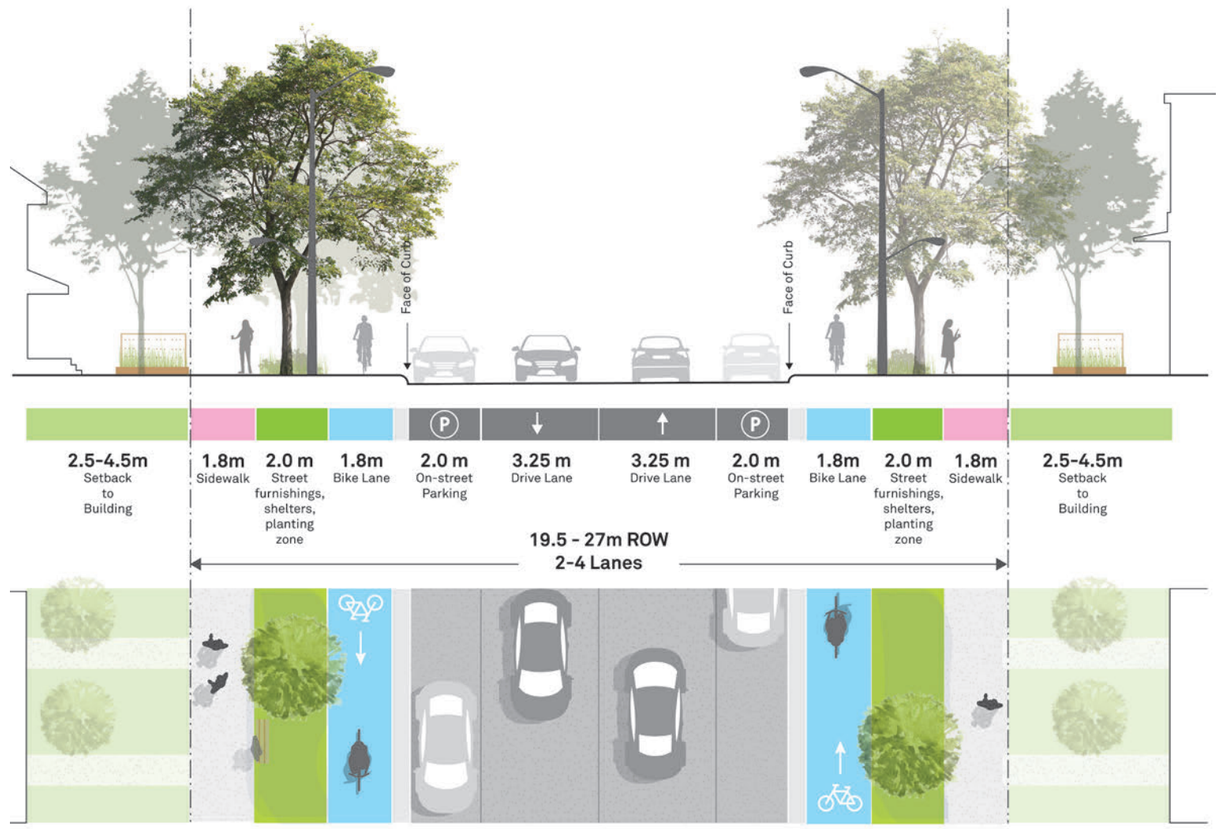


Figure 21: Sample section for a Municipal Collector Street in a residential configuration.

Local Street Guidelines:

ah. Local Streets should be designed to create 'intimate' pedestrian-scaled streetscapes that promote walkability and residential activities and discourage speeding and through traffic. The right-of-way standards should be reduced to minimum requirements wherever possible.

ai. Local Streets should be designed with a narrow or reduced right-of-way standard of no greater than 20.0 metres.

aj. A planting zone of 2.0 metres width should be located on both sides of the road, planted with lawn and street trees located every 6.0 to 9.0 metres on centre.

ak. A sidewalk with a pedestrian clearway of at least 1.5 metres wide should be provided on both sides of the street and situated between the boulevard and the property buffer strip. In areas where higher pedestrian volumes are anticipated, consider providing greater sidewalk widths.

al. A 1.0 metre wide 'property buffer' should be situated between the sidewalk and the private property boundary to provide options for locating underground services within the street right-of-way. This may be used as a marketing zone when abutting commercial or mixed use lots.

am. To encourage walkability and pedestrian safety through shorter crossing distances, Local Street to Local Street curb radii should be between 5.0 and 6.0 metres.

an. Utilities should be buried below grade - typically in the boulevard section of the right-of-way. The use of a joint utility trench is encouraged for access and maintenance benefits. They should be located in a manner that supports adequate street tree soil volumes of at least 30 cubic metres.

Interface of Local Street-Arterial Guidelines:

Where Local Streets and Arterial Roads meet, it is important to manage this transition through thoughtful street design.

ao. All housing adjacent to Arterial Roads should provide positive frontage to these streets by providing a front façade or corner treatment façade on a flanking lot visible from the street, high-quality landscape design comprising trees, shrubs, low walls or fences, and sidewalks.

ap. To promote active frontages and use CPTED principles, rear lotting should be avoided where Local Street and Arterial Roads meet.

aq. Low-density residential development adjacent to Arterial Roads should not have driveway access. Low-density housing adjacent to major collector roads should generally discourage driveway access except where the road design incorporates a central landscaped median accommodating right-in, right-out only driveway access.

ar. Positive frontage on Arterial Roads could be achieved in the following ways: rear lane access, rear access from local roads, single-loaded service roads.

as. A variety of treatments should be utilized along a given road corridor to avoid an overly repetitive pattern. In particular, the large setbacks provided by service roads should be mitigated where possible by avoiding the mirroring of the same treatment on either side of the Arterial Road.

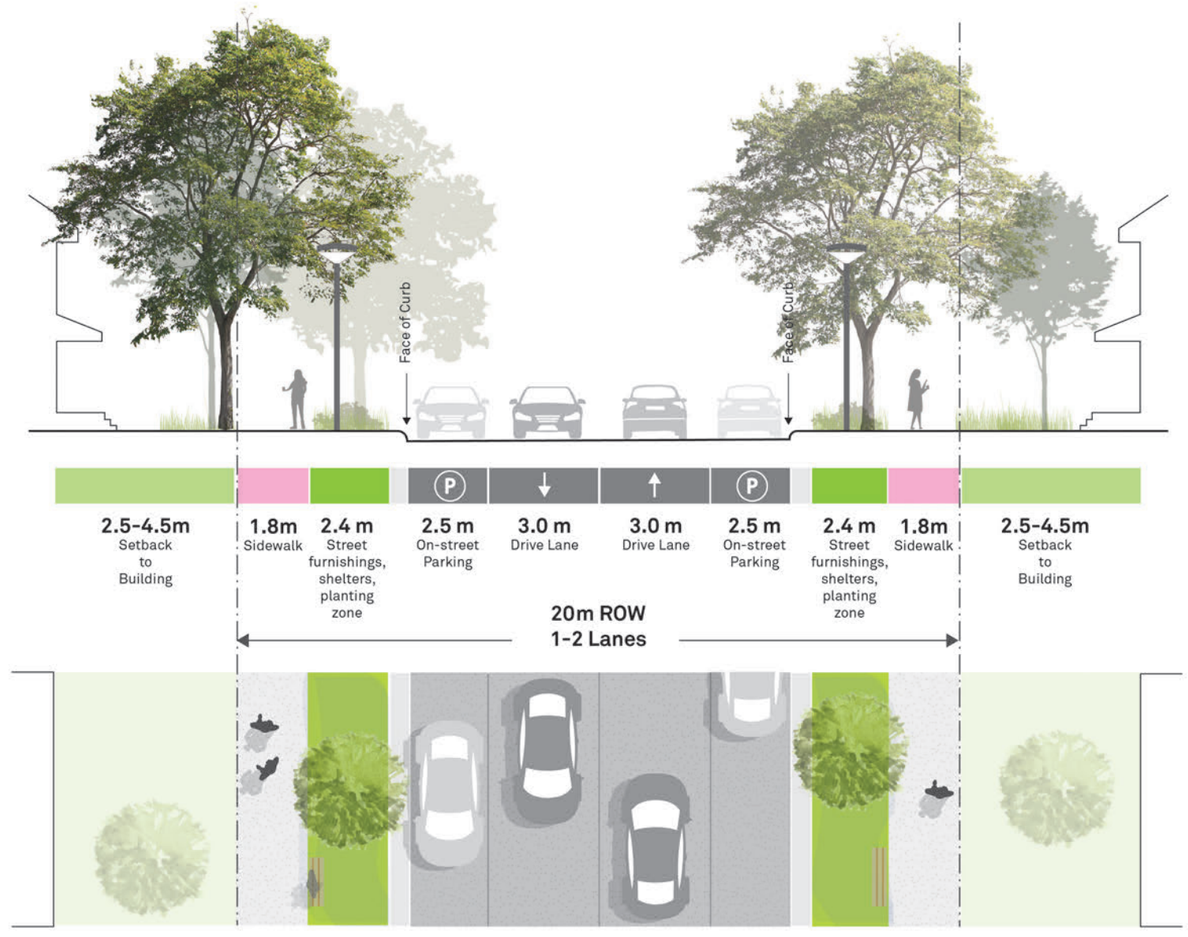


Figure 22: Sample section for a Municipal Local Street.

Intersection Design Curb Radius Guidelines:

The design of curb radii impacts the safety and experience of pedestrians, cyclists and motorists.

at. The choice of curb radius should consider requirements for pedestrian areas, traffic turning movements, the turning radius of vehicles, the geometry of the intersection, the street classifications, and whether there is parking or a cycling facility (or both) between the travel lane and the curb.

au. Street corners should be designed to serve multiple functions, including pedestrian crossings, transit stops, pedestrian plazas, utility and traffic signal poles, etc. Curb radius design should consider these competing needs and priorities.

av. Small curb radii improve the quality of the streetscape for pedestrians as these provide more area at intersections for pedestrian-friendly features and amenities, result in shorter crosswalks, and require vehicles to reduce speed as they turn the corner.

aw. A smaller curb radius may be used for the design of a curb “bump-out” - to provide a projection or “bump-out” of sidewalk pavement into the roadway. This ‘bump-out may include landscape elements, feature paving, seating, etc. at the intersection of two streets, separating on-street parking from the intersection and decreasing pedestrian crossing distance.

Sidewalk Design Guidelines:

Sidewalks form a fundamental part of public life, creating important community places where people meet friends and neighbours, walk to local shops, and where children play and walk to school.

ax. Sidewalks should accommodate a wide range of potential uses, including the safe movement of pedestrians throughout residential, commercial, and employment areas.

ay. Sidewalks should be provided on both sides of the street and width dimensions should be consistent block-to-block and designed to meet or exceed minimum requirements.

az. Sidewalks should be constructed of a solid, stable, and textured material such as concrete.

ba. Sidewalks should be coordinated with the design of feature paving across boulevards, intersections, crosswalks and driveways to ensure visibility and accessibility of the pedestrian network.

bb. Where pedestrian activity is concentrated, such as schools and retail shops, the sidewalk should be expanded to provide space for gathering spaces, sidewalk cafes, and patios.

bc. Sidewalks should connect with adjoining recreational trail networks wherever possible.

bd. For sidewalks on busy streets, textured edges and sound assisted crosswalks should be used to assist the visually impaired.

be. The Niagara Region Complete Streets Design Manual contains an updated suite of products that should be considered for the design of sidewalks and street furniture.

Commercial Area Sidewalks:

Commercial area sidewalks support a thriving retail environment and encourage pedestrians to linger and enjoy public and private space.

bf. Commercial area sidewalks should have a minimum width of 3.5 metres, and be comprised of a minimum 2.1 metre wide clearway and 2.0m wide planting and furnishing zone that contains street tree and companion plantings and hard paved surface.

bg. Generally, the clearway surface should be constructed of poured concrete with a broom finish. Higher quality treatments, such as granite edges, should be considered in key areas such as downtowns or historic districts.

bh. Where sidewalks meet the vehicular road surface at cross-walks, sidewalk ramps should be gentle and graded to drain water to nearby catch basins.

bi. Sidewalk clutter, such as newspaper boxes and ‘sandwich board’ advertising, should be minimized or placed along the building edges to enable safe and efficient movement of pedestrians and ease of winter maintenance.

bj. Feature paving bands should be used as a placemaking tactic to define the sidewalk, and should continue across driveways and signalized intersections to indicate pedestrian priority.

bk. At corners, consideration should be given to the widening of boulevards to provide enhanced sidewalk conditions that include decorative planting areas, seating areas and other amenities such as public art.

bl. Curb ramps are required to ensure accessibility and providing a proper transition between the road surface and top of curb at pedestrian sidewalk corners.

Figure 23: Commercial sidewalk widths should be generous and include areas to rest and linger (Oakville Streetscape Lakeshore Rd, Brook McIlroy, Photographer: Tom Ridout)

Residential Area Sidewalks:

Sidewalks in residential areas should support the safe and enjoyable travel of pedestrians.

bm. Sidewalk clearways should be a minimum of 1.8 metres wide and be located on both sides of all arterial roads, collector streets and local streets, and should be on at least one side of single-loaded roads.

bn. The design of sidewalks should be coordinated with intersecting driveways and pedestrian walkways to avoid sidewalk undulation which negatively impacts walkability and accessibility.

bo. Sidewalks situated on steep slopes should be scoured to create a 'non slip' surface for pedestrian safety.

Interface of Sidewalk-Surface Parking Guidelines:

The intersection of surface parking and sidewalks are important in promoting pedestrian safety and wellbeing.

bp. Where surface parking areas are situated against the sidewalk (e.g. existing retail forecourt parking, or car sales yard), a visual barrier, such as landscaping buffers of shrubs and ornamental grasses and/or low landscape walls should be located between parked vehicles and the sidewalk.

bq. Visual buffers should be 1.0 metres in height and located on private property and therefore not reduce the total sidewalk width.

Figure 24: Residential sidewalks should be balanced by green boulevards and afford views to and from properties.

Crosswalk Guidelines:

br. On Local and Collector Residential Streets, continuous sidewalk conditions are recommended to promote cyclist and pedestrian safety and traffic calming.

bs. Crosswalks should be as short as possible, continuous and connected to adjacent sidewalks. Crosswalks should be clearly designated for safety, with appropriate surface markings or variation in construction material, and signage.

bt. Gateway and major commercial area intersections should use feature crosswalk paving to signify the priority of pedestrian crossings at these locations.

bu. The curb edge at crosswalks should be constructed of a different material to allow the visually impaired to detect the edge of the sidewalk and beginning of the crosswalk.

bv. Additional mid-block crosswalks with 'on-demand' signals should be provided on long blocks.

bw. Signalization should be prioritized for the pedestrian over traffic, especially within commercial or 'node' areas with high levels of pedestrian activity.

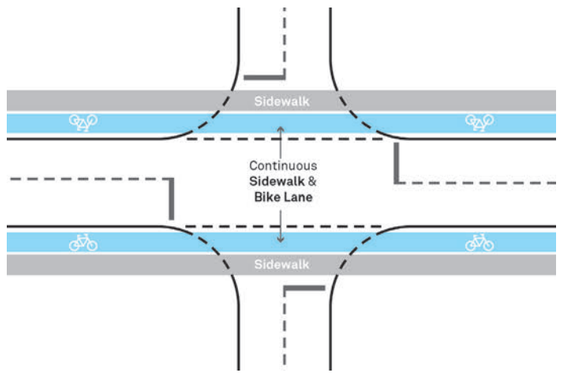


Figure 26: Continuous sidewalk and bicycle lanes promote safety and traffic calming.

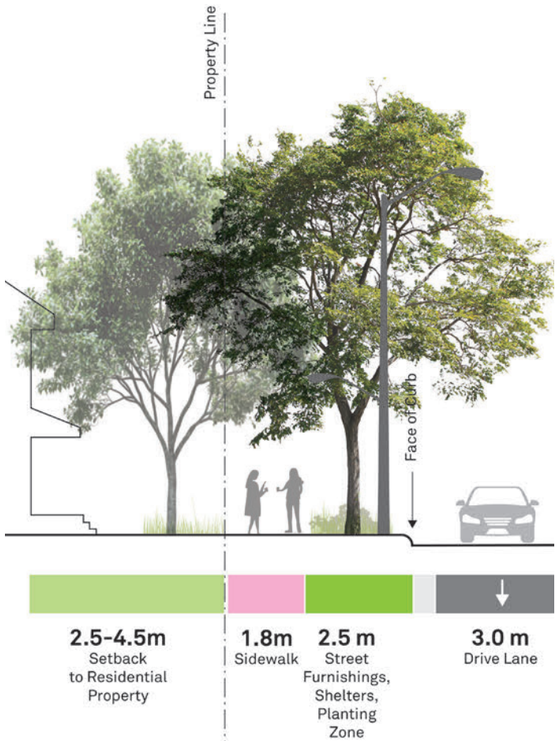


Figure 25: Double rows of street trees create substantial canopy cover and enhance the level of privacy for residential and promote traffic calming.

