



Niagara  Region



complete streets for **niagara**





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## Background

In November of 2011, an Active Transportation Summit was hosted by Healthy Living Niagara to explore ways to make walking and cycling more accessible and occur more often within Niagara. The participants who attended the summit included municipal planners and engineers, elected officials, community stakeholders and local residents. A list of 15 actions was derived by the participants; the top action requested was the implementation of 'Complete Streets' to help encourage more active transportation on existing roads.

In response to this request, the Region initiated the "Complete Streets for Niagara" project in January of 2012. The project included the preparation of a discussion paper and conversations with many local stakeholders about the perceived challenges and opportunities associated with improving Niagara's streets. The process has involved a review of local policy efforts to date for making streets more accessible and the development of additional model policies which help create a strong framework for successfully implementing 'Complete Streets' in the Niagara region.



These model official plan policies have been developed to assist the Region and local municipalities in promoting healthy and prosperous communities with a balance of transportation options. Extensive stakeholder engagement with local staff, public officials and local transportation advocates has provided detailed feedback on the pro's and con's associated with Niagara's transportation system. It is hoped that these new policies will serve as effective tools in improving the local transportation network for all road users.



## Developing the Model Policies

Great public policy comes from great public engagement. In order for policy to be effective, it must address real issues and concerns from the individuals that use the infrastructure and networks daily. While best practices and research compiled for the Discussion Paper provided a good base for policy development, hearing and experiencing a local perspective has helped create a policy set that is unique to Niagara. The policies provided address concerns that were collected during the consultation period and the pilot project.

The Model Policies are arranged to respond to Concerns that were identified by stakeholders during the consultation process. Discussion and information pertaining to the issues, as well as possible solutions are provided as Background. Best practices in the form of local official plan policies have been provided from local municipal plans. In addition, local best practices, newly created model policies and Policy Approaches have been provided to address the specific concerns. A list of Resources and non-policy related solutions is provided at the end to assist in the implementation process.



## Prioritizing Streets to Complete



Any street can be made more “complete” through reconfiguration, investment and infrastructure enhancement. While some enhancements can be low cost and yield significant economic, social and environmental benefits, it is important to maximize investment opportunities through proactive and coordinated planning. In many cases, ‘Complete Streets’ fall beyond the scope of an annual roads budget for a municipality and require additional funding for implementation. Establishing partnerships with local business groups, adjacent landowners and the community as a whole is encouraged to effectively implement Complete Streets.

The highest concentrations of people and jobs are typically found within, or in close proximity to a downtown area. Provincial and Regional Planning Policy direct the majority of new growth to existing built-up areas within communities to contribute to their intensification target. As the population density increases, there are additional opportunities to develop more walkable neighbourhoods and efficient public transit network.

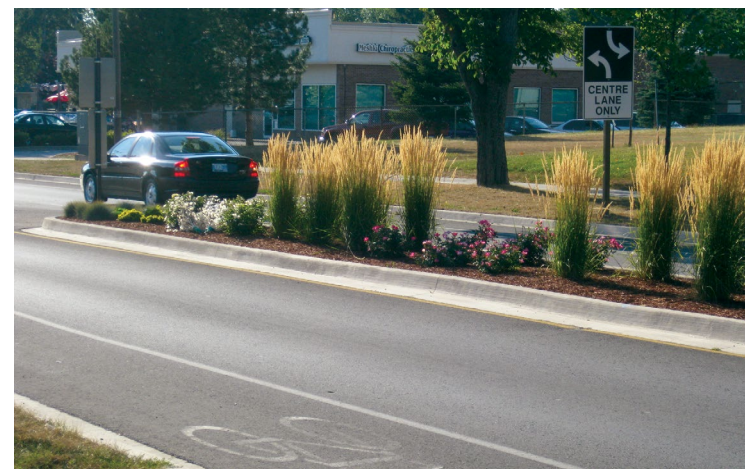


## Inspiration for the Model Policies

To capitalize on new infrastructure investments, it is important that such improvements are provided in areas where they can be used by the largest amount of people, such as a downtown, mall or college. The further away from the downtown, the fewer transportation options there will likely be due to a larger spatial separation and clustered types of land uses. To achieve a community goal it is important to seize opportunities where people are already walking, cycling or taking transit.

Over time networks can be expanded and improved, reaching further outside of downtown and linking up with valuable suburban and rural networks such as trails, highways and transit stations. Below are some suggested circumstances to consider when selecting a street to complete:

- The street is scheduled for rehabilitation or renovation
- The street is served by public transit
- The street is within a Community Improvement Plan area
- There are perceived safety concerns in the area
- Is on or adjacent to the Niagara Bike Network
- Contains a mix of land uses (residential, commercial, etc.)
- The street is within in area of regional or local significance (downtown, mall, school, medical facility, landmark, etc.)
- There is available funding



Within local official plans there are many great examples of transportation and land use policies that are providing important direction to develop Complete Streets. Some of the concerns that have been raised about Niagara's streets during the consultation sessions are addressed in some local plans, but not all. In some instances, the concerns have not been brought forward for discussion and no policy solution has been developed as of yet. The model policies can assist local municipalities by providing new solutions, resources and strategies to help resolve concerns and achieve 'Complete Streets' that can be enjoyed by all residents.