Street Tree Guidelines:

Established street trees enhance the pedestrian experience of the public realm, promote traffic calming, and reduce urban heat island effect.

bx. Trees provide shade and comfort to pedestrians, and enhance the visual and environmental qualities of the street. Trees should be incorporated into street design wherever possible. Native species for street trees should be used wherever possible, to promote diversity, long-term survival, and to prevent disease.

by. Street trees should generally be located within the boulevard and should be offset a minimum of 1.5 metres from the curb to accommodate snow storage, large vehicle movements and minimize salt damage.

bz. Trees should be spaced consistently at 6.0 to 9.0 metre intervals. Appropriate clearances from utility boxes, streetlights, and sight triangles should be considered.

ca. Street trees should be located within the boulevard and planted in an adequate pit under a metal grille to allow for water infiltration. The pit should provide a minimum of 30 cubic metres of soil volume to promote healthy trees.

cb. Existing street trees should be preserved wherever possible, as mature street trees create a greater sense of enclosure along roads.

cc. Consideration should be given to the type and location of trees to ensure that higher branching trees are positioned to ensure there is no interference with truck traffic and overhead utilities. Sight lines should also be considered in the location of trees planted at intersections.

cd. Consideration should be provided to the potential height of trees selected for planting under overhead utilities.

ce. The planting of trees as infill along existing streets where the rhythm of existing trees is interrupted should be implemented and such trees should be of a similar or compatible species.

cf. Encourage street tree diversity and avoid mono cultures as there could be increased risk associated with diseases, pests, and infestation.

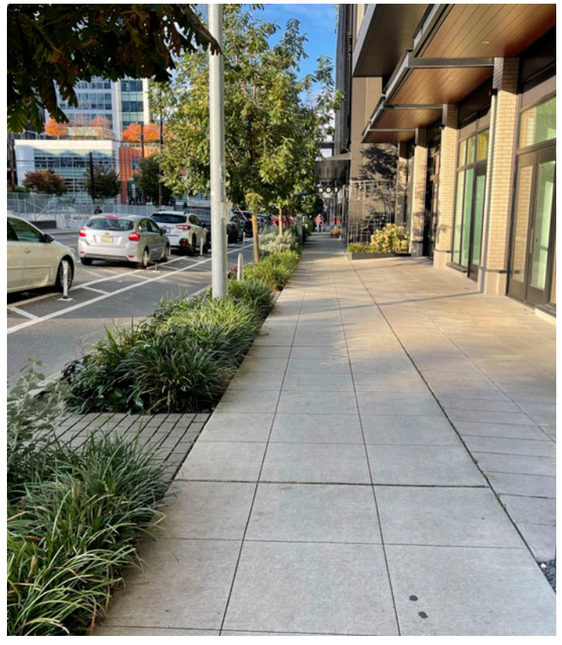


Figure 27: Low-scale plantings can complement street trees, help absorb rainwater, provide a detectable edge to sidewalks for the visually impaired, and enhance pedestrian experiences in the public realm.

Transit Infrastructure Guidelines:

cg. Sidewalks should connect directly to transit shelters to encourage active transit use and ensure safety and convenience.

ch. Bus stops should be located on the far side of intersections to improve road efficiency and commuter safety.

ci. Transit stops should be located near building entrances.

cj. Transit stops should include basic amenities, including seating, trash receptacles, lighting, and route information.

ck. Transit shelters located on the sidewalk or boulevard should be located between 1.0 and 3.0 metres from the street curb.

cl. Transit stops and shelters should be easily visible and accessible.

Reference Documents:

- Ontario Traffic Manual Book 18
- Niagara Region Complete Streets Design Manual
- Niagara Region Transportation Master Plan
- Niagara Region Official Plan Section 5.1

Figure 28: Transit shelters promote the use of public transportation and create greater comfort for transit users.

3.3 Interface with Natural Heritage and Agricultural Lands

Niagara Region's natural heritage and agricultural lands are fundamental to the character of the area, supporting its economic outlook and quality of life for residents. Natural features such as the Niagara Escarpment and Lake Ontario as well as the many wetlands, woodlands, and streams, help to complement Niagara's uniqueness and reinforces the special connection to the landscape a part of Niagara's sense of place. Protecting and restoring these areas maintain their ecological significance and will ensure their continued use and enjoyment. Development adjacent to agricultural lands should consider the sensitivity of adjacent agricultural uses and protect for their long-term viability. It should provide innovative designs that integrate, enhance and celebrate natural features and landscapes wherever possible to create desirable places to live and work.

Guidelines should preserve and enhance natural heritage areas in order to protect important ecological functions, ecosystems, and cultural landscapes.

Best Practices:

- **Make Nature Visible:** The alignment of streets and blocks should be configured to enhance visibility and access to natural elements and their ecosystems, drawing nature into new developments. Direct visibility and access to woodlots, stream corridors, and other natural features should provide opportunities for outdoor education. Conversely, access should be restricted where necessary.

- **Preserved & Enhanced:** Natural heritage should be preserved to protect natural vegetation, ecological functions and the cultural landscape. Adjoining development should be compatible with the natural environment and appropriately set back or buffered.

- **Integrated:** Development should reinforce historic connections to the landscape by providing physical and visual connections to natural features, parks and the surrounding landscapes. Natural heritage features can define the edges or centres of neighbourhoods and should be easily visible to create a strong sense of local identity.

Figure 29: Niagara's natural heritage and agricultural lands, including tender fruit lands, are a defining feature of the landscape. Development adjacent to agricultural lands should consider the sensitivity of adjacent agricultural uses and protect for their long-term viability.

Design Guidelines:

a. The location and orientation of buildings, roads, circulation networks, and other site design elements should ensure minimal impact to natural heritage areas and agricultural lands and should optimize the placemaking role of natural heritage features.

b. New buildings should be designed to appropriately transition to natural heritage areas and agricultural lands. The transition should consider building massing, scale, separation distances, setbacks, and stepbacks.

c. Direct pedestrian and cyclist connections to trail networks within natural heritage areas should be provided from adjacent development. Connections to natural heritage areas should enhance the natural heritage features and ensure these are not adversely impacted.

d. Landscaping on sites adjacent to natural areas should consist of native trees and shrubs, and should be salt and drought tolerant if buffered by roadways.

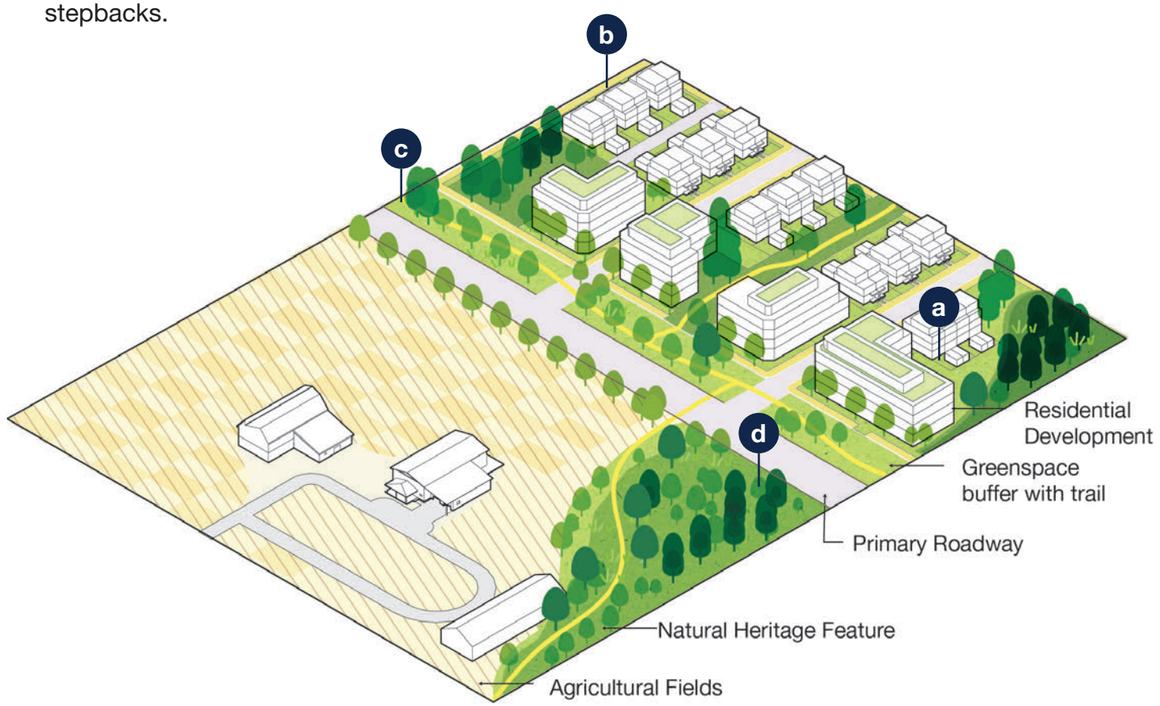


Figure 30: Natural landscapes and existing trees should be incorporated into new developments where possible, and buffer areas should be created around natural heritage areas and agricultural lands for appropriate transition.

e. Considerations for impacts of noise, odour, light pollution, etc. necessary for certain uses associated with rural areas should inform design decisions on the scale and form of development and proposed land uses on adjacent sites.

f. Hardscaping adjacent to natural heritage areas and agricultural lands should consist of porous and low albedo materials wherever possible to allow for stormwater infiltration and absorb the sun's heat.

g. Grading and hydrological changes should be minimized where there are significant landscape features. Plantings are to be retained to minimize disruptions to the ecological system and to support their ongoing health.

h. Ensure that appropriate vegetation protection zones are included between sensitive natural heritage features and buildings or other site elements, in accordance with best practices and municipal policies and those of the conservation authority.

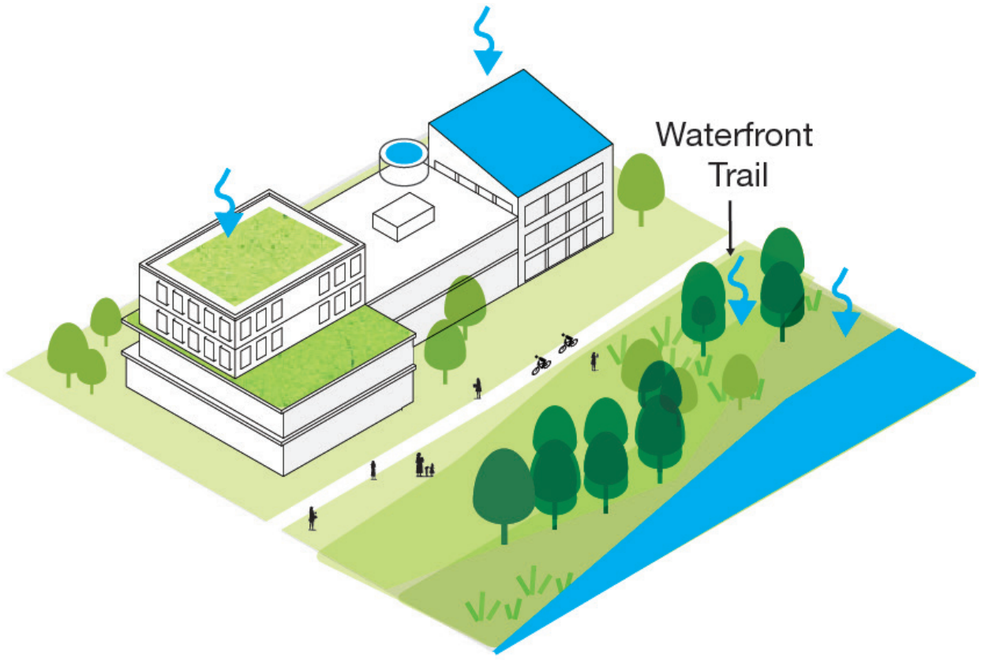


Figure 31: Improvement of the net ecological benefit of sites adjacent to natural heritage areas is encouraged. This includes improvements to sites through tree planting and low impact development techniques including green roofs, rain gardens, bioswales, and rainwater harvesting systems.

i. Where single-loaded roads are not feasible to adjacent natural heritage areas, a continuous and publicly accessible landscape buffer with a pathway should be created between private yards and adjacent natural heritage areas. The landscape buffer should be uninterrupted and have a minimum width of 5 metres with a 2.1 metre wide publicly accessible sidewalk or trail condition.

j. All developments within or adjacent to natural heritage areas including the Niagara Escarpment should comply with setbacks, buffers, and other standards as required by regulating agencies.

k. New development should front and provide views to natural heritage features where possible. Rear facing development (backlotting) adjacent to natural heritage areas is strongly discouraged because it can create a barrier for wildlife and can minimize or eliminate views of natural features.

l. New development adjacent to natural areas should not negatively impact existing wildlife movement corridors.

m. Existing environmental features should be incorporated into the design of neighbourhoods - either within parklands, 'heritage greenways' and road right-of-ways, within the site of large institutional uses, or as common areas linked to large open spaces.

n. Sensitive environmental features should be adequately buffered to ensure that ecological systems such as habitat corridors are enhanced and protected and not negatively affected by urban development.

Figure 32: Heritage Greenways can connect new development areas to parks and open spaces, creating green corridors for travel, lingering, and informal meeting.

Heritage Greenways Guidelines:

o. The natural and cultural heritage image of the Niagara Region can be enhanced in new development areas through a planting approach that promotes a system of linear tree-lined paths called Heritage Greenways.

p. New neighbourhoods should incorporate a network of off-road Heritage Greenways and linear recreation trails planted with trees to connect with the open space system and between neighbourhoods. Heritage Greenways should be encouraged to be a minimum of 12 metres wide to allow for a two-way 3.0m path centred between trees.

q. Heritage Greenways should form the framework of a connected open space network, linking neighbourhood parks and open spaces.

r. As new residential areas are built further away from Central Areas, the ability to walk to destinations, such as schools, shops and community facilities, becomes less practical. Heritage Greenways should be strongly considered as a physical link to promote pedestrian and bicycle access to Central Areas from new neighbourhoods.

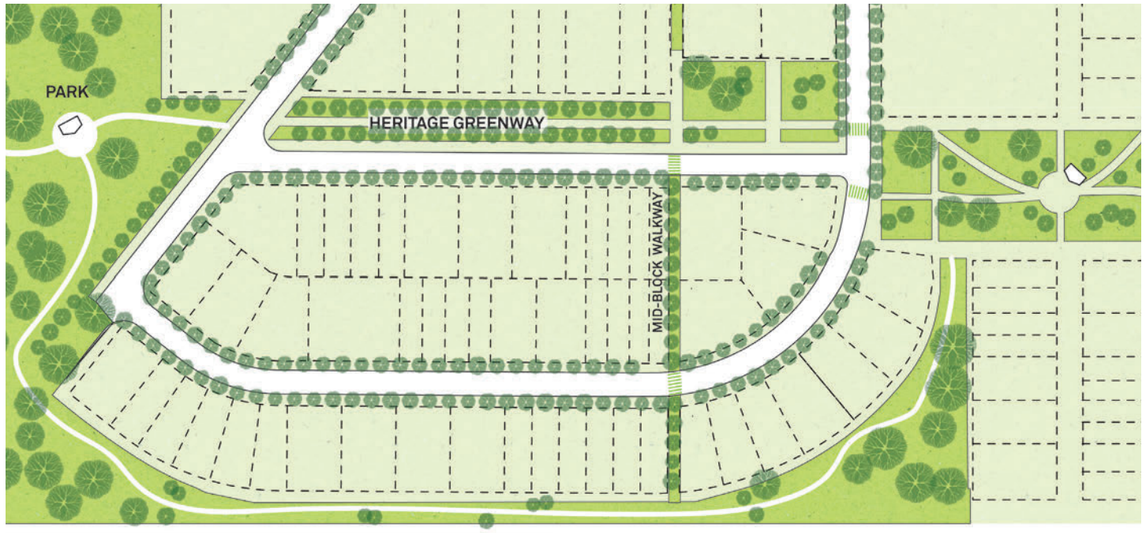


Figure 33: A Heritage Greenway can provide vital public open space connections through residential neighbourhoods, and support the health and well-being of people and achieve environmental sustainability objectives.

Agricultural & Rural Land Guidelines:

s. The perimeter of agricultural lands may be faced with a single-loaded street with landscape buffers provided to maintain views and connection with these lands from the public realm.

t. Where residential development backs onto agricultural or rural lands, a well-connected and maintained multi-use trail should be provided to maintain views and connection with these lands from the public realm.

u. Where feasible, agricultural lands may be buffered by open spaces with multi-use paths, and recreation areas.

v. In some instances, it is appropriate for residential development to back onto agricultural and rural lands, to limit access and reduce public exposure to sensitive crops and/or farming equipment and machinery.

Neighbourhood Edge Interface Guidelines:

w. Wherever possible, the perimeter of parks and other public opens spaces and natural areas should be faced with single-loaded streets. A good practice is to have a minimum of 50% of the total open space/ natural feature perimeter should be bounded by the public right-of-way, including either a public road and/or a public walkway or trail.

x. Pedestrian walkways from the public right-of-way to adjacent parks, public open spaces and natural features should be provided where possible. Walkways should have a minimum width of 3.0 metres.

Figure 34: Agricultural lands should be buffered by a single-loaded street, multi-use trail, or public open space.

3.4 Views and Vistas

Building with Niagara's natural and cultural heritage creates an authentic sense of place. It is important to create and maintain views to significant cultural landmarks, historical sites, and natural landscapes including the Niagara Escarpment, Lake Ontario, Lake Erie, and the region's canals and rivers. Scenic views can be significant drivers of tourism and economic activity in an area helping people navigate the streets of towns and cities. Significant views and vistas may be identified for protection within Official Plans and Secondary Plans.

Open space features, landmarks, and skylines are familiar elements of well-design places that can enhance the overall physical character and quality of life of areas within Niagara. Maintaining existing views and vistas within Niagara is an important consideration that should inform municipal policy and guidelines that impact the design of new buildings and sites.

Best Practices:

- **Sensing Place:** Views and vistas to cultural and natural heritage features enhance a sense of place and contribute to community character and identity.

Design Guidelines:

a. Policies and guidelines should guide the maintenance, enhancement or creation of views and vistas from public places to these significant community features:

   - Major civic and institutional buildings
   - Built landmarks, such as heritage resources, signature buildings, public art installations, etc.
   - Lake Ontario, Lake Erie, waterfronts, rivers, or canals
   - Niagara Escarpment, natural features and open spaces

Figure 35: Conserving the views of Niagara Falls along the Parkway is a strong example for how it is essential to maintain its iconic natural beauty, which attracts millions of tourists each year, supports local economies and serves as a symbol of environmental stewardship.

b. The creation of views through the design and siting of buildings, streets, pedestrian connections, and open spaces is encouraged to promote public exposure to natural and cultural heritage resources. The design of buildings, sites, and open spaces should maintain existing vistas or provide new vistas to natural and cultural heritage resources from various significant vantage points.

c. Important public views of the Niagara Escarpment should be carefully considered by new development. Building massing, setbacks and separation distances, site landscaping, and other screening should be considered to minimize the visual impact of development on the escarpment landscape. View shed studies are to be completed at the request of local municipalities.

d. Development along Lake Ontario and Lake Erie should be sited to protect and create views to the lake. Public access to the lake shore is a best practice and should be achieved by a mix of mid-block connections, multi-use trails, interconnected open spaces and parks, and public roadways.

e. The siting of principal facades of public buildings and parks at the end of a street is encouraged to create a visual terminus. These areas should be designed with high quality architectural treatments and landscaping elements to reinforce their design significance.

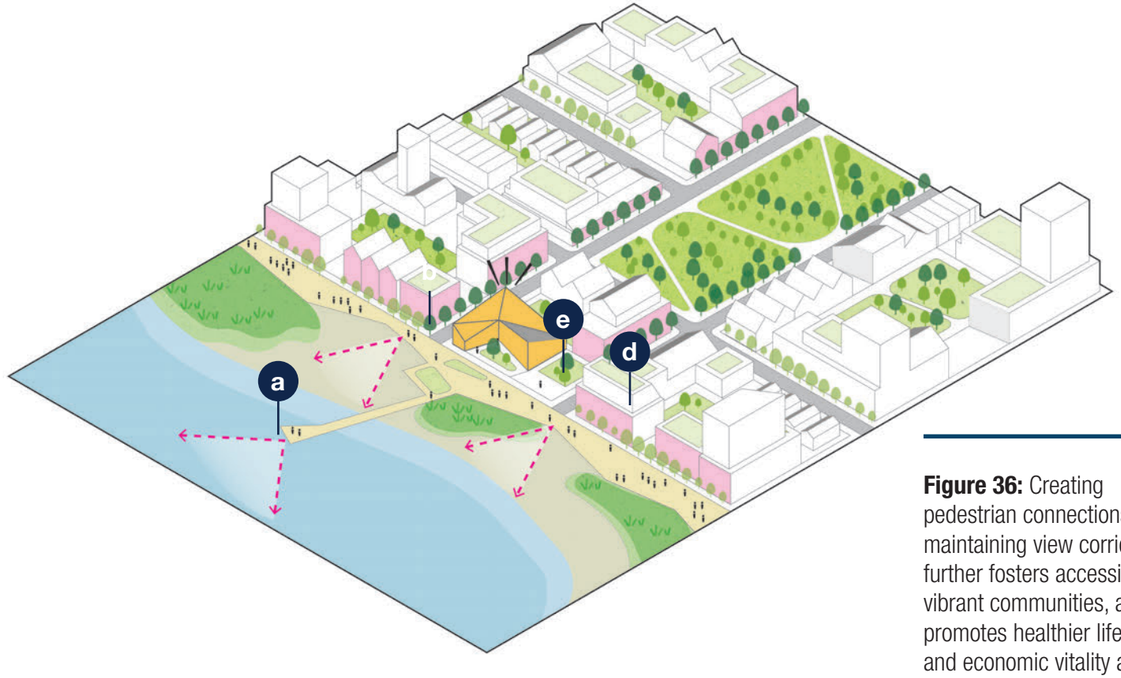


Figure 36: Creating pedestrian connections and maintaining view corridors further fosters accessibility, vibrant communities, and promotes healthier lifestyles and economic vitality along waterfronts.

Landmark View Guidelines:

f. Retention of key landmarks and views should be a priority when designing sites and locating buildings. Views and landmarks should be enhanced with public access, building design and complementary landscape.

g. Retain or create views of important landmarks from public streets and spaces as well as new development.

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

i. Where buildings frame view corridors, the frontages of buildings facing the corridor should be programmed with uses that frame and activate the public realm.

j. Sites that terminate at key view corridors should be designed to incorporate signature art as well as high quality architectural treatments or building elements.

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

l. Changes in grade should be used to maximize views to and from buildings. Landmarks should be well integrated with prominent landscape features and existing topography.

Figure 37: Fort George, a National Historic Site of Canada is a notable cultural and historic landmark.

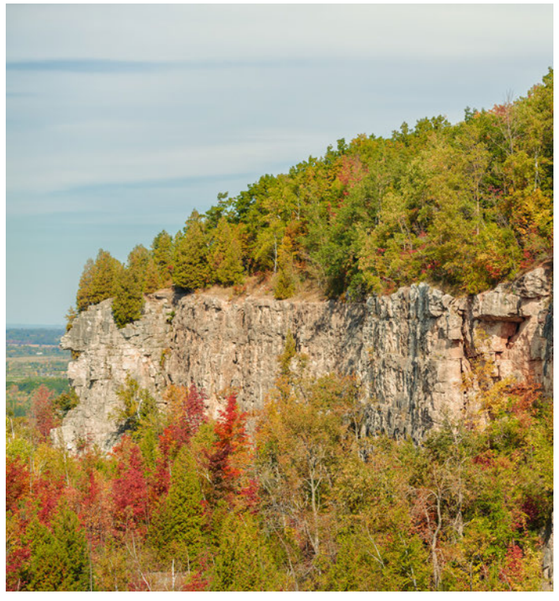


Figure 38: The Niagara Escarpment is a key natural landmark in the region.

3.5 Waterfronts and Waterways

The Region of Niagara is renowned for its picturesque natural setting and favourable climate. The shores of Lake Ontario, Lake Erie as well as the Welland Canal, Niagara Falls, and the Niagara River offer unique visual experiences, ecological diversity and historic charm. Scenic shorelines, extensive green spaces, and landmark sites all contribute to the exceptional beauty, placemaking, recreational opportunities and cultural significance and quality of life in Niagara. Special attention should be placed on the curation, composition and management of waterfront lands, shorelines, and waterways to balance competing demands of ecological functions and intensity of human activities.

Figure 39: The Neil Henley Rowing Centre showcases exemplary sustainable design that can support a broad spectrum of uses, enhances the local context and achievements in both net-zero energy and zero-carbon emission benchmarks.

Best Practices:

- **Inclusive, Accessible, and Programmed:** Design waterfronts to serve the diverse needs of the community, including a range of programmed active and passive recreational activities and vibrant and inclusive gathering spaces to attract people of all ages and interests.

- **Preservation and Enhancement of Natural Features:** Natural features, such as watercourses, wetlands, riparian buffers and native vegetation should be conserved and integrated into waterfront parks and open spaces to maintain connection with the original landscape. Natural elements and features contribute to biodiversity and create opportunities for recreation and relaxation.

- **Ecological Health and Resilience:** To ensure the long-term success of waterfront and public space projects, regular maintenance and adaptive management should support access, ecological health and resilience.

Design Guidelines:

a. Publicly accessible waterfronts should be sustainable and encourage active transportation options to promote physical activity, health and well-being.

b. Adequate setbacks and buffers should be provided adjacent to waterfronts, streams, and wetlands, to prevent flooding, erosion, and enhance water quality. Overbank planting should provide stream shading to meet the requirements of the Niagara Peninsula Conservation Authority (NPCA) and to protect wildlife habitats.

c. Create or enhance high quality public access areas on the waterfront that increases interaction with water and are shaped by community priorities to promote equitable, engaging and healthy waterfronts.

d. Waterfront community design should focus on improving public access to the waterfronts designed as a year-round destination, offering public realm enhancements, incorporating green spaces and placemaking elements, and prioritizing stronger connections between public spaces along the waterfront and to adjacent lands and downtown areas.

Figure 40: Waterfront design should prioritize public accessibility, integrating green connections and enhancing biodiversity.

e. Cluster and integrate waterfront and recreational amenities together to create public waterfront spaces. Orient amenities to anchor public spaces and to animate and engage with the waterfront to simplify servicing and access requirements.

f. Waterfront developments and properties are inherently exposed to the effects of climate change and are important ecological and social transition areas from land to water. Site assessments should be made to inform design strategies related to shoreline stabilization, adaptation and mitigation to flood risk, ecological protection and restoration.

g. Prioritize the vitality and preservation of living shorelines through environmental best practices (e.g. riparian buffer strips, continuous shoreline vegetation, bio-engineering approaches to shoreline stabilization).

h. Enhance riparian habitats by providing structure, shading, and a diversity of shoreline conditions. Ensure there is connectivity with adjacent terrestrial habitats. For vegetated shorelines, consider native plant species, sun exposure, soil type, and water quality when evaluating alternatives.

i. Shoreline areas of watercourses and Lakes Erie and Ontario should be maintained as much as possible as a naturally vegetated shoreline. Naturally vegetated shorelines are important in buffering water bodies from erosion, water quality, siltation and nutrient migration.

j. Design flood-friendly and resilient waterfront parklands, public spaces, and infrastructure within or adjacent to the flood plain. Critical infrastructure, such as power and transportation networks, should be kept above the 1 in 100-year event standard which is the anticipated limit of flooding that has a 1% chance of occurring in any given year.

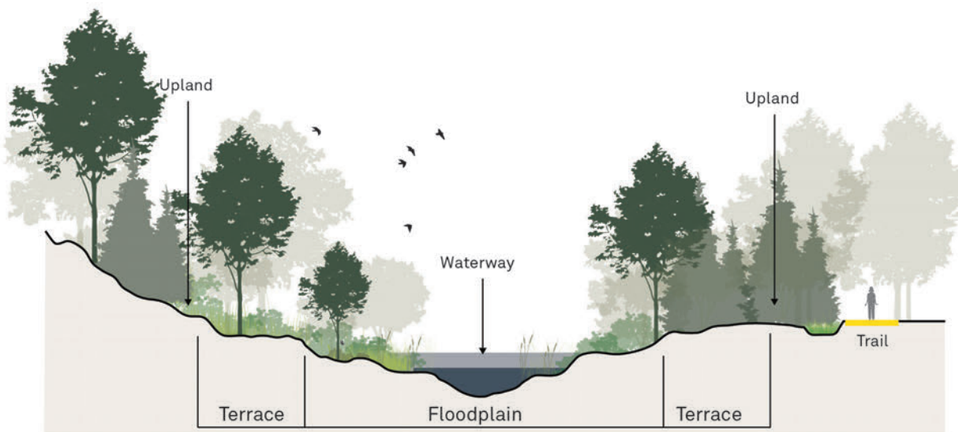


Figure 41: Healthy waterways and streams should contain a riparian corridor. Riparian zones border waterways, filter stormwater run-off, and create wildlife corridors that connect different habitats.

k. Employ nature-based or integrated flood protection strategies when flood risk is present. Flood risk reduction strategies will vary depending on the context, intended project types and whether flooding is caused by storm surges, shoreline erosion, pluvial or fluvial flooding.

l. Protect and restore the ecological health of the Great Lakes, consistent with the provisions of the Great Lakes Strategy, the targets and goals of the Great Lakes Protection Act, 2015, and any applicable Great Lakes agreements as part of watershed planning and coastal or waterfront planning initiatives.

m. Ensure that waterfront vegetation and habitats are restored in the event of a flood. Prevent future habitat loss and fragmentation by careful management and monitoring.

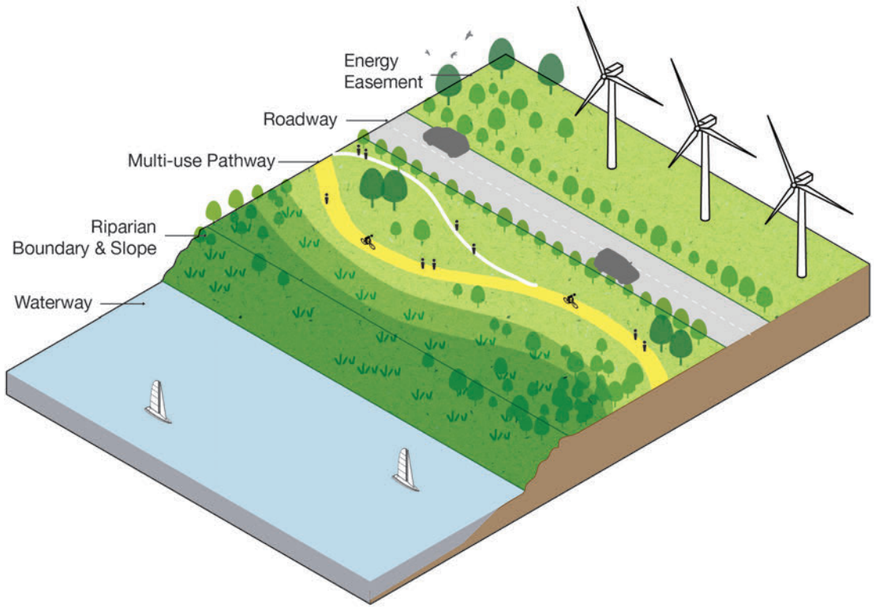


Figure 42: New buildings and critical infrastructure should be planned and built in elevated and flood protected areas. Dedicated natural areas with recreational amenities located alongside waterways can enhance biodiversity and reduce flood hazards.

3.6 Parks and Open Spaces

Park systems include a variety of different outdoor space uses and networks, including: public parks and open spaces, courtyards, landscaped mid-block connections and publicly accessible private outdoor amenity spaces. Public parks are publicly owned and operated spaces that offer the public a place for passive and active recreational use and enjoyment, whereas POPS, courtyards, amenity spaces and gardens, are privately owned and public accessibility can vary. Private and public parks and open spaces are important areas for residents and visitors to engage with the outdoors, exercise, socialize, and build a healthy social fabric.

As Niagara continues to grow, there will be an increasing need for parks and open spaces, which can be achieved through revitalizing existing parks and creating new ones. Within the development process, opportunities for negotiation between developers and municipalities should secure meaningful parkland to ensure community members have year-round access to the outdoors. Additional consideration should be given to lower income neighbourhoods and areas with less access to green space.

Best Practices:

- **Connected and Integrated:** Parks, open spaces, and public spaces should form part of an accessible linked network, providing a major structure in shaping existing and new communities, and providing a variety of access, recreation, and movement options.
- **Safe and Secure:** The design of public open spaces should be safe and secure and designed with CPTED principles. Open spaces should be framed or flanked by public roads wherever possible to improve the presence and safety of these amenities through casual surveillance and crime prevention measures.
- **Multi-functional and Adaptable:** The design of parks and open spaces should accommodate a range of activities and user groups. It is important to involve local residents in the planning, design, and programming of parks and open spaces to ensure they meet changing needs and preferences of the community while promoting environmental stewardship.

Figure 43: The Landscape of Nations in Niagara-on-the Lake is dedicated to the Haudenosaunee (Six Nations) Confederacy and Indigenous allies that participated in the War of 1812.

- **Ecological Health and Resilience:** Parks and open spaces should preserve and enhance natural features such as trees, wetlands, and native vegetation. These crucial elements provide habitats for wildlife, improve water quality, and contribute to the overall health and well-being of ecosystems.