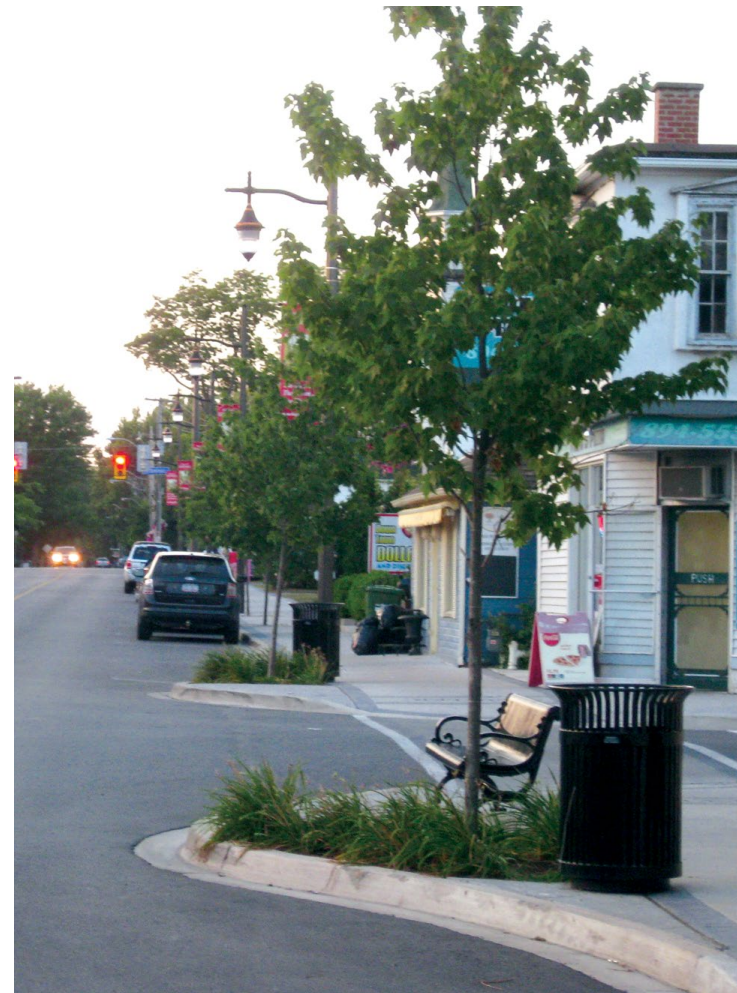


## How to Use This Document

The model policies that are outlined in this report are derived from existing local policies and best practices from other communities. These policies are written as a foundation and are adaptable to fit official plans, secondary plans or transportation master plans. The model policies are not meant to replace land use or transportation policies contained within existing plans, they are meant to enhance them.

The qualifying terms (shall, may [...] etc.) included within the model policies are suggested. Each term carries a different level of commitment (mandatory, preferred, [...] etc.) from the municipality. During adoption, municipalities are encouraged to qualify these model policies to appropriately fit their existing policy framework.

The Complete Streets for Niagara Model Policies meet the intent of the Provincial Policy Statement (2005), Growth Plan for the Greater Golden Horseshoe (2006), and the Regional Policy Plan and compliment Niagara's Transportation Strategy (2012). The policies encourage actions and investments that can contribute to healthy communities while at the same time addressing Provincial interests as outlined within the Planning Act. Municipalities are encouraged to include these model policies and associated concepts within their Official Plans and Secondary Plans during a municipal comprehensive review or amendment. All policies do not need to be added to a local official plan. This document contains a variety of suggested best practices that can be chosen in any grouping that best reflects the land use context and vision of the municipality.



Before amending an official plan, it is valuable to do an assessment of the policies contained within it and measure the strength of the current policy framework related to active transportation, the public realm and Complete Streets.

Additional resources and links have been provided throughout this document. These resources will direct the reader to best practices, related programs, funding opportunities and implementation techniques. If and when developing any public policy or infrastructure please consult the provisions of the Accessibility for Ontarians with Disabilities Act (AODA) (2005). Links to specific parts of the Act are provided throughout the document for reference.



## Definitions, Goals and Objectives

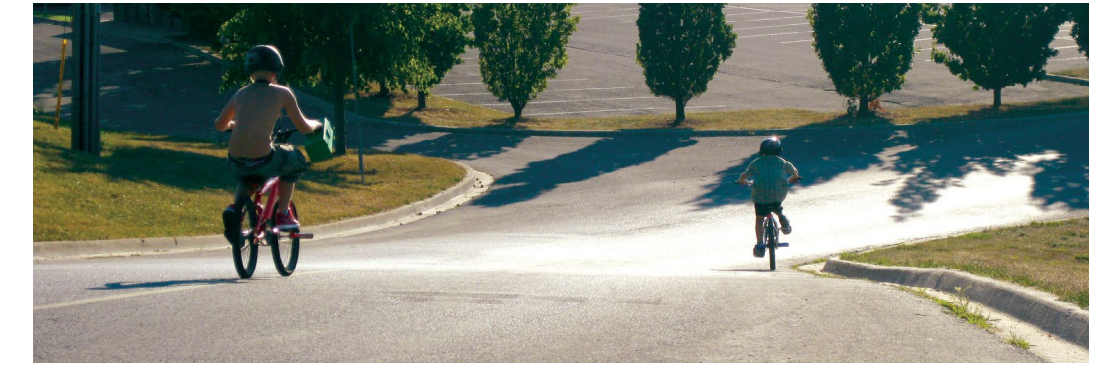
The following Definition can be included within local planning documents to provide context around "Complete Streets".

### Niagara Definition for a Complete Street

"A complete street is a public right-of-way where the transportation facilities and adjacent land uses are planned, designed and constructed to accommodate users of all ages and abilities including pedestrians, bicyclists, transit vehicles, automobiles and freight traffic."

### Goals

The Goals that are set by a municipality choosing to develop Complete Streets will vary depending on the context. Goals should be attainable and have clear benefits to the community (health, social, economic, environmental) and ultimately address a concern or issue. Goals should be measurable to determine if that have been achieved. For example, concerns over pedestrian safety in a downtown can be addressed by providing new infrastructure such as sidewalks with pedestrian oriented lighting. The success of this goal can be measured by looking at the annual pedestrian or cyclist collision data for the area.



### Objectives

The Objectives of Complete Streets should be established to address identified concerns. By completing these objectives, a municipality can get closer to achieving its overall goal. Appropriate objectives related to Complete Streets could include providing new transit shelters within a downtown, changing policy to require sidewalks on both sides of new roads or the provision of cycling facilities at all new public buildings. Objectives are the tasks that are completed to achieve the goal.

This section can be used within a local official plan to contextualize the benefits and opportunities associated with Complete Streets.



Complete Streets shall be implemented within the Municipality to achieve the following objectives:

- a. Balance multiple modes of transportation in the right-of-way
- b. Provide opportunities for access and mobility for people of all ages and abilities
- c. Increase the efficiency of existing rights-of-way
- d. Lower greenhouse gas emissions
- e. Create opportunities for more passive physical activity
- f. Capitalize and build upon road rehabilitation projects
- g. Better integrate transportation and land use planning
- h. Develop vibrant communities with a sense of place
- i. Support the local economy and tourism initiatives



## Model Official Plan Policies

The Model Policy set includes approved planning policies from local municipal official plans and other Regional planning documents and guidelines. Where policies were absent on identified issues, new policies have been developed and included within the set. These policies have been provided to address concerns put forward by stakeholders during the consultation process.

<b>Concern:</b>	<b>Issue identified through stakeholder consultation and research.</b>
Discussion:	Information about the concern, its perceived impacts and possible solutions.
Policy Approaches:	Policies recommended that respond to or mitigate the concern.
Resources:	Non-policy related solutions, tools and/or resources available to help address the concern.



**Concern:** Some sidewalks and paths do not meet the needs of pedestrians.

**Discussion:** Every trip begins and ends as a pedestrian. In order to support opportunities for walking to be utilized as a primary mode of transportation, well designed and connected pedestrian infrastructure is required. Sidewalks and paths that are wide, well lit and sheltered from the elements can prove to be valuable links in the local transportation system. Safe and aesthetically pleasing environments will encourage people to linger in an area and walk to local businesses, schools and public open spaces. The local Zoning By-law is an effective tool for permitting pedestrian supportive design elements such as awnings, reduced setbacks and sidewalk widths.