Design Guidelines:

a. Plan for an equitable distribution of parks and open spaces across neighbourhoods to ensure that all residents have access to quality green space regardless of their socio-economic status or demographic characteristics.

b. Proposed buildings should provide an appropriate interface and clear transition between private and public spaces. Contextually appropriate building and landscape transitions should occur between new development, parks, open spaces, and plazas.

c. Create inviting public spaces that utilize landscape design and planting that provide shade, wind protection, and comfortable microclimates.

d. Developments adjacent to parks and open spaces should maintain maximum sun exposure. Parks and open spaces should be in full sunlight a minimum of 50% of the time between 10:00am and 6:00pm.

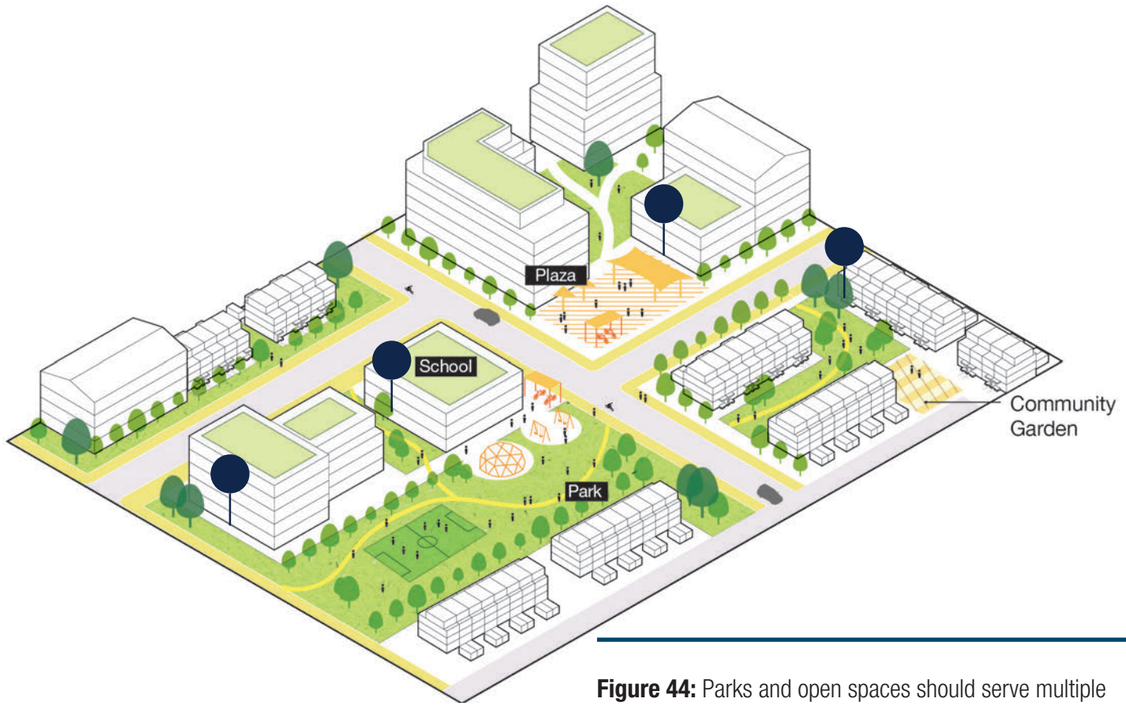


Figure 44: Parks and open spaces should serve multiple functions, be in a variety of sizes and cater to recreational, educational, cultural, and ecological needs.

e. Public outdoor amenity spaces, such as playgrounds, swimming pools, and sports fields, should have a minimum of 5 hours of sun April 21st to September 21st between 10:00am and 6:00pm, and a minimum of 3 hours of sunlight between 10:00am and 6:00pm on December 21st.

f. Conserve and enhance the ecological integrity and natural environment of the Niagara Escarpment Parks and Open Space System (NEPOSS), which contains over 160 parks and open spaces. Refer to the NEPOSS Council and Niagara Escarpment Planning policies.

g. Enhance the unique regional character of Niagara through landscape designs that conserve and emphasize the region's underlying landscape, topography, and local materials.

h. Park and open space design should encourage interconnection with adjacent natural areas and wildlife corridors. Setbacks and edge interfaces should be planted with a diverse selection of indigenous plant species and designed to provide habitat for local flora and fauna. See Section 4.4 on Public Realm Design and 5.5 Landscape Design.

i. Community gardens may be located within parks and public open spaces as a valuable recreational activity that can contribute to community development, environmental awareness, positive social interaction, and community education.

j. Community Parks should support the larger community identity, and provide a variety of spaces for passive park use, as well as include a variety of active/recreational sports facilities (e.g. baseball diamonds, soccer pitches, swimming pools etc.).

k. Community Parks should, where feasible, be located beside schools or with access to recreational trails where connections from the wider area and adjacent residences are possible. Smaller neighbourhood parks or parkettes should be located and designed to provide a focus within a five-minute walking distance of the surrounding neighbourhood

l. Community Parks may be directly connected to school sites to encourage mutual use of outdoor facilities. At such locations, the park size, design and programming should conform to individual school board requirements. Sharing agreements can include parking facilities.

Figure 45: Large parks and open spaces provide various opportunities for recreational activities, social interaction, and can be used for spontaneous interactions and organized events.

m. Community Parks should generally be 1 to 3 hectares in size. Community Parks should be located along major roads such as Arterials and Collectors, and where possible at the terminus of streets and open crescents to reinforce a strong public profile.

n. Highly visible connections should link the major park amenities and facilities through walkways, cycling facilities, and pedestrian connections.

o. Vehicular connections through parkland should be limited to emergency vehicle routes and access to major park facilities (e.g. arenas, pools) and parking areas.

p. Provisions to buffer residential areas from lighting, noise, traffic and parking areas should be provided through landscaping and appropriate setback treatments.

Urban Squares and Plazas:

q. Urban squares should be designed to respond to the local culture or history of the area and include unique paving, landscape, seating, lighting, shade trees or structures.

r. Urban squares should be designed as flexible spaces that can accommodate potential active uses such as festivals, farmer's markets, gathering spaces, events, retail spill out spaces, patios, etc. Consider opportunities to integrate seasonal and year-round events.

s. Design urban squares and plazas as extensions of indoor spaces that frame them which can be done through glazing, complementary ground floor uses or a cohesive material palette.

t. Urban squares should be connected to the public realm, constructed at grade and have access to public sidewalks at a minimum on one side.

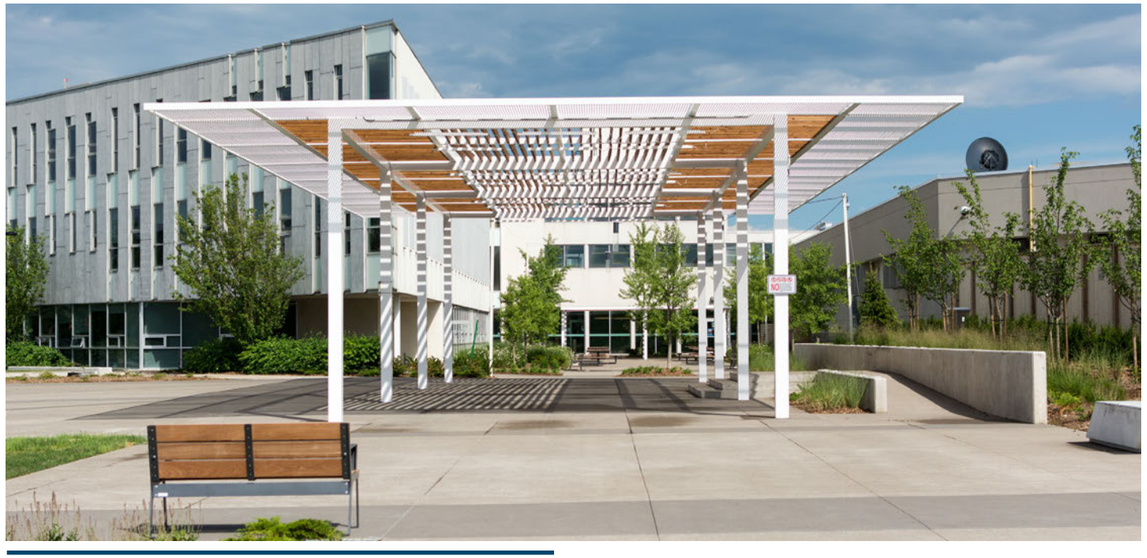


Figure 46: Pavilions can add to the visual appeal of an urban square and can serve as landmarks or focal points.

Multi-Use Trails:

u. New recreational trails should be designed in accordance with other existing and proposed recreational networks of Niagara as identified in the Regional Bikeways Master Plan and Regional Policy Plan.

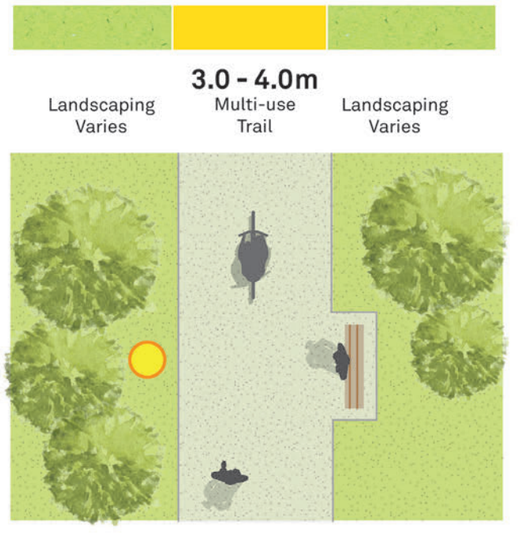


Figure 47: Typical section of a multi-use trail. Trails should be designed with appropriate signage, wayfinding markers, emergency access points, and clear trailheads.

v. The design of the recreational trail should reflect the function and nature of the type of open space it occupies. However, trail widths should range from 3.0-4.0m wide to allow for two-way cyclist or pedestrian passage.

w. Nature trails should include multiple access points. The design of access points should consider that people arrive by a variety of means, including by vehicle, foot or bicycle. Entrances should also be designed to accommodate people of all abilities and therefore include stable yet permeable surfaces such as crushed limestone.

x. Trails should include adequate amenities, such as seating, waste receptacles, lighting, signage, route information, and educational/ historic information.

y. Trails located within sensitive natural environments, such as the Niagara Escarpment, should be constructed of low impact materials that are porous and stable, such as crushed rock, wood chip paths, or board walks. All trails should be designed according to site-specific conditions. Where topography and environmental conditions allow, trails should provide a surface that enables use by pedestrians, bicycles, and wheelchairs.

z. Allowance in the design of trails for emergency vehicle access.

aa. Lighting levels on trails should be individually determined, particularly where lighting may disturb adjacent residences, natural habitats or have high maintenance costs. The use of solar-powered lighting should be considered.

ab. Nature trails should incorporate viewing stations, wayfinding, and other information to enhance nature appreciation and education.

ac. Trails that align hedgerows, woodlots or other sensitive natural areas should employ separation distances from such features. Separation distances should be determined with attention to site context.

ad. Bicycle facilities along streets should provide direct connections to other trails within the open space system.

ae. Trail entrances should be accessible and visible from the public street or other public areas. Adequate mapping and route information should be provided, along with public telephones at regular intervals.

af. Trails at the rear of properties should have adequate sight lines from neighbouring properties to increase opportunities for casual surveillance and safety.

ag. Trails adjacent to rail corridors should be set back a minimum distance of 10.0m. This may be reduced if a safety fence is provided for physical separation. However, it is recommended that setback distances and physical separation requirements are assessed on a case-by-case basis to ensure safety of trail users from potential hazards such as wind, debris, and collisions. The setback distance should reflect to the type, speed, and frequency of train operations, as well as the topographic conditions.

Figure 48: Multi-use trails should be wide enough to accommodate cyclists and pedestrians.
Figure 49: Creating successful nature trails involves careful planning, design, and management to provide enjoyable and safe experiences for visitors while protecting natural resources.

3.7 PMTSAs and Intensification Areas

Intensification Areas, including Protected Major Transit Station Areas (PMTSAs), and Strategic Growth Areas, provide an opportunity for Niagara to accommodate growth in a manner that supports regional investment in transportation infrastructure.

Niagara Region's Official Plan (2022) identifies Strategic Growth Areas at Downtown St. Catharines, Downtown Welland, South Niagara Falls Hospital, and the Brock and Glendale Niagara District Plans. Additionally, it identifies PMTSAs at St. Catharines, Lincoln, Niagara Falls, and Grimsby. These and other areas with existing or planned public service facilities, frequent transit service, and local growth centres and corridors are anticipated to accommodate a minimum of 60% of all residential units within built-up areas (ROP Policy 2.2.2.5).

Best Practices:

- **Connecting Networks:** Accessible and active transportation networks should connect Intensification Areas and recreational features at a community and regional level.
- **Vibrant & Mixed Communities:** Increased densities should be balanced with a mix of uses to promote walkability as well as public amenities such as parkland and plazas to ensure quality access to green space and recreation.
- **Enhanced Public Realm:** Pedestrian enjoyment of intensification areas should be heightened through concerted placemaking efforts that emphasize the comfort, safety, convenience, and delight of area residents and visitors alike.

Figure 50: PMTSAs will accommodate the majority of residential growth in the Region and should be developed to be transit-supportive and sustainable communities.

Design Guidelines:

a. Each Intensification Area is unique and has its own growth potential. Intensification Areas, particularly MTSAs, will be the subjects of Official Plan, Secondary Plan, or Site and Area-Specific policies that identify authorized land uses and identify minimum allowed densities within the area. These policies should consider the planned urban structure of the community and draw on local context and conditions to facilitate appropriate intensification.

b. Intensification Areas should consider a mix of uses appropriate for each unique context, allowing new and existing residents the opportunity to meet their needs within comfortable walking or cycling distance.

c. Intensification Areas will be planned to include high quality public parkland, plaza spaces, and public realm to support recreation, placemaking, and community health and well-being.

d. New development within Intensification Areas will be transit-supportive and should benefit from reduced parking standards where appropriate.

e. New development within Intensification Areas will express a variety of building typologies and densities that consider the existing and planned context of the area.

f. New development within Intensification Areas should provide height transitions to existing built forms adjacent to Intensification

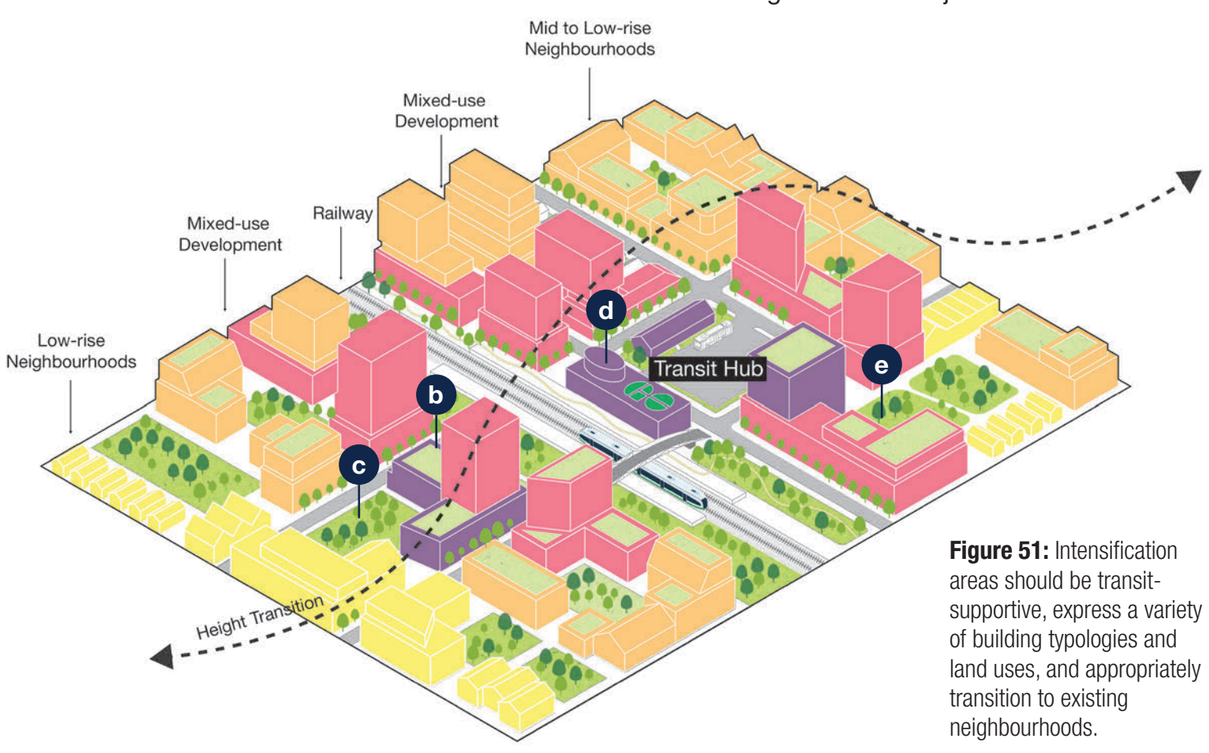


Figure 51: Intensification areas should be transit-supportive, express a variety of building typologies and land uses, and appropriately transition to existing neighbourhoods.

g. New development within Intensification Areas should provide a range of housing options, unit sizes and tenures, including affordable housing, to attract a range of demographics and meet local housing needs.

h. New development should emphasize active ground floor uses to enliven the public realm. Weather protection should be provided to promote walkability.

i. New development should re-inforce the public realm through contextually informed datum lines and human-scale base buildings.

j. New development within Intensification Areas should promote green development and utilize opportunities for district heating and cooling, green infrastructure and LIDs.

Figure 52: Vibrant storefronts thrive alongside bustling cycling facilities and high-quality pedestrian streetscapes, fostering a healthier, more connected community.

Transit Supportive Design Guidelines:

k. Neighbourhoods should provide a mix of land uses and higher residential densities at key locations to generate pedestrian traffic and activity throughout the day, making transit a viable and attractive option.

l. Compact development forms support transit. Higher density development should be located in close proximity to major transit facilities (such as a train station or bus interchange).

m. Transit facilities should be located at public places such as neighbourhood centres, neighbourhood parks and public open spaces, schools, and community facilities (such as a library or gallery), and where good connections are provided. This will encourage higher levels of ridership and efficient operation.

n. Transit facilities should be located within a short walking distance of most residential, commercial and employment uses.

o. Transit facilities should be accessible, high-quality, easy to use and comfortable. Transit stops should be designed to provide safe and comfortable waiting areas, and include adequate weather protection and information. Where four-sided transit shelters are not feasible, provide overhead open-air canopies to protect transit users from sun, rain, and snow.

p. Trails and bicycle routes should link to transit facilities. Secure bicycle parking/storage space should also be provided.

q. Ensure neighbourhood transit stops are located within short walking distances. Ensure walking distance of 200m to 500m (3 to 5 minute walk). Express services and higher order transit routes may have greater spacing for stops.

r. Encourage both daytime and nighttime activities near transit. This can include a mix of offices, retail and services to help facilitate a more balanced level of transit services.

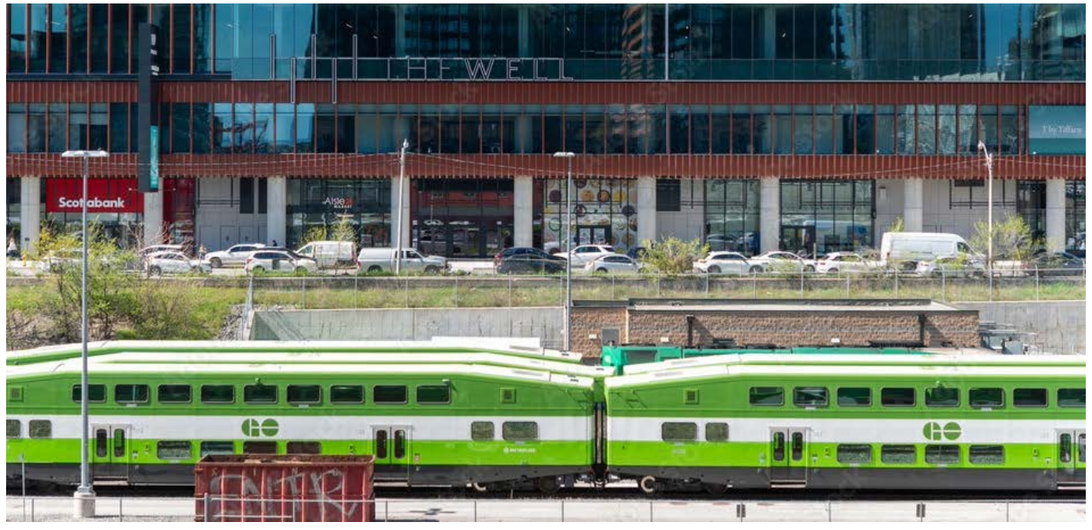


Figure 53: GO Transit facilities in Niagara play a pivotal role in enhancing regional connectivity, offering commuters efficient access to urban centers while alleviating traffic congestion and stimulate economic growth, tourism, and job opportunities.

3.8 Inclusive Community Placemaking

Niagara has a commitment to be as welcoming, equitable, and inclusive as possible while responding to evolving changes needs and growth. Niagara is home to people of diverse backgrounds and demographics. First Nations, Metis, and Inuit people from across Turtle Island work and live in Niagara today. Niagara was once the homeland of the Neutral Nations, and has since become the traditional territory of the Hatiwendaronk, Haudenosaunee and Anishinaabe Peoples, including the Mississaugas of the Credit First Nations. Inclusive approaches to community placemaking provide an opportunity make visible the narratives, imagery, languages, histories and cultures that represent the diversity of the Niagara community.

Niagara's public places should act as inclusive gathering places and landmarks that promote social cohesion, connection, and comfort while strengthening a sense of place. Greenery and landscaping features, public art, lighting, wayfinding signage, play areas, street furniture, and amenities can contribute to placemaking. Placemaking interventions can be introduced to a new development or can be integrated into existing private and public spaces. They may be located within waterfronts, parks and plazas, within POPs, and within the public realm.

Figure 54: The Awen' Gathering Place is an Indigenous gathering place overlooking Collingwood's waterfront, dedicated to teaching, contemplation, and celebration. The gathering place is used to foster sharing and learning, and to advance truth and reconciliation (Brook McIlroy).

Best Practice:

- **Safety and Accessibility:** Public spaces should be physically accessible to people of all abilities and ages, and should also consider factors such as language, cultural norms, and economic barriers. Niagara programs and facilities should be safe spaces for all people.
- **Engagement:** Diverse community members should be involved in the planning, design and management of public spaces.
- **Interaction:** Inclusive community spaces should foster a sense of shared ownership and stewardship among residents through interactive elements such as community gardens, bookable spaces, and pop-up events that appeal to residents from all

Design Guidelines:

a. Locate placemaking spaces in highly visible areas to increase awareness and use of placemaking elements. Placemaking spaces should be located in areas that are easily visible and accessible from active transportation routes.

b. The design and procurement for placemaking spaces should center a robust public engagement and co-design process to ensure the community is represented by each space and place.

c. Design flexible placemaking spaces that consider four-season design to respond to space requirements and needs.

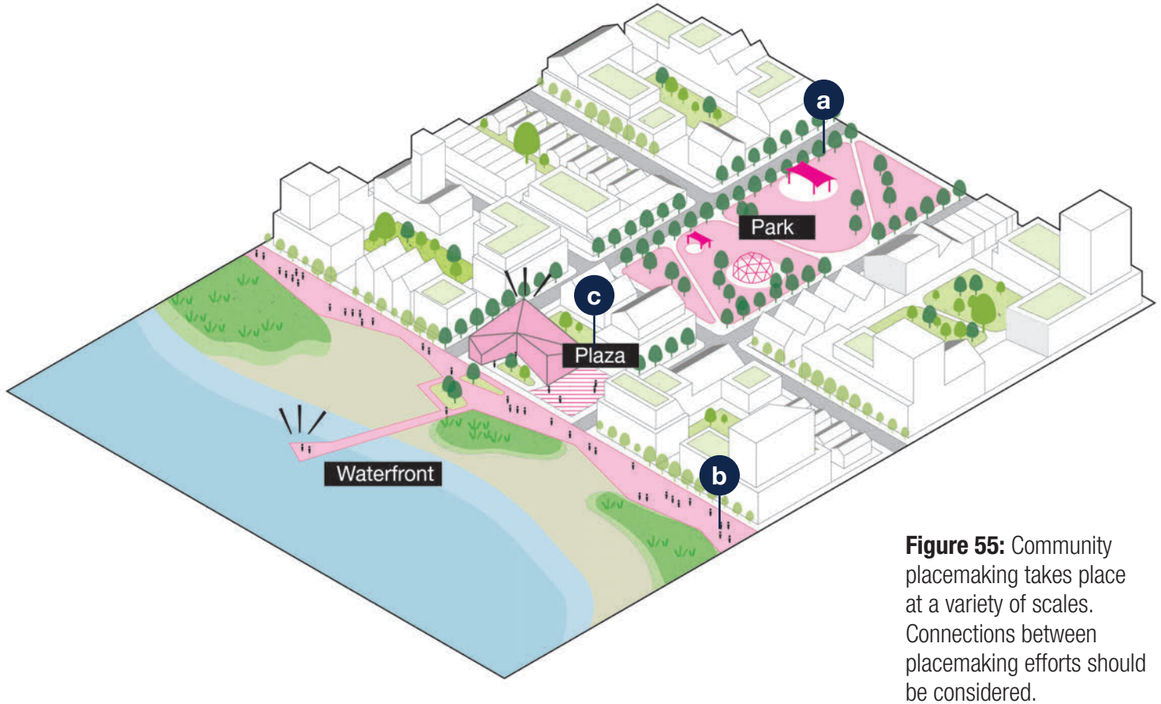


Figure 55: Community placemaking takes place at a variety of scales. Connections between placemaking efforts should be considered.

d. Placemaking elements may include functional elements integrated into the streetscape or public spaces such as transit shelters, planter walls, tree planting grates, and pavers. These may include inlaid text and artwork, murals, imagery or etching.

e. Placemaking elements should ensure AODA compliance and ensure that all community members can experience the spaces and features regardless of age, ability, and means.

f. Placemaking efforts should prioritize the safety, accessibility, and inclusion of Indigenous peoples.

g. Placemaking locations should be appropriate to allow for ongoing maintenance if required.

h. Placemaking elements should be well-integrated and complementary across a placemaking site to tell a cohesive design story. Elements such as pavers, street furnishings, and public art, should be chosen to reinforce the uniqueness and history of the space.

i. Placemaking features and spaces should demonstrate a connection with their surroundings and with the public realm and consider adjacent existing and planned land uses.

j. Placemaking efforts should ensure that public spaces encourage social interaction and pride in our communities.

k. Temporary and permanent placemaking opportunities should be explored in Niagara.

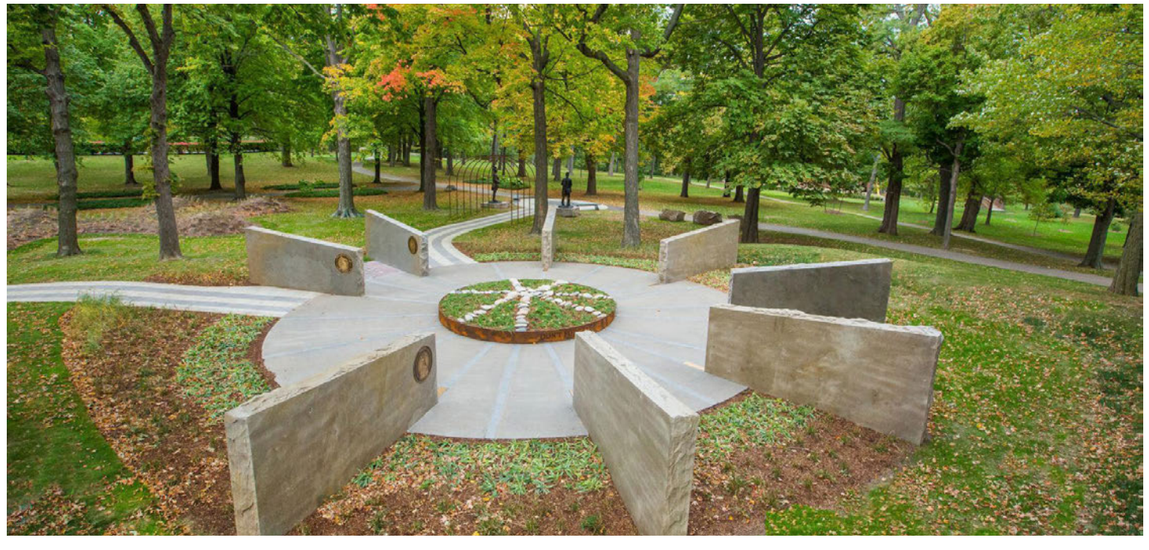


Figure 56: The Landscape of Nations provides a contemplative landscaping intervention within Queenston Heights Park. The memorial is dedicated to the Haudenosaunee Confederacy and Indigenous allies that participated in the War of 1812.

Placemaking at Waterfronts:

l. Placemaking spaces should provide unique and legible destinations at the waterfront that may provide event spaces, social gathering spaces, play spaces, or leisure areas. The intended use of the space will inform its design.

m. Placemaking spaces along Niagara's waterfronts may reinterpret and reinforce the connection to elements of water and wind, ecology, natural landscape, and should be reflective of Indigenous cultures.

n. Placemaking spaces may interpret historic uses at waterfronts where relevant.

o. Placemaking spaces at the waterfront should provide landmarks and destinations for community gathering.

p. Placemaking spaces at the waterfront should be connected to one another by a network of existing or planned active transportation pathways.

q. Placemaking spaces should be designed with attention to how they may be used at all hours of the day and night.

Gateway Guidelines:

r. Gateways to communities, Heritage Conservation Districts, cultural districts and Institutional campuses are encouraged to promote a sense of place.

s. Gateways should be designed to engage with and promote what is unique about the marked area.

t. Gateway structures should incorporate lighting, seating, and planting to provide wayfinding opportunities and gathering spaces throughout the day.

Figure 57: Waterfront placemaking can include spaces that function as both seating and events spaces to activate these important destinations.
Figure 58: Gateway structures can offer placemaking and wayfinding opportunities.

Figure 59: Four-season activated public spaces are vital for fostering community engagement and well-being year-round. By accommodating diverse activities such as outdoor markets, festivals, and recreational activities regardless of weather, these spaces promote social interaction, physical activity, and cultural vitality

u. Gateway structures should be located in the public realm at least 1.5 metres away from vehicular traffic.

v. Gateway structures should be made of durable, high-quality materials that are easily maintained and refurbished as needed.

Placemaking in Parks and Plazas:

w. Placemaking spaces within parks and plazas may include, but are not limited to, public art, wayfinding elements, interactive murals, and events spaces. The intended use of the space will inform its design.

x. Placemaking in parks may emphasize food sovereignty and security through the creation of community gardens and community kitchens.

y. Where public art is provided, consideration should be given to how the public may interact with the art. Maintenance of the public art should be planned for.

z. Placemaking in parks is encouraged to consider social cohesion and recreation in the design of spaces.

aa. Placemaking spaces within plazas should provide flexible designs that can be used for a number of community activities and events such as flexible seating and modular components.

Figure 60: Accessibility in parks and inclusive play structures ensures that all individuals, regardless of ability, can fully participate and enjoy the space. Additionally, thoughtful layout and signage, along with accessible amenities such as seating and rest areas, further enhance the inclusivity, usability and sense of belonging and community.

Placemaking in POPS:

POPS may include courtyards, plazas, gardens, mid-block connections, forecourts, landscaped setbacks, and interior pedestrian connections that are privately owned but publicly accessible.

ab. Placemaking spaces within POPS should be welcoming to the wider community and provide active edges to invite exploration.

ac. Placemaking spaces within POPS may include but are not limited to play spaces, event spaces, social spaces, and public art. The intended use of the space will inform its design.

ad. The design of placemaking spaces within POPS should consider overlook and security.

Relevant Documents:

- Mno Bmaadziwin: Living the Good and Healthy Life, Community Safety and Well-being. Indigenous Engagements Report (2021).

3.9 Neighbourhood Structure

New neighbourhoods and subdivisions are anticipated within Niagara. Land is an important and finite resource and should be developed efficiently while ensuring that new residents and visitors have ample open space to socialize, exercise and enjoy nature.

The following guidelines support the principles of compact, mixed-use neighbourhoods that foster a sense of place, prioritize pedestrian and transit movement, and respect natural environments.

Figure 61: Residents and visitors should have access to open spaces to socialize, enjoy nature, and to exercise.

Best Practices:

- **Identifiable:** Neighbourhoods should play a significant role in the identity and character of the urban areas. To promote distinctive neighbourhoods with a strong sense of place, a defined structure should be established that includes a mixed-use neighbourhood centre, which transitions to an edge with positive interfaces and connections to adjacent areas.

- **Interconnected:** Neighbourhoods should be characterized by a highly interconnected local street network with short block lengths to allow for traffic to dissipate to local destinations, reduce congestion, promote walkability, and improve emergency vehicle access.

- **Compact & Walkable:** Walkable neighbourhoods are transit supportive and residents should have easy access to a network of parks, recreation areas, and local amenities.

- **Diverse:** Neighbourhood developments should provide a variety of block sizes and a variety of street layouts that encourage a mix of housing forms, typologies, and densities, and commercial and employment uses.

- **Respect for Natural Heritage:** The design of neighbourhoods should have strong visual and physical links to natural environmental features, for example, valleys and watercourses.