Well-designed pedestrian areas are open and inviting to users. Perceptions of safety and the condition of infrastructure can deter persons from using the sidewalk or pathway as part of their daily routine. Concerns were raised during the consultation sessions that some sidewalks had a lack of shade, poor visibility, improper lighting or insufficient buffering from the roadway. By ensuring that pedestrian areas



are designed with safety in mind, a more welcoming environment is created where people stay longer and feel a sense of ownership.

Sidewalks constructed in recent years reflect modern standards and guidelines. There are sidewalks throughout the region that are older and do not reflect the current standards or design elements preferred by stakeholders. These pedestrian networks will continue to evolve as they are reconstructed.

Policy

**Approaches:** The development of pedestrian-scale streets and streetscapes which are safe, convenient and attractive will be supported through measures such as providing wide sidewalks, sheltered transit stops, street furniture, canopies on buildings, landscaping, locating retail and personal service uses at street level, and supporting building design which provides shelter and other amenities. (City of Welland)

All new roads and road improvements will accommodate safe and attractive pedestrian and



cyclist travel in a “context sensitive” manner taking into account the capacity and speed of the road (e.g., sidewalks and bike facilities on higher speed & volume arterials should be buffered from motorists). The road should contribute to “place-making.” (Paul Young, Supporting Active Transportation)

Where possible, landscaping and street trees will be utilized within local right-of-ways to provide shade and mitigate the urban heat island effect for pedestrians and cyclists. (Niagara Region Model Policy)

Resources: Smarter Niagara Incentives Program grant for Public Domain Improvements Healthy Living Niagara Walkable Communities Checklist AODA Exterior Paths of Travel Regulations

Concern: **Funding for transportation and transportation related infrastructure (road surfacing, sidewalks, cycling facilities, transit shelters, Streetscaping, etc.) is difficult for municipalities.**

Discussion: The Municipal Act outlines the fiscal responsibilities of municipalities regarding public infrastructure.



Within a Regional Municipality the responsibilities for providing and funding infrastructure is divided between the Region and the local municipality. The Region currently pays for infrastructure associated with Regional right-of-ways such as the road surface, and storm water management. The Region also funds bicycle lanes on local roads if the road is part of the Niagara Region Bicycling Network. In a Regional right-of-way, local municipalities are currently responsible for infrastructure that lies “beyond the curb” such as sidewalks, transit facilities, bicycle facilities and parking. On a local road, the local municipality is currently responsible for paying for all infrastructure.

Transportation infrastructure (roads, signals, crosswalks, transit shelters, [...] etc.) can be among the most expensive to develop and maintain, however if improvements are planned out strategically and purposefully there are opportunities for costs savings. Budgeting for on-going enhancements to a street has the potential for spillover effects in other areas of local, Regional and Provincial budgets.

Providing programs and infrastructure for active transportation can have substantial benefits on



the health of Niagara Residents which equates into less acute care and visits to medical facilities. Enhancements (new crossings, sidewalks, transit stops, [...] etc.) may also raise adjacent property values which equate into more tax revenue for the municipality (National Heart Foundation of South Australia, 2011). In terms of local business, small businesses tend to benefit the most from Complete Street enhancements and can inject 60 cents on every dollar spent back into the community (Dan Burden, 2012).



Policy

Approaches: Where the Region of Niagara Bicycle Network is proposed on a road under local municipal jurisdiction, the Regional Municipality will be responsible for funding of the bicycle facility, subject to Regional Council approval. (City of St. Catharines)

To be cost effective, the municipality shall seek to coordinate and fund the renovation or repair of streets with the Region and utility companies. (Niagara Region Model Policy)

Resources: Smarter Niagara Incentives Program for Public Domain Improvements  
Green Municipal Fund Grants for Complete Streets Projects  
Appendix III Local Improvement Charges – Ontario Regulation 586/06



**Concern:** Residents find it difficult to understand the Environmental Assessment (EA) process

**Discussion:** An Environmental Assessment (EA) is an important process associated with capital improvement projects such as roads and water systems. Most EA's that occur at the local level are Schedule A, which means that the scope of the study and required improvements are minimal. These types of projects would be related to maintenance and operations such as repaving or repairs to water and wastewater systems.

Some stakeholders have identified that they do not have a full understanding about the process and when they should be engaged. If a municipality is dedicated to ensuring that the community is engaged in the discussion about capital projects, a policy approach can be included in an official plan.



It has been noted that persons feel their views are not often captured or included in the final design of a street. The first Public Information Centre (PIC) is the most important part of the EA process from an engagement standpoint. It is during this stage that issues are identified. If issues with the street are identified early on, solutions and designs can be prepared to address them.

**Policy**

**Approaches:** Planning for transportation systems and facilities should be sensitive to community values and the physical setting, embodying the principles of context sensitive design:

- a. Involving the public and stakeholders early and continuously throughout the planning process.
- b. Designing transportation systems to accommodate all desired modes of transportation.
- c. Balancing transportation safety, mobility, cost and community and environmental goals.



- d. Identifying and addressing community and environmental goals.
- e. Applying flexibility to tailor engineering standards to local conditions and values. (Niagara Region Policy Plan)

Community engagement on active transportation is targeted at areas with higher concentrations of vulnerable road users such as children, seniors and persons with disabilities. (Paul Young, Supporting Active Transportation)

Resources: Smarter Niagara Incentive Program Environmental Assessment Study Grants (funding for additional information sessions, walking audits, visualizations) Appendix – Public Engagement and the Environmental Assessment Process



**Concern:** Many roads do not appropriately reflect current active transportation and transit needs.

**Discussion:** Road design standards are up to date and reflect approved safety standards for all road users. The supporting policies and design guidelines that are consulted during the implementation of road infrastructure projects may require updates to ensure transportation facilities are designed to accommodate desired users. The majority of infrastructure across the region was constructed years ago under a different set of standards which can explain why some roads do not reflect the current and future needs of users.

The implementation of the Provincial Policy Statement (2005) and Growth Plan for the Greater Golden Horseshoe (2006) have significantly changed the way communities are planned in Ontario. The provision of transit service and active transportation facilities (sidewalks, bicycle facilities) within neighbourhoods is important in creating complete communities with healthy and active populations. Road standards should be adhered to, however local guidelines and policies to implement them should be reviewed



Policy

regularly to ensure that they reflect the vision of the community and enable it to be achieved and designed accordingly.

Approaches: This Plan recognizes that in order to achieve a healthy and livable community, the transportation system now and in the future, will need to reduce reliance on the automobile in favour of more sustainable forms of connective transportation such as walking, cycling, and transit. (City of St. Catharines)

In the interests of overall energy conservation, environmental protection, and public mobility, the City shall promote the use of public transit, wherever possible. (City of Welland)

From environmental, economic, health and traffic management perspectives, non-automobile modes of transportation are the preferred methods of movement within the City and full consideration will be given to accommodating pedestrians and cycling in the planning, design and evaluation of any new development. (City of Port Colborne)



Road design guidelines will be reviewed regularly to ensure that they are reflective of current planning priorities in the municipality. (Niagara Region Model Policy)

Resources: Ontario Traffic Manual

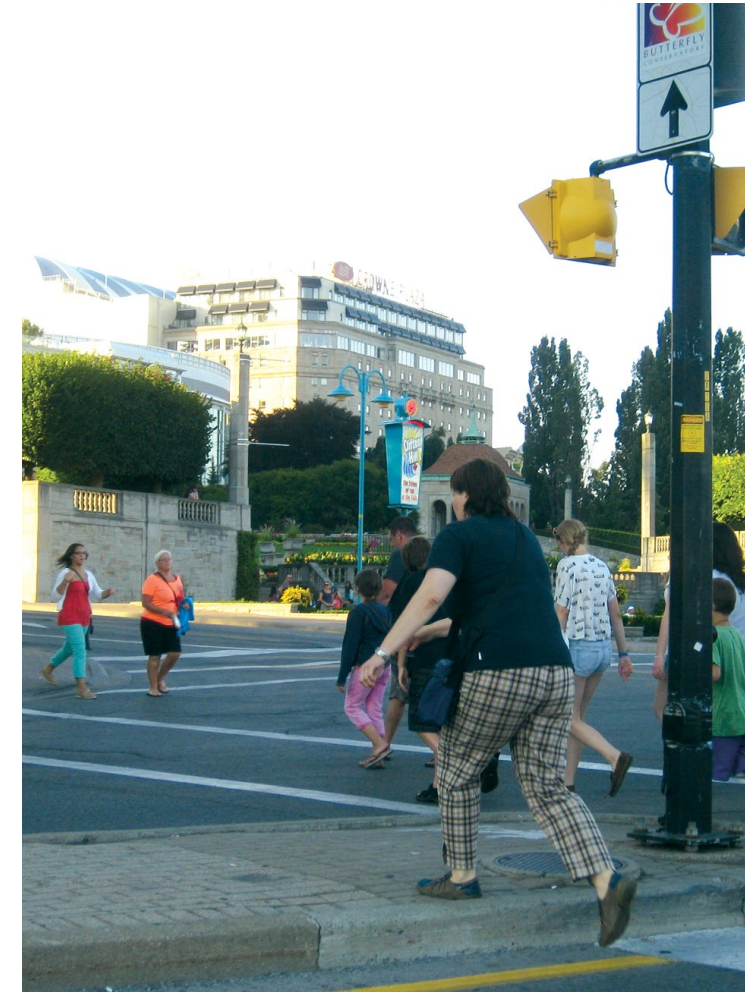


**Concern: Dedicated bike lanes are absent on main streets.**

Discussion: Main streets are the heart of communities and are a focal point for many transportation trips. Often, dedicated access is provided to a main street area but not through it. Where bicycle access is not provided, it is usually due to safety concerns associated with traffic volume, on-street parking, freight movement and vehicle speed.

Planned and existing Regional Bicycle facilities are delineated in the Niagara Bikeways Master Plan. Any local road is eligible for the implementation of a bike lane if it is on this network. The official plan for a local municipality shall outline the direction and need for bicycle facilities on local roads. If bicycle facilities are requested on a Regional road not outlined on the Regional Bike Network the municipality should contact the Niagara Region and discuss the proposal.

Dedicated bicycle space can be provided in many scenarios; however, it may require a reduction in the number on street parking spaces or delivery locations. Small businesses rely on on-street parking



for customers, deliveries and accessibility purposes. If access cannot be provided through an area, an alternative route should be provided adjacent to the site with appropriate facilities such as bicycle parking.

Policy

Approaches: Promote and where possible integrate forms of accessible transport throughout the Municipality with an emphasis on the urban areas. (Town of Pelham)

Access to downtowns and main streets will be provided for cyclists. Where safe access or adequate facilities cannot be provided, an alternative route is encouraged to be established on an adjacent road. (Niagara Region Model Policy)

Resources:

Regional Bicycling Facilities Grants for Facilities Included on the Bikeways Master Plan  
Green Municipal Fund Grants for Complete Streets Projects



**Concern:** Streetscaping is visually appealing, however it is difficult to maintain from an operational standpoint.

**Discussion:** To accommodate increased volumes of pedestrians and cyclists, furniture such as benches, refuse containers and lighting are typically provided. These items can provide added enjoyment to an area but they can also act as an obstacle for local maintenance workers. In the winter, these items can make snow removal difficult and place the burden on local business owners or residents to clear municipal infrastructure.

**Policy**

**Approaches:** Street furniture shall be placed and oriented in a way which does not deter regular maintenance, waste collection, snow removal or accessibility. (Niagara Region Model Policy)

**Resources:** Model Urban Design Guidelines  
Bell Canada Urban Design Manual for Telecommunications



**Concern:** Wide roads are underutilized.

**Discussion:** Every road within Niagara plays a role in the Regional transportation network. Arterial roads carry higher volumes of traffic at higher speeds whereas local roads carry less volume and are more oriented towards pedestrians. Some local roads within the region are wider than they need to be to accommodate traffic volumes and are a good candidate for reconfiguration or the introduction of other modes. The inclusion of additional modes of transportation can be considered within these right-of-ways provided that the correct engineering dimensions for infrastructure are provided. For example, although a road may look too wide for just one lane of traffic there may not be enough room for a legal bicycle lane or on-street parking.

**Policy**

**Approaches:** The City shall consider various traffic calming and transportation demand management measures to reduce the negative impacts of traffic, and to promote safer streets and the concept of complete streets. (City of St. Catharines)



Where it has been deemed appropriate and safe, the municipality shall investigate opportunities for introducing additional transportation facilities such as cycling lanes, wider sidewalks and medians into roads with available space. (Niagara Region Model Policy)

Resources: Smarter Niagara Incentives Program – Grants for Design Guidelines and Streetscaping Plans  
Complete Streets by Design



**Concern:** Complete Streets should be established around key community areas such as schools, healthcare facilities and commercial centres.

**Discussion:** Key community areas tend to generate the highest amount of motorized and non-motorized traffic. Providing multi-modal options for safe and efficient access to these types of facilities should be a priority for municipalities. In many instances these are areas where vulnerable users such as children and seniors may be found (schools, senior’s homes, community facilities). Additional buffering from vehicles and other safety measures such as lighting and signalized crossings can be provided to ensure their safety and comfort. Providing improved access to these facilities can also assist in the reduction of unnecessary automobile trips and provide new opportunities for passive physical activity.