Neighbourhood Structure Guidelines:

a. Neighbourhoods should generally be designed to include neighbourhood hubs that contain a variety of uses, services and amenities such as community facilities, neighbourhood retail, small scale employment areas, residential, urban open spaces, and access to transit.

b. Neighbourhoods should include an edge that defines their extent. The edge is generally located within walking distance of the centre (approx. 400m) and may be typically defined by:

c. Urban infrastructure, such as Arterial roads or railway lines;

d. Natural features, such as public parks and open spaces, agricultural lands, watercourses, etc.;

- Community facilities such as schools, large parks, large format retail, etc; and/or

- The edge of an adjacent neighbourhood.

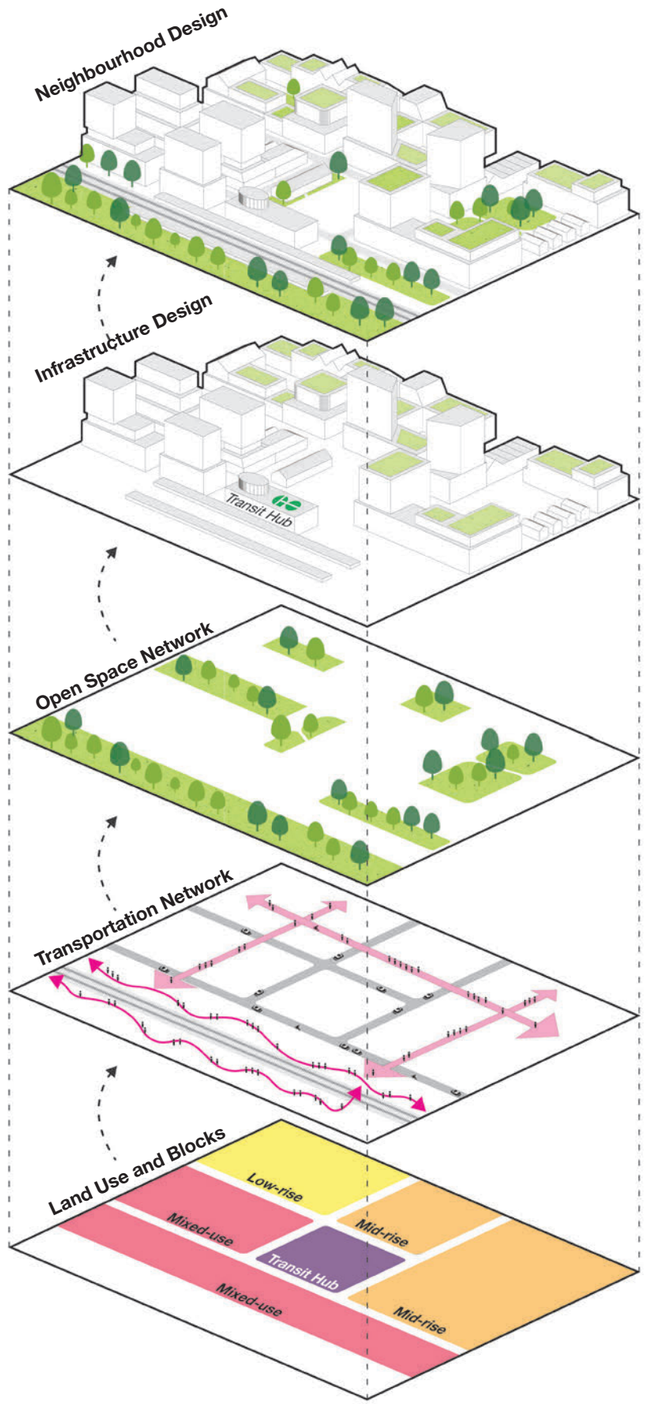


Figure 62: Neighbourhood structure contemplates the interrelationship between land use and blocks, transportation and open space networks, and infrastructure including built forms, to create a comprehensively planned neighbourhood.

e. Areas in close proximity to the neighbourhood centre, a transit corridor, or an employment district should be of higher density to provide a 'critical mass' of population that can sustain commercial and community activities and transit systems. Density should generally decrease towards the edge. Higher density is encouraged at the edge where it is adjacent to large open spaces such as community parks.

f. The neighbourhood movement network should be defined by a fine grain grid pattern of streets with a consistent block orientation that provides multiple connections and maximizes permeability to filter local traffic; assists in local orientation and way-finding; and reduces traffic speeds.

g. A non-repetitive yet simple street and block layout should be provided for visual interest and to maximize views and vistas to parks, green lands, the rural periphery and heritage and landmark buildings.

h. Parks and recreation areas should be distributed evenly throughout the neighbourhood and located within walking distance of most homes. Open spaces should cater to a variety of recreation activities.

i. New communities should be designed to have typical walking distances of 400 metres (5 minutes) to daily activities, or 1200 metres (15 minutes) to higher order transit or community centres.

j. Provide adequate and accessible road, transit, pedestrian, and bicycle links throughout the new communities and developments.

k. Enhance and accommodate cycling networks to be safe, convenient, and legible, including cycling facilities, off-road cycling paths, and multi-use paths. Ensure that the active transit system complies with standards defined in local active transportation master plans and the Niagara Region Complete Streets Design Manual.

Figure 63: Communities should be designed in a manner that is walkable, safe, and sustainable (Image from Region)

Community Hub Guidelines:

l. Community hubs should generally be concentrated in areas accessible by vehicles as well as multi-modal transportation options. The hubs should support added density and activation through mid-rise, mixed-use buildings wherever possible.

m. Wherever possible, neighbourhood hubs should front the existing road network to ensure that new community facilities or commercial uses at grade are visible and accessible to the wider community.

n. The greatest residential densities should be located in close proximity to the neighbourhood hub to promote walkability.

o. Community hubs may contain centralized open spaces and parkland, or provide pathways to connect with adjacent open spaces and parkland.

Figure 64: Community hubs may include recreation centres and community services such as libraries and health centres.

Neighbourhood Edge Interface Guidelines:

p. A high quality interface should be achieved at the edge of neighbourhoods to provide opportunities for public access from streets and adjacent developments.

q. Wherever possible, the perimeter of parks and other public open spaces and natural heritage areas should be faced with single-loaded streets or multi-use trails. Generally, a minimum of 50% of the total open space/ natural feature perimeter should be bounded by the public right-of-way.

r. Pedestrian connections from the public road right-of-way to adjacent public open spaces/ natural features should be provided.

Neighbourhood Parking Guidelines:

s. Where new communities are planned, opportunities to provide shared surface or structured parking should be considered.

t. Where shared surface parking is provided, green buffers and stormwater infiltration should be provided.

u. Bicycle parking should be included in new communities and should be designed with CPTED Principles in mind.

v. Where shared structured parking is provided, it should provide space for green roofs and outdoor amenity spaces.

w. Neighbourhoods should provide a mix of rear lane vehicle access, as well as rear, side, and front garages.

4.0 Block Design

Block design plays an important role in determining the functionality, aesthetics, and livability of a community. Block design consic the placement of buildings, the transition anc the interface between buildings, streetscapes and other private and public spaces. The lay and organization of blocks should consider adjacent blocks, within an overall structure o neighbourhood or community.

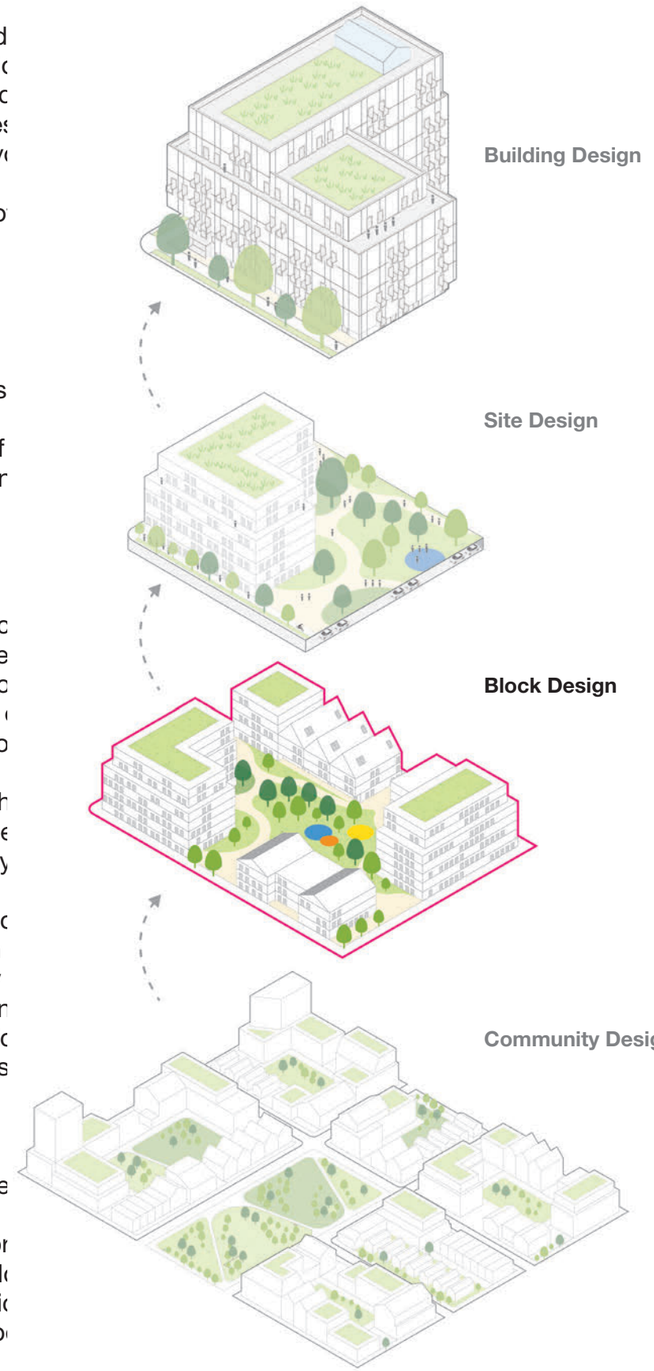
Key elements of block design include:

- Block hierarchy: Blocks along arterial streets may comprise the highest dens and heights of buildings appropriate for the context, the greatest amount of mixed uses, and where applicable, trar oriented design elements. Decreasing height and density should be located within the interior of neighbourhoods.

- Building placement: The design of bloc should begin with the placement of the largest and most prominent buildings c the block first, including the allocation community facilities at strategic locatio

- Design between buildings: Design of th private and public open spaces betwee buildings should consider the hierarchy of these spaces, how these spaces complement the buildings being servec and circulation and connectivity within the block. Circulation and connectivity within blocks promote safe and efficier pedestrian access and minimize conflic with parking, service and loading areas

Effective block design achieves a balance between various urban functions, such as housing, retail, mobility, and recreation, while fostering a sense of community and identity through appropriate site designs, building for and architectural design. Block design shoul contribute to efficient growth, a vibrant public realm, sustainability, and abundant landscap keeping with the character of Niagara.



4.1 Sustainability and Well-being

Block design should minimize environmental impacts through energy-efficient buildings, green infrastructure, and sustainable transportation options to encourage active living for residents and visitors. Buildings, open spaces, and site design should promote human-scale transition between the public and private realm of neighbouring sites and blocks. Well-being should be prioritized by ensuring equitable and accessible access to green and communal spaces and promoting social interaction through the design of safe and walkable neighbourhoods.

The following guidelines address subject matter regarding urban resiliency, energy efficiency, stormwater management, urban agriculture, and mobility.

Figure 65: Sustainable infrastructure such as rain gardens are innovative and multi-functional areas that incorporate features that retain stormwater, allowing for its infiltration while serving as public spaces that can be used for leisure and community events (Niagara Region).

Best Practices:

- **Landscape Driven and Nature-Inclusive Design:** Green infrastructure, agriculture, gardens, parks, and open spaces provide opportunities for recreation, enhance biodiversity, reduce urban heat island effect, and offer benefits to improve mental and physical well-being.
- **Comprehensive and Diverse Communities:** Integrate a mix of housing typologies to accommodate a range of income levels and housing needs to foster social inclusivity. Walkable neighbourhoods, accessible public spaces and amenities and robust public transportation options promotes connectivity and enhances quality of life for all residents.
- **Energy Efficient and Renewable Energy:** At a block design level, energy efficient and renewable energy such as geothermal systems, solar, and wind sources, reduces the reliance on fossil fuels and promotes sustainability and resilience in the community.
- **Walkability and Connectivity:** The connection to surrounding street networks, trail systems, and pathways connect neighbourhoods and communities together. These systems should be accessible and safe for pedestrians and cyclists.

Design Guidelines:

a. Promote compact developments that use less land, protect local food-producing agricultural lands, and reduce reliance on the transportation of food and goods that are produced further away.

b. Blocks adjacent to arterial and collector streets are encouraged to be mixed-use, to promote convenient access and connections to shops, retail, and social spaces.

c. New developments should prioritize pedestrian connections and minimize walking distances to existing community facilities such as libraries, and community or recreation centres.

d. Encourage and maintain a high-quality public realm within streets, parks, and public open spaces that ensures safe, seasonally appropriate and equitable access to all-season public amenities.

e. Encourage and create opportunities to co-locate complementary community amenities, services, and facilities with new developments to optimize community benefits and promote shared uses such as community centres, public libraries and sport facilities. This will create hubs for age-friendly uses and intergenerational activities and aging-in-place programming.

f. Provide a variety of parks and open spaces with programming that can cater to the needs of all users and abilities. Ensure that these spaces are safe, welcoming, and animated.

Figure 66: Sustainability and well-being can be promoted at a block level through a variety of design measures.

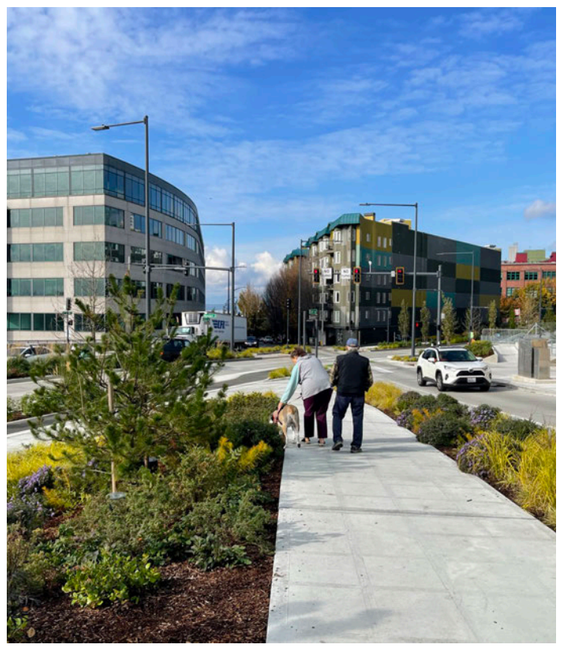
Resilience Guidelines:

g. Promote the design of natural and constructed infrastructure systems to function with an appropriate level of service risk in both the current and projected future climate.

h. Encourage the design of built and natural systems with appropriate natural buffers for the changing climate (e.g. more intense rainfall events and extreme temperature fluctuations).

i. Evaluate the potential and placement of critical infrastructure to reduce damage from climate related risks.

j. Public realm amenities should include structures that enable year-round use with weather protection strategies. Weather protection strategies can include the strategic planting of trees, purpose-built shelters or other landscape elements.



Landscape and Stormwater Management Guidelines:

k. Plant trees consistently throughout the block and along street edges to create an attractive environment, provide shade, extend the urban tree canopy, and reduce solar gain on buildings and public spaces in summer months.

l. Promote mature tree canopy through planting of large shade trees and vegetated areas with adequate soil volumes.

m. Integrate natural stormwater management systems and LID strategies to manage stormwater including bioretention facilities such as rain gardens, bioswales, green roofs, and permeable pavements to reduce the loads on municipal stormwater infrastructure.

n. Maintain natural drainage networks and preserve environmentally sensitive areas to reduce water runoff and provide for natural filtration of stormwater.

o. Stormwater management features should be strategically located to take advantage of the existing topography and drainage patterns.

Figure 67: Landscaping features can create attractive environments that provide stormwater management benefits and enhance a sense of place.

Energy Guidelines:

p. New developments should incorporate both active and passive strategies to reduce demand and increase energy efficiency to minimize the impact on conventional energy distribution networks. Encourage and promote the use of alternative clean and renewable energy sources.

q. The orientation, location, and design of buildings should promote sustainability best practices such as natural ventilation, daylight, and passive heating to maximize energy performance.

r. Consider exploring sewage heat recover systems to supply supplementary thermal energy for building and infrastructure.

Urban Agriculture Guidelines:

s. Promote the integration of community gardens as alternative uses of green space which promote socializing, community programming, and access to locally grown food.

t. Promote initiatives such as sustainable food production practices as a component of a new development. Development plans can consider opportunities for local food production through:

- Community gardens or allotment gardens in open space areas;
- Small-scale food processing, such as community kitchens, food co-ops and community food centres;
- Small- and medium-scaled food retailers; and,
- Local market space, agriculture at community facilities or community gardens in public parks.