Policy

Approaches: The City will undertake a program of sidewalk reconstruction to upgrade existing walkways and to provide new walkways in established areas. Upgrades to existing walkways and the construction of new walkways shall be safe, accessible, well-lighted and have a relative degree of visibility. Priority will be given to those areas adjacent to schools, community centres, neighbourhood commercial areas, and public transit stops. (City of Welland)

Pedestrian paths will be designed and provided as part of new development in order to link centres of activity such as parks, shopping areas and schools. (Town of Fort Erie)

When the municipality is considering new Institutional uses, particularly ones that are major traffic generators such as schools, it will encourage them to locate in any existing activity nodes or identified corridors. The municipality will ensure good walking, cycling or transit connectivity and minimize the distance to nearby neighbourhoods. (Paul Young, Supportive Active Transportation)



In key community areas such as schools, healthcare facilities and commercial centres, accessible walking, cycling and transit facilities should be provided. (Niagara Region Model Policy)

Streets in proximity to public service facilities and schools shall be priority sites for Complete Streets enhancements. (Niagara Region Model Policy)

Resources: Smart Niagara Incentives Program – Grants for Secondary Plans/Community Improvement Plans



**Concern:** New development should include transportation facilities for additional modes of transportation such as bicycles and transit.

**Discussion:** Traditionally, development applications were evaluated on the anticipated amount of vehicle volume being generated and spillover onto the adjacent road network. As communities continue to intensify the inclusion of active transportation and transit facilities in development applications and connections is important. Transportation impact studies that consider active transportation are a best practice in ensuring new development is accessible by all modes.

Creating access to nearby trails or transit stops through the provision of additional on-site sidewalks is an example of the types of accommodations that can be considered. Bicycle parking, benches and parks for higher intensity uses such as apartments, employment uses and institutions warrant consideration.



**Policy**

**Approaches:** Where feasible, major public and private development projects will be required to incorporate public spaces, bicycle facilities and sidewalks to support connections to the City's pedestrian, bike and transit network. (City of St. Catharines)

Development proponents are encouraged to consider and provide for such facilities as part of any project design. The provision of bicycle parking facilities on non-residential development sites to accommodate the bicycle storage needs of the use to which they are related should be provided. Such facilities should be located close to building entrances and clearly linked to streets, pedestrian ways, or bicycle pathways. (Town of Niagara-on-the-Lake)

The Town may facilitate the use of any such public transit by providing for adequate pedestrian access to planned bus stops when development applications are approved, and by providing for the construction of bus bays and bus shelters. (Town of Niagara-on-the-Lake)



The Township shall require development and redevelopment proposals to facilitate pedestrian and cycling opportunities through the provision of pedestrian and cycling facilities, where appropriate. (Township of Wainfleet)

Development applications should include provisions to connect residents or customers to adjacent transportation networks. (Niagara Region Model Policy)

Resources: Smarter Niagara Incentives Program grants for Public Domain Improvements  
AODA Exterior Paths of Travel Regulations



**Concern:** Retrofitting roads to accommodate additional modes of transportation is expensive.

**Discussion:** Road projects are among the most expensive undertakings for both the Region and the local municipalities. The intent of the Complete Streets project is to be strategic about implementation by capitalizing on scheduled infrastructure projects. Roads have a set life expectancy and will eventually require rehabilitation, resurfacing or renovation. Integrating Complete Streets enhancements during these opportunities is a cost effective way to provide new facilities within a right-of-way. Sidewalks, bike lanes and traffic signals can be included during a scheduled road project and incorporated efficiently as all infrastructure (road, sewer, water) and utilities are accessible at once.

**Policy Approaches:** The Municipality shall use scheduled infrastructure projects as an opportunity to integrate additional transportation facilities into a right-of-way to better support active transportation and transit. (Niagara Region Model Policy)



Road resurfacing and reconstruction will be viewed as an opportunity for improving infrastructure for all modes of travel. (Paul Young, Supporting Active Transportation)

Resources: Green Municipal Fund Grants for Complete Streets Projects  
Appendix -I Local Improvement Charges – Ontario Regulation 586/06



**Concern:** “One-size fits all” cycling facilities do not meet the needs of the average user (child, family, senior).

**Discussion:** Not all cyclists will have the same skill or comfort level when riding on the road. It has been noted that on-street cycling facilities across the region have been designed for an “expert user” rather than an average cyclist. Cycling facilities that are context sensitive and reflect their purpose within a specific area of a community (i.e. a bike lane near an elementary school compared to a bike lane along a rural road) provide opportunities for new and inexperienced cyclists as well as expert riders. Engineering standards include required buffers based on the design speed of a road however in some contexts this buffer may not be enough for some users to feel comfortable. There are different design manuals available for use when developing bicycle facilities for different land uses contexts, (urban, neighbourhood, etc.).



Policy

Approaches: The bikeway network and bicycle support facilities will be planned, designed, operated and maintained in a manner to minimize conflicts and potential danger to cyclists, pedestrians and other forms of transportation, in keeping with professionally recognized guidelines with support from the Region of Niagara.  
(City of Port Colborne)

The Municipality shall ensure that cycling facilities accommodate the needs of vulnerable users such as children, seniors and those with mobility impediments. Off-road paths and/or grade separation between automobiles, cyclists and pedestrians is encouraged on roads with speed limits of 50 km/h or higher.  
(Niagara Region Model Policy)

Resources: CanBike Cycling Safety Courses



**Concern:** Connections should be provided between the different transportation networks.

**Discussion:** Connections are vital to any successful transportation network. Within a Complete Street, persons should be able to move seamlessly between different modes and networks. Opportunities to change between different modes can be accommodated through investment in the public realm. For example, by providing transit shelters with bicycle parking an opportunity to “chain” trips together is supported. Providing these connections increases the chances that persons will use alternative modes of transportation throughout the day.

In addition to infrastructure, policies and programs such as Transportation Demand Management and Transit policy can provide additional opportunities and incentives to use active transportation and public transit (i.e. putting bicycle racks on buses). By creating connections in and around key community areas the residents and businesses within are provide with multiple opportunities to enjoy the space and be active at the same time.



Given Niagara's extensive trails system, priority should be also placed on creating connections between transportation networks within settlement areas and off road paths and trails. The Niagara trails system is used extensively by tourists and residents alike and through the provision of better connections to key community areas via Complete Streets there are multiple economic benefits to be gained.

Policy

Approaches: In support of an integrated Bicycle Network, priority should be given to the development of bicycle facilities to facilitate linkages and connections between the local and Regional bicycle network. (City of St. Catharines)

A street related pedestrian walkway and bikeway system shall be required within the neighbourhood. These facilities will be designed to be integrated with a general pedestrian and bicycle system within the community which provides linkages between buildings, adjacent sites, surrounding areas and public streets particularly those with transit facilities. (Town of Pelham)



Resources: Smarter Niagara Incentives Program – Public Domain Incentives

The municipality shall prioritize the development of cycling facilities and sidewalks which connect to Niagara's bicycle and trail network. (Niagara Region Model Policy)



**Concern:** The streets should include more local culture.

**Discussion:** Public art is a reflection of the history and true culture of an area. Integrating public art in developments, streetscaping or parks has the ability to stimulate the interest of locals and tourists alike. Public art contributes to the sense of place in an area which will make people want to stay long and enjoy the space, shops and amenities in an area. Engaging local artists can be a cost effective way to add a local feel to streets. Historically significant streets should also be leveraged for their importance to the area through plaques and monuments.