Figure 68: Buildings can produce energy through the addition of solar panels on rooftops.
Figure 69: Community gardens and shared amenities can create versatile, inclusive spaces that promote social interaction and enhance the overall quality of life for residents.

4.2 Block Design and Structure

The design and structure of blocks is improved by the delineation of streets and/or walkways and open spaces. Well integrated block structure is informed by all elements of the block including built form, site design, site access and servicing, and open spaces. For Niagara, the arrangement of buildings, open spaces, and infrastructure within blocks should promote sustainability and walkability, support the creation of complete communities, include diverse housing typologies, create spaces to socialize, and provide opportunities for recreation.

Design Guidelines:

a. Well-connected blocks promote wayfinding, accessibility, and a variety of lot sizes. New communities should include a well-connected grid of streets and laneways and be characterized by short block lengths.

b. Block orientation should maximize opportunities for winter solar exposure to minimize winter heating requirements. Where possible, the tallest buildings within a block should be located at the north to minimize shadow across the block.

c. Blocks should be designed to limit curb cuts along the public right-of-way. Shared vehicular laneway access is encouraged.

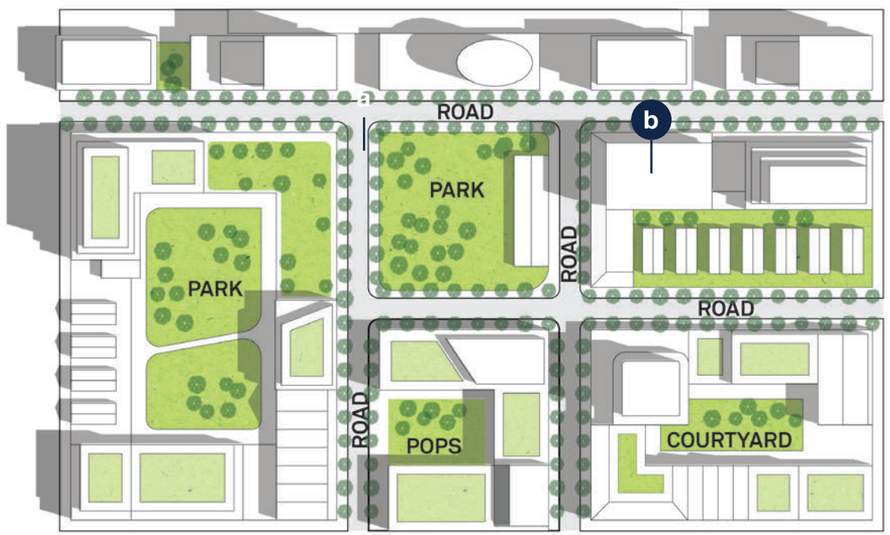


Figure 70: Block orientation should optimize opportunities for winter solar exposure and limit shadow impacts on public open spaces and parks.

d. Cul-de-sac streets should be avoided, except where the topography, context, or other block constraints impede the grid.

e. Block lengths should generally range between 200 and 250 metres. In special circumstances where blocks are longer than 250 metres, a mid-block connection or parkette should be provided.

f. The width of blocks may vary to accommodate varied land uses and development options.

g. The street grid may shift to preserve the existing context to create distinct neighbourhood enclaves, while allowing for significant view opportunities to nat features, parks, public and historic buil and landmarks.

h. Street grid patterns should promote connections for multi-modal transporta reduce congestion, promote walkability improve public transit and emergency access.

i. Laneway based housing is recommenc where possible to eliminate the need fc individual driveways and street facing garages. Solutions of waste collection be determined at the earliest stages of design.

j. In existing neighbourhoods, opportunit should be pursued to connect streets t adjacent or new development. The nun connections should be maximized for permeability.

Block Structure:

k. Parks and open spaces within blocks where feasible should generally be located toward the south to minimize shadow impact from adjacent buildings.

l. Height transitions within blocks are strongly encouraged to maximize sunlight access, preserve views and promote privacy between different sensitive land uses.

m. Where differing or sensitive land uses are planned, uses should be separated by open spaces or laneways.

n. Where appropriate, differing land uses may be separated by privacy screening including fencing or landscape or a combination of

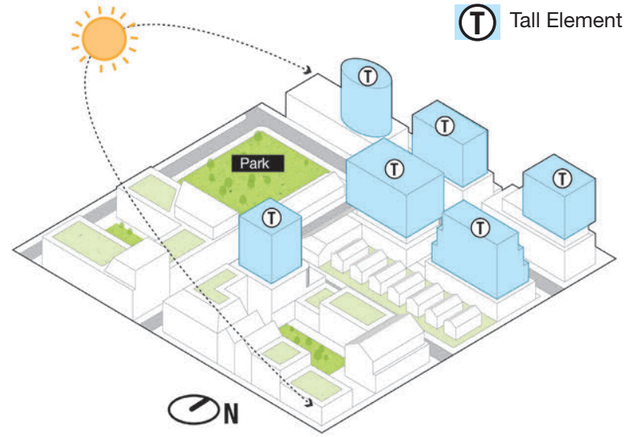


Figure 71: New developments, taller buildings, and the street grid should work harmoniously together to maximize sunlight access on open spaces and parks.

Architectural Guidelines:

o. Variety of appearance should be achieved on the scale of a site and block to create visual interest in the streetscape and to help distinguish buildings and blocks from one another. This can be achieved through a combination of variation in material, building form, and setbacks.

p. A variety of options for housing, in the form (detached, semi-detached, townhouse, apartment), size (studio, 1-bedroom, 2-bedroom, 3+bedroom), and tenure (rental, condominium, freehold, co-op) should be provided within blocks to appeal to a diverse residential market and to offer greater choice in housing within the Region.

q. A variety of low-rise or mid-rise building forms should be introduced within residential areas to create a mix of density across the neighbourhood, providing equitable access to amenities, parks, open space, transit, and active transportation routes.

Height Transitions:

r. Taller and higher density building forms should transition toward lower-density low-rise building forms, parks, open spaces, and natural areas through the introduction of intermediate building forms and stepping in height.

s. Building massing and scale should be designed to effectively transition between new development and existing sensitive uses including low-rise neighbours, natural and cultural heritage resources, parks, and open spaces.

t. Where an established consistent setback exists along a street edge, the setback of new buildings should align with the prevailing setback of existing buildings. Where a site bridges dissimilar setbacks of different uses (e.g. from commercial to residential), efforts should be made to step the building massing to reconcile the difference in setbacks.

u. Where an existing heritage resource is located within, or adjacent to a site, the scale, massing, and height of new buildings should respect and respond to the scale and articulation of the heritage resource. New buildings should strive to maintain the prominence of the heritage resource in the streetscape using setbacks and step-backs to reduce visual impacts of the new building.

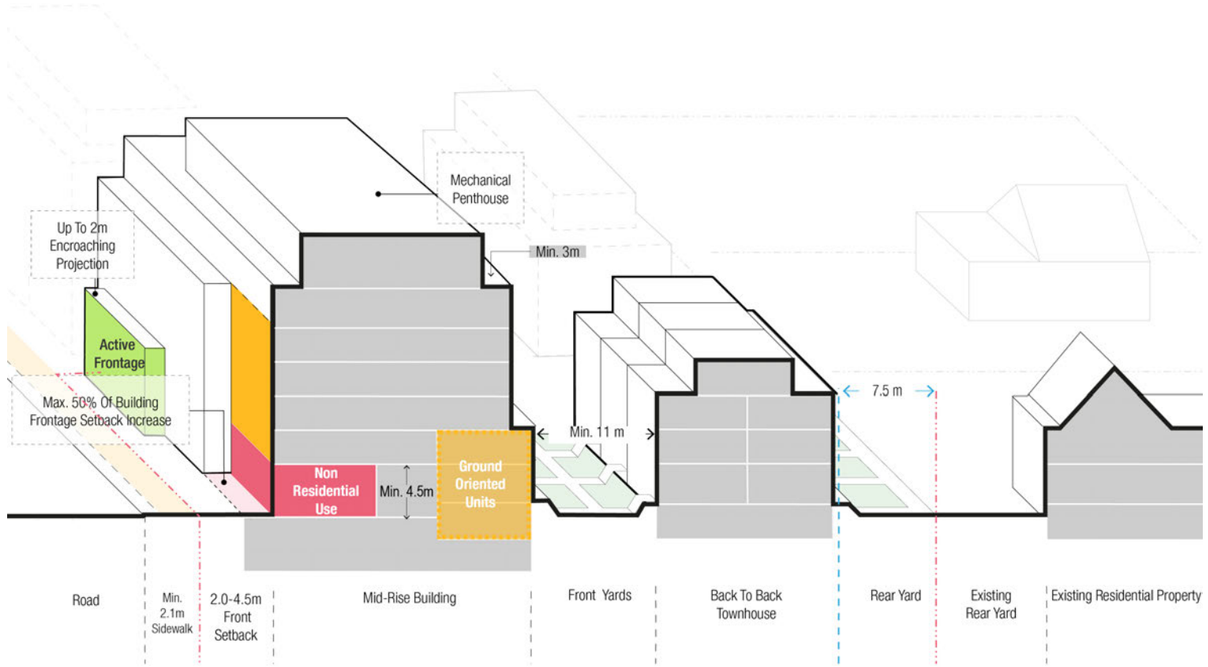


Figure 72: Blocks should transition in height and scale as appropriate.

4.3 Laneways and Mid-Block Connections

Laneways and mid-block connections can improve connectivity within a block design context and provide direct access to residential rear garages, rear yards, and in mixed-use areas, and service and loading areas. Mid-block connections encourage safe pedestrian passage through blocks and create opportunities for POPS or public space.

Laneway Guidelines:

a. Where feasible, commercial and mixed-use blocks should provide laneway access for service vehicles and loading access to promote pedestrian priority and minimize curb cuts at the streetscape.

b. New residential or mixed-use communities should provide laneways to promote shared access to rear garages, service areas, or underground garage access points.

c. Laneways may provide access to accessory dwelling units at the rear of residential properties.

d. Laneways in commercial and mixed-use areas may provide temporary or permanent placemaking opportunities.

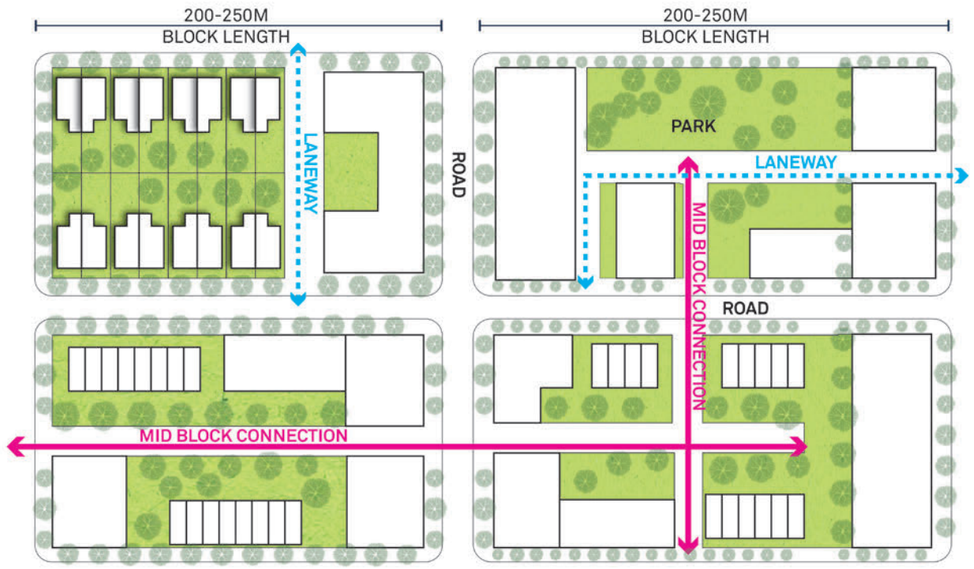


Figure 73: Block length should range from approximately 200 - 250 metres. Laneways should be used where possible to eliminate the need for individual driveways and street facing garages.

e. Laneways should be provided where development fronts onto an Arterial or Collector Road network. Also, laneways should be considered to provide access to parking on small lots - particularly narrow lots, and in retail/commercial areas.

f. Single-loaded laneways should be avoided. Where these are necessary a minimum lane width of 6.0 metres should be provided plus a minimum 1.0 metre setback to the garage/ ADU face to accommodate snow storage and sight lines.

g. The use of durable permeable materials is encouraged where insufficient drainage exists.

h. Primary building elevations should not face laneways except where the building does not face a public street, or if the building is an accessory dwelling unit.

i. Laneways should be well lit to ensure the safety of users.

j. Access to servicing and loading areas should be provided from rear laneways where possible. It should include design treatments to minimize impact and improve safety for pedestrians and cyclists crossing these areas.

Mid-Block Connections Guidelines:

k. Mid-block connections should be created to improve block circulation for pedestrians and cyclists.

l. Mid-block connections should be provided where blocks are greater than 300 metres in length and should be a minimum of 3.5 metres in width, with greater widths adjacent to buildings with base heights greater than 2-storeys.

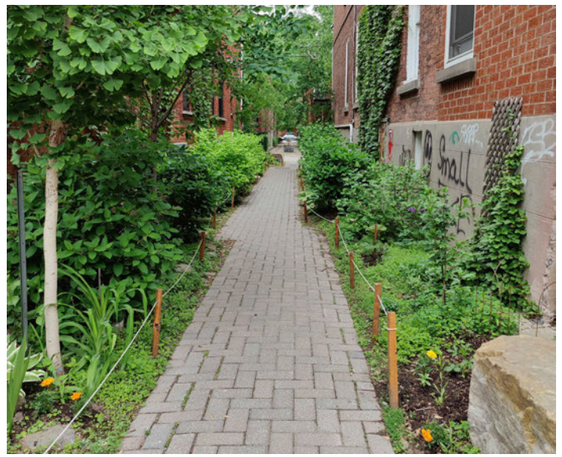


Figure 74: A pedestrian clearway width of a minimum of 2.1 metres should be accommodated within the mid-block connection.

Figure 75: Example of a two-way laneway configuration that provides servicing and loading adjacent to buildings.

m. A pedestrian clearway width of a minimum of 2.1 metres should be accommodated within the mid-block connection. If cycling infrastructure is adjacent to the mid-block connection, a clearway of 3 metres should be provided to accommodate both pedestrians and cyclists.

n. Adequate lighting should be provided for safety.

o. The interface between adjacent buildings and mid-block connections should promote views to the walkway. Where a building abuts a mid-block connection, passive surveillance through increased overlook is recommended.

p. Where commercial uses abut a mid-block connection, greater widths are recommended, to encourage active public use of the mid-block connection. Widths of 5.0 metres or greater are recommended.

q. Porous pavement or permeable pavers are encouraged in mid-block connections to promote stormwater infiltration and an inviting pedestrian environment.

Figure 77: Laneways may provide shared access to rear garages, as seen in Garrison Village.

Figure 76: Residential mid-block connections should be at least 3.5 metres wide and include pedestrian-scaled lighting.

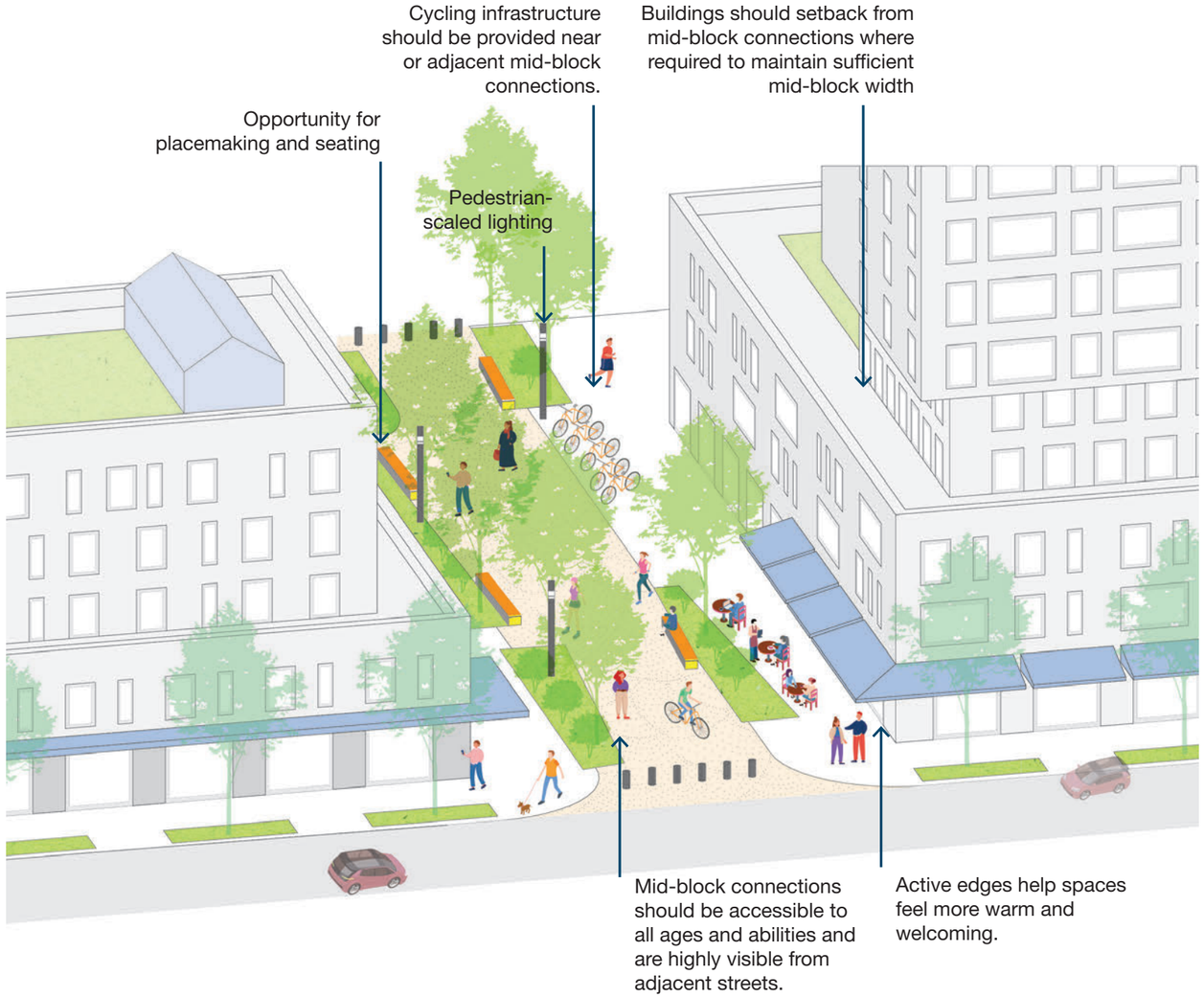


Figure 78: Where feasible, commercial and mixed-use blocks should provide vibrant and green mid-block connections.