**Policy Approaches:** The City shall encourage other public and private sector owners and developers to include public art as a component of their developments, particularly those developments that include space that will attract significant pedestrian traffic. (City of St. Catharines)



The inclusion of public art within the public-right-of-way is encouraged as a way to establish the identity of a community or neighbourhood. (Niagara Region Model Policy)

Local artists, craftsmen and schools shall be encouraged to submit public art and street furniture to local streetscaping initiatives (Niagara Region Model Policy)

Open Streets or Cyclovia style events are supported on local streets for festivals and celebrations. (Niagara Region Model Policy)

The Municipality supports the use of empty building space off hours for cultural activities (Niagara Region Model Policy)

**Resources:** Smarter Niagara Incentives Program – Heritage Restoration and Improvement Grant/Loan.



**Concern:** Streets are difficult to navigate.

**Discussion:** Wayfinding and signage is a cost effective way to ensure people get the most out of a street. Wayfinding is even more important as it relates to transit service, parking and cycling. Clear signage lets users know where there space in the road is as well as the location of businesses, connections and key landmarks. On Complete Streets where bicycle facilities are provided, there may be a need for street signage and wayfinding along the bike route, especially if it is located near the Greater Niagara Circle Route or any major tourist destinations.

Signage and wayfinding provisions may include transit schedules, large print street signs, audible signals for crosswalks and clearly marked accessibility aids.

**Policy**

**Approaches:** In review of development applications, the City will implement Accessibility for Ontarians with Disabilities Act by:

Requiring the clear identification of handicap parking stalls by using both signage and painted demarcations of the International Symbol of Accessibility. (City of Port Colborne)



Clear and legible street signage shall be provided across the municipality to provide information on the location of:

- a. Transit Service
- b. Parking Lots
- c. Local attractions
- d. Community Services (Hospitals, City Hall, Schools, etc)
- e. Linkages to trails and pathways
- f. Cultural or Historical Sites
- g. Public amenities. (Niagara Region Model Policy)

Wayfinding and signage should be provided in alternate formats to accommodate citizens with visual, audible or physical disabilities. (Niagara Region Model Policy)

**Resources:** Smarter Niagara Incentives Program grants for Public Domain Improvements



**Concern:** On-street parking takes away room for other modes of transportation.

**Discussion:** The provision of on-street parking is a necessity for many local businesses. Parking spots often serve a dual purpose for parking and a dedicated delivery point. On-street parking may present safety concerns to pedestrians and cyclists alike; however this risk is higher when a vehicle is parked within the roadway. Bumped-in parking stalls are an effective way to remove vehicles from the roadway and are an effective form of traffic calming. Some communities have repurposed the spaces for public uses such as patios and street cafes.

On-street parking is also an effective way of providing universal access for persons with accessibility needs. On-street parking provides proximate and efficient access to adjacent land uses.

**Policy**

**Approaches:** Prior to removing or adding on-street parking, the Town shall consider the context of the area including walkability and cycling opportunities. Where on-street parking is removed, sufficient off-street parking will be provided in its place. (Town of Fort Erie)



“Through municipal by-law, on-street parking spaces may be repurposed for local businesses, bicycle parking or landscaping during off-peak hours” (Niagara Region Model Policy)

**Resources:** Model Urban Design Guidelines  
Green Municipal Fund Grants for Complete Streets Projects  
AODA On-street Parking Regulations



**Concern:** Adjacent land uses should be considered part of a Complete Street.

**Discussion:** Homes, businesses and landscapes frame the street and contribute to its overall feel. If building facades are oriented away from the street (reverse lotting) or have blank faces (no windows or doors) they do not contribute positively to the sense of place of an area. No windows or “eyes on the street” also change a person’s perception of safety. By creating an interface with the street through design, landscaping or signage, the street can be transformed from a place to go through into a place to go to.

**Policy**

**Approaches:** Encourage high quality redevelopment of properties along the Regional roads. Buildings should be oriented to front, face and feature the road. Large parking areas should be located behind or at the side of buildings and, where visible from the road, must include substantial landscape treatment. (Township of Lincoln)

Buildings shall be street-front oriented and provide direct street access for pedestrians.” (Town of Pelham)



All retail commercial development shall include provisions for cyclists and pedestrians (e.g. lighting, furniture, direct access to street sidewalks, bicycle parking, awnings, etc.). (Paul Young, Supporting Active Transportation)

**Resources:** Smarter Niagara Incentives Program grants for Building Façade improvements and property rehabilitation  
Model Urban Design Guidelines



**Concern:** Utility infrastructure (hydro poles, phone boxes, overhead wires, etc.) clutters the street and takes away from the sense of place.

**Discussion:** Utilities such as hydro and phone have infrastructure requirements such as poles and substations that must be placed close to homes and businesses. These items are essential pieces of infrastructure, however there have been significant advances in how these items look. Hydro poles can visually clutter a sidewalk or act as a movement impediment in some cases. Utilities can be integrated into decorative lighting posts, buried underground or be designed in a way which is visually appealing through painting or decoration. It should be noted that burying or relocating utilities is a very expensive endeavor. The cost of “hiding” the utilities must be weighed against the cost of the enhancement of the street and the overall benefit of doing so.

**Policy Approaches:** Utilities should be buried below grade – typically in the boulevard section of the right of way – as part of a new construction and reconstruction of a road right of way. (Niagara Region Model Urban Design Guidelines)



Wherever possible, above-ground utilities should be located away from intersections, day-lighting triangles, and visual axes such as the end of T-intersections or other view corridors. (Niagara Region Model Urban Design Guidelines)

Where possible, street grade public utilities such as transformer pads, telephone switching stations, and junction boxes should be screened through treatment similar to the landscape theme and treatment of the surrounding neighbourhood. (Niagara Region Model Urban Design Guidelines).