4.4 Utilities and Services

The location of utilities and service areas should be carefully considered at the block design level. The siting of utilities and service areas should be unobtrusive, and screened from public view.

Design Guidelines:

a. Utilities should be located below grade, typically in the boulevard section of the right-of-way, as part of new construction and reconstruction of a road.

b. The use of a joint utility trench is encouraged for access and maintenance benefits. Above-grade utilities should be sited with regard for their visual impact on the streetscape.

c. Above-ground utilities, should be located

d. Street grade public utilities, where feasible, such as transformer pads, telephone switching stations, and junction boxes should be screened in a manner appropriate for the surrounding neighbourhood.

e. Community mailboxes should be considered as important amenities where people socialize. Their siting and access should reflect the level of use and exposure they receive on a daily basis.

f. Mailboxes may include other elements such as community boards/or a canopy for shelter.

g. Joint service trenches are recommended for efficiency, and should be located within the road right-of-way.

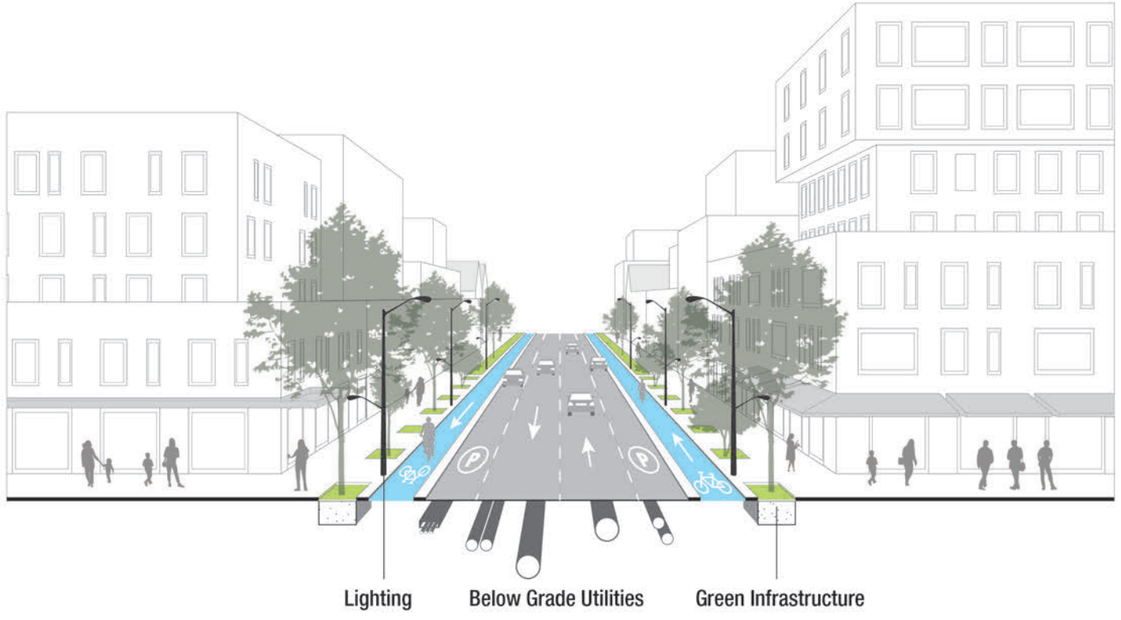


Figure 79: Below grade utilities are encouraged to limit their impact on the public realm and should be located away from trees to maintain soil volume.

4.5 Community Facilities

Community Facilities are varied and support a variety of local community functions to serve residents and visitors. Examples include community parks (1.5-3.0 ha), local parks (0.5-1.5ha) and parkettes (<0.5ha). Comprehensive community facilities at the block design level should ensure accessibility, inclusivity, and safety by integrating well-connected pedestrian paths, diverse amenities for all ages, and promotion of public health.

Best Practices:

- **Safe, Accessible and Connected:** Community facilities should be easily accessible, pedestrian-friendly and located near public transportation for residents and visitors. Pathways and streetscapes should connect to these spaces seamlessly from adjacent neighbourhoods.

- **Inclusive and Diverse:** Facilities and spaces should cater to diverse community needs and demographics. Spaces can be multi-functional and flexible that can adapt to different uses over time.

- **Resilient and Sustainable:** Integrate green infrastructure, sustainable practices and materials, and energy-efficient technologies in the construction and maintenance of facilities.

Figure 80: Inclusive and diverse community facilities can be achieved at many scales in Niagara (Humber College Cultural Markers, Brook McIlroy).

Design Guidelines:

a. Promote integration of parks and open spaces with the surrounding public realm by:

- Providing generous street frontages and publicly accessible walkways and/or open spaces along the park. Ensuring the perimeter of the park has a minimum of 50% publicly accessible frontage.
- Upgrading streetscape treatment and furniture along parkside streets.
- Integrating the park and adjacent streetscape elements such as planters, benches, and soft landscaping with multiple entry points along the frontage of the park.

b. Design facilities to incorporate public art, cultural elements, and historical elements to reflect the identity and heritage of the community to create a sense of place.

c. Public spaces should be adaptable and provide opportunities for artistic, musical, and cultural expressions.

d. Provide easy access to universally accessible public restrooms along well traveled walking and cycling routes and in highly visible locations nearby to public spaces.

Figure 81: Public amenities, open spaces, and parks should be well-maintained and connected to accessible pathways.

e. Ensure that the needs of children, youth, older adults, and families are considered through meaningful engagement and by providing quality public space experiences for all ages.

f. Encourage elements of learning and play that are not limited to playgrounds but also natural spaces, sidewalks, plazas, and parks.

g. Community facilities should utilize Crime Prevention Through Environmental Design (CPTED) principles to deter crime and increase sense of security.

h. Community facilities should establish clear plans to be regularly maintained and managed. These areas should be kept clean, safe, and welcoming.

Community Park Guidelines:

i. Park amenities and facilities such as washrooms, playgrounds, and sporting facilities should be designed and constructed to meet AODA standards.

j. Private developments should provide sidewalks and pedestrian connections abutting public parks and open spaces. Green transitions to parks and open spaces through tree planting and indigenous vegetation is encouraged.

k. Design parks, playgrounds, and open spaces to have a variety of climate environments to facilitate activity in different seasons and weather conditions.

l. Where possible, developments should provide active uses at grade fronting onto parks and open spaces with entrances, clear glazing, walkways and landscaping.

Figure 82: Parks should incorporate shade structures and materials should be selected for durability and safety throughout the year.

m. Park entrance design should provide amenities including visitor drop-off areas, pedestrian scale lighting, and signage to assist in orientation and use of park amenities.

n. Parks should include facilities for passive activity including walkways, formal gardens, seating areas, park pavilions and interpretive displays relating to local history or the natural context.

o. Bicycle storage facilities should be provided at all public parks and open spaces to encourage alternative modes of transport. They should be designed following CPTED principles with maximum pedestrian access, views, and lighting to deter bicycle theft.

p. Composting facilities may be located within park and open space for the purpose of composting organic waste obtained either on or off-site.

q. Where possible, landscaped features within parks should look to reuse materials to promote sustainability and a circular economy.

Figure 83: Seating areas may frame pathways, entrances, and recreational areas in community parks.

Neighbourhood Parkette Guidelines:

r. Neighbourhood parkettes can be as small as one or two residential lots and should generally be located within 400 metres or a 5-minute walk of most dwellings.

s. Structures within neighbourhood parkettes may, where their size permits, include a variety of elements, including minor outdoor playing fields, ice pads, shade pavilions and children's play equipment.

t. Parkettes should be open to a minimum of two sides of a public street or public open space and a minimum of 50% of the park perimeter. It is accepted that this may not be achieved where the parkette is located at a mid-block condition.

u. Mid-block parkettes should be a minimum of 12 metres in width.

Figure 84: Neighbourhood parkettes provide opportunities for local neighbourhood open space at the block level and should include a mix of seating and greenery.

4.6 Lot Design

Blocks typically contain multiple lots that directly impact the built form and open space potential of any site. Lot size and variety have a direct impact on development costs, density, and affordability. The following guidelines aim to achieve an appropriate balance of large and small lot sizes and to promote a variety of development types, sizes and designs.

Design Guidelines:

a. Lot orientation should maximize opportunities for winter solar exposure to minimize winter heating requirements. Orientation should be predominantly north-south.

b. Blocks should be comprised of a variety of lot sizes to ensure a diversity of building and open space types, forms and designs and to allow for transition between lots.

c. Proposed lot sizes and orientations should protect access to natural light, frame key views, and respect and reinforce existing and future connections to the surrounding area.

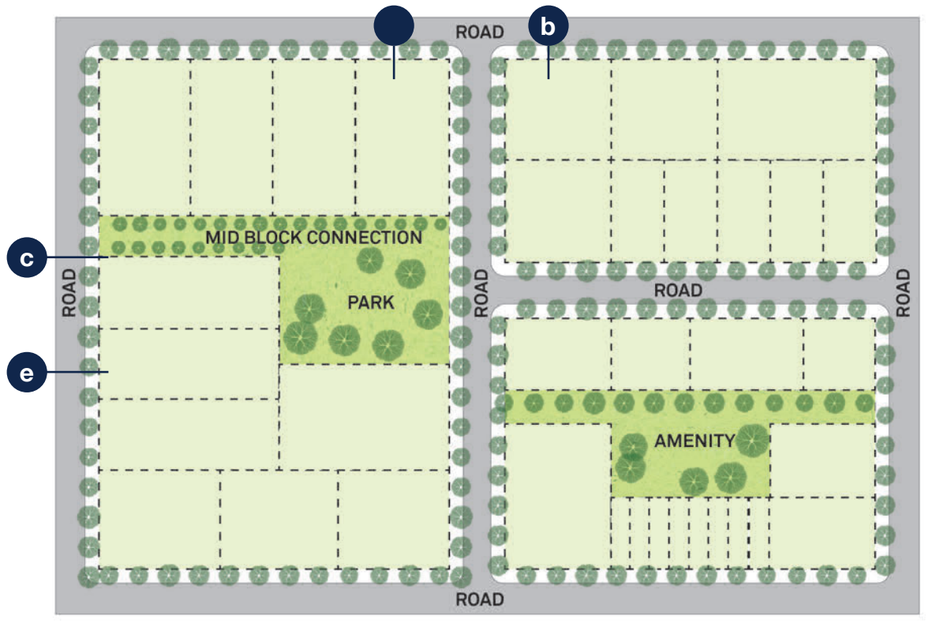


Figure 85: Diverse and varied lot sizes features a mix of residential, commercial, and green spaces, creating a vibrant and dynamic neighbourhood.

d. Lots should be designed to preserve and integrate the natural grading and topography of the sites.

e. Generally, lot shapes should be rectilinear to facilitate design and siting options. Lot variations may be considered to manage slope, property boundary, or natural and cultural heritage features.

f. Corner lots may be wider to permit appropriate building setbacks from both streets and provide sideyard landscaping for privacy and between the street and dwelling.

g. Irregular lots, corner lots, and some mid-block lots may be developed as parkettes, providing open space for passive recreation, gardens, and/or public art.

h. Lots adjacent to neighbourhood centres, public transport facilities, or adjacent to higher amenity areas such as parks and environmental features should be designed to support higher density forms of development.

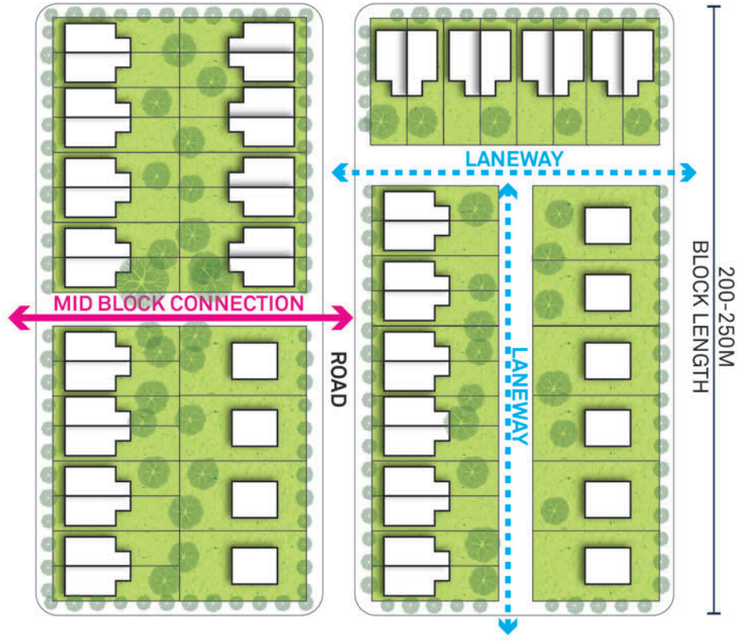


Figure 86: Varied lot sizes contribute to a visually appealing and socially inclusive environments and can cater to different housing needs.

4.7 Public Art

Public art can create a sense of place and encourage a shared identity of a communal space. Public art enhances the public realm by animating spaces and engaging people, storytelling, and providing landmarks. Public art can also be an important tool for honouring the local heritage, culture, and context of the site.

Best Practices:

Accessibility and Inclusivity: As a part of the public realm, public art should be accessible to everyone. The location of the art should ensure that it is accessible both physically and visually to the public.

Sensitivity to Context: Public art should be place-specific. Explore opportunities to use public art to create a sense of identity for the block or neighbourhood, celebrate and honour history and diverse culture, public art should complement the existing built environment through material choice and scale.

Figure 87: Public art should be sensitive to its context and support a sense of place in Niagara (Niagara Strait).

Diversity of Mediums: Consider a variety of mediums for public art. This can range from temporary installations to permanent public art pieces at many different scales, and art that is both free standing and integrated into the built form or landscape.

Contributing to the Community: Public art is an opportunity to activate and involve the community, creating investment in the public space. Procurement of public art should aim to support local artists, and promote and facilitate artistic excellence in Niagara.

Design Guidelines:

a. Public art should be place-specific. Ensure the art is appropriate to the site or location's physical and cultural context.

b. Public art should be located in public spaces that are accessible 24 hours a day (or through the site's hours of operations), and clearly visible and physically accessible to the public.

c. Public art should be placed at key locations on the block that experience high pedestrian activity, including outdoor amenity spaces, parks, and mid-block connections.

d. Significant public art pieces should be the subject of design competitions to support local artists and to promote excellence and innovation.

e. Consider public art that is interactive or integrated as part of site furnishings and the design of public realm elements, including seating, paving, lighting, signage, and wayfinding.

f. Ensure materials for public art are high quality, durable and able to be maintained.

g. Consider installing public art in different mediums, levels of permanence (permanent or temporary), and scales.

h. Public art should be well considered and designed as part of the landscape. It should not obstruct pedestrian, cyclist or vehicular circulation, entrances, windows, or sight lines to important natural and built features.

Relevant Policies or Documents:

- City of Niagara Falls Public Art Policy (2008)
- City of St Catharines Public Art Policy (2003)
- Town of Pelham Public Art Plan (2016)

Figure 88: Public art may be incorporated into the streetscape and should be complemented by site furnishings.