Where appropriate, the municipality, in consultation with the appropriate utility authority shall support the installation of visually appealing utility and telecommunications infrastructure. (Niagara Region Model Policy)

“Utility infrastructure shall be positioned in a way which does not impede the movement of persons or maintenance equipment within a right-of-way. (Niagara Region Model Policy)

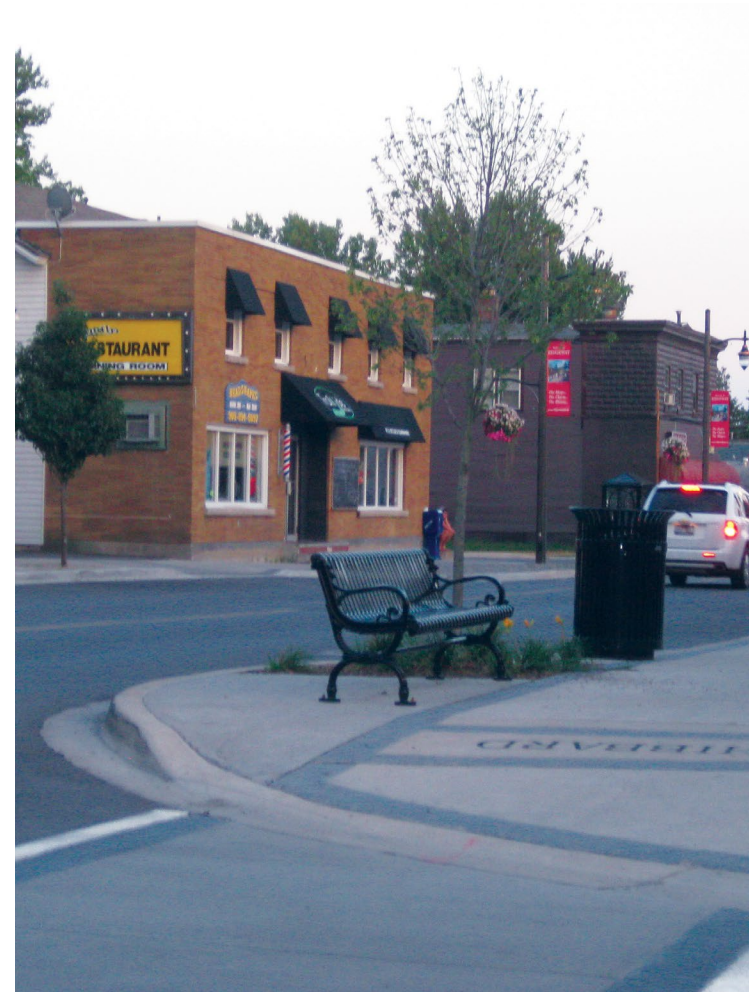
**Resources:** Model Urban Design Guidelines  
Bell Canada Urban Design Manual for Telecommunications



**Concern:** Street design should be universally accessible for persons of all ages and abilities.

**Discussion:** A key trait of a Complete Streets is that it is accessible to persons of all ages and abilities. The Region and local municipalities follow design standards that ensure all new public infrastructure and facilities are designed in a way that is universally accessible. As streets are enhanced or renovated, efforts to ensure that persons with disabilities can access the streets is required.

In some community areas, such as those surrounding medical facilities and social services there may be a need to go above and beyond the minimum standards to ensure that the persons which rely on these services can safely access them all year round. Some of these provisions may include curb cuts, audible traffic signals, longer countdown timers, wider sidewalks to accommodate wheelchair turning and universally accessible transit stops.



**Policy**

**Approaches:** Sidewalks are required on one side and encouraged on both sides of all new local and Regional streets, in order to promote walkable neighbourhoods and have regard for the Accessibility for Ontarians with Disabilities Act. (City of Port Colborne)

The City will determine where existing municipal facilities and open space are deficient with respect to Section 9.1.1(a), above and undertake a program to upgrade its facilities to ensure a barrier-free environment. (City of Port Colborne)

The City shall strive to improve the mobility of all persons to make conditions safe for walking, persons using mobility devices, including wheel chairs and scooters, and people utilizing accessible conventional transit, specialized transit and accessible taxis. (City of Welland)



## Evaluating a Complete Streets Project

When renovating or repairing a street in areas containing social services and medical facilities, additional accessibility and mobility enhancements shall be considered to support the movement of persons with disabilities, wheelchairs, scooters and walkers. (Niagara Region Model Policy)

Resources: EnAbling Change  
Enabling Accessibility Fund  
Niagara Region Facility Accessibility Design Standards



To understand the effects that the creation of a Complete Street can have on a community, an evaluation of the project site before and after work is carried out is important. Some Complete Streets projects may be expensive, that is why clearly showing the positive impacts, gains and savings in relation to these types of investments is important. An understanding of changes in frequencies and values coupled with a user's perception of the area will aid in the assessment of if the project has met its goals and created successes.

Concerns regarding the design or condition of a street can be raised by the public or the municipality itself. When a street is selected for "Completion", it is important to carefully review and document the traits and feel of the area before any work begins. These initial measurements act as a baseline to which successes and change can be evaluated. Complete Streets projects should be evaluated both quantitatively and qualitatively to gain a full understanding of the feel and function of the street. Provided below are some examples of variables to evaluate within a project site:



### Quantitative:

- Number of parking spots, benches, bike racks, etc.
- Kilometres of bike lanes and sidewalks
- Motorized and Non -Motorized Vehicle Counts / Modal Split
- Pedestrian/Cyclist and Vehicle Collisions
- Dollars allocated to cycling and pedestrian facilities
- Adjacent Property Values
- Compliance with Legislated Standards (AODA)
- Transit Ridership and Routes
- Demographics (income, age, etc.)
- Average Vehicle Travel Speeds
- Temperature of the street and sidewalk
- Population Density



### Qualitative:

- Aesthetic Appeal
- Perceptions of safety
- Public Art and design
- Types of adjacent land uses
- Quality of infrastructure
- Comments received from the public
- Mention of streets or situations in local media
- How individuals interact within a space
- Collect stories from business owners who changed from skeptics to supporters



Site evaluations can be conducted by staff or volunteers by means of experiencing an area (watching, listening, using services) at certain times of the day. Providing surveys to adjacent property owners or those using the street are an additional approach that can provide valuable information and personal views. When the collected information is paired with demographic and transportation data it creates a 'snapshot' of the current state of the street which can be compared to a future review to determine if the project achieved the goal intended.

Developing streets into accessible and inviting areas can have significant social and environmental benefits within a community such as better health, cleaner air and improved safety for all road users. Often these successes are overshadowed by the initial cost of investment. This cost places additional priority on showing the economic benefits of a project. Economic benefits are important to highlight and are a common Performance Indicator used to determine the success of a Complete Streets project. The economic 'signs of success' can be seen in the adjacent property values, and the investment and activity at local businesses. Public infrastructure is a necessary expenditure that enables investment and growth for its proximate land uses which are then returned back into the community through taxes, profits and public stewardship.



### Performance Indicators for Complete Streets

Sharing the evaluated results and measurable examples of the benefits gained from the investment is integral to building public and municipal support for ongoing Complete Streets projects. Developing a set of Performance Indicators is an effective way to monitor and evaluate progress associated with large projects that have multiple impacts. Performance indicators must be established and scoped to reflect the goals and objectives that have been chosen by a municipality. For example, if one of the goals associated with developing Complete Streets is to increase the amount of persons walking in the downtown, indicators will measure variables related to pedestrians. Examples of performance indicators in relation to goals and objectives are provided below.



## Performance Indicator Examples

### Goal: More pedestrian traffic in the downtown area

Objectives	Actions	Performance Indicators
Reduction in number of Vehicle/ Pedestrian collisions	New crossing signals, additional buffering, pedestrian oriented lighting, reduced speed limits, traffic calming	Number of vehicle/ pedestrian collisions (Annual change)  Dollars allocated to cycling and pedestrian facilities
Provide additional transit service to the downtown	Change transit routes, provide new service, new transit facilities	Number of routes/ busses/ridership (pre and post construction)
A better mix of land uses in the downtown	Change land use policy, promote intensification, grants	Increase in population density (People and jobs per hectare)
Increase cycling and pedestrian facilities	Provide bicycle parking facilities, benches and signage	Number of cyclists and pedestrians (at peak times, weekly, annually)



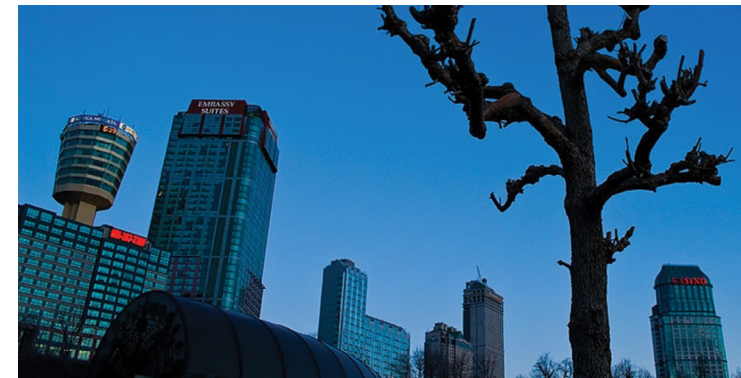
### Goal: Higher levels of public participation in the Environmental Assessment process and Public Information Centres

Objectives	Actions	Performance Indicators
Develop new and effective advertisement methods for Public Meetings through social media	Advertise public meetings and provide information on Facebook, Twitter and Municipal Website	Increased average attendance at Public Meetings over a certain amount of time
Provide opportunities for engagement beyond the prescribed minimum standard	Have multiple meetings and open houses  Take stakeholders on a walking tour of the project site.  Ensure accommodations are available for persons with disabilities to attend.	Increased average attendance at Public Meeting over a given amount of time  "Clicks" on municipal webpage.  Public Inquiries



**Goal: Increase number of students walking and cycling to and from school within a neighbourhood**

Objectives	Actions	Performance Indicators
Retrofit streets to meet the needs of the students walking and cycling to school	<ul style="list-style-type: none"> <li>Provide cycling lanes for students</li> <li>Install sidewalks along potential walking routes to schools</li> <li>Install traffic calming measures in school zones</li> </ul>	<ul style="list-style-type: none"> <li>Change in number of trips from automobile to active transportation (Modal Shift)</li> <li>Increase in kilometers of sidewalks and bike lanes</li> <li>Ratio of sidewalk to road lengths</li> <li>Reduction in vehicle speeds</li> </ul>
Provide a safe and attractive environment	<ul style="list-style-type: none"> <li>Provide additional lighting, signage and signalization</li> <li>Plant trees along the road</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in number of pedestrian/cyclist collisions with vehicles.</li> <li>Decrease in number of complaints from parents and students</li> </ul>



**Goal: Increased economic growth within a Community Improvement Area**

Objectives	Actions	Performance Indicators
Provide access to local businesses and services for multiple modes of transportation	<ul style="list-style-type: none"> <li>Reconfigure parking</li> <li>Provide bicycle parking</li> <li>Provide additional transit stops or service</li> <li>Provide signage at and way finding to key locations</li> </ul>	<ul style="list-style-type: none"> <li>Increase in pedestrian and cyclist counts</li> <li>Increase in property value and profits from local businesses</li> <li>Collect stories from business owners who changed from skeptics to supporters</li> </ul>
Create an attractive public area for potential customers and local residents to enjoy and linger within	<ul style="list-style-type: none"> <li>Include street furniture and art within the public realm</li> </ul>	<ul style="list-style-type: none"> <li>Qualitative evaluation of how persons are interacting within the space pre and post construction</li> </ul>



# Local Improvement Charges – Ontario Regulation 586/06

## Goal: Reduction in the amount of vehicle traffic within a given area

Objectives	Actions	Performance Indicators
Increase the efficiency and capacity of existing right of ways	Reconfigure the existing right of way to include provisions for different modes of transportation (e.g. wider sidewalks, cycling facilities, transit shelters)	Decrease in vehicle counts  Decrease in number of pedestrian/cyclist and vehicle collisions
Capitalize on scheduled construction	Include complete street enhancements during the scheduled reconstruction of a road	Cost of reconstruction versus retrofit (savings or expenditures)

Integrating the ongoing evaluation of a project site is important to include in the work plan. If monitored regularly, the measureable successes can be easily conveyed to stakeholders and the municipality will be in a better position to request additional Complete Streets projects knowing fully what benefits to



## What is a Local Improvement Charge?

Local Improvement Charges can be used to fund capital works that have benefits for specific areas of a municipality. Local Improvement Charges distribute a percentage of the costs of new infrastructure amongst abutting properties where improvement is deemed to provide a benefit. Property owners may pay a fraction or the full cost of the improvement depending on the type and location of work being undertaken, at the discretion of the municipality. For example, an improvement within a downtown would have benefits for the entire community which may garner a high proportion of the project's financing from the municipality itself, rather than the abutting properties.



## Who can apply for local improvements?

The municipality or residents can initiate the local improvement process through Ontario Regulation 586/06 under the Municipal Act (2001). Residents in the vicinity of the proposed work area may submit a petition in favour or against a municipally proposed capital works project. Residents have the right to use a petition to request a local improvement project from a municipality. Local petitions can be used to request improvements for site specific concerns related to accessibility, safety and mobility. If interested in petitioning for an improvement, please contact the local municipality for an application.



## How can they be used to develop Complete Streets?

The provision of Complete Streets related infrastructure such as marked pedestrian crossings, new sidewalks and signalization are forms of capital works projects. Similarly to the way in which stakeholders noted specific concerns with streets within Niagara during the consultation process, strategic solutions for identified concerns can be proposed by adjacent landowners through a petition to the local municipality. For example, if a neighbourhood resident had concerns about vehicle speed in their neighbourhood they could petition the municipality to install traffic calming infrastructure (medians, speed humps) or reduce the speed limit.



## Examples of Capital Works Qualified for Application of Local Improvement Charges

- Road resurfacing
- Provision of public parks
- Sidewalk replacement
- Addition of curb and gutter
- Stormwater management
- Noise abatement
- Energy conservation
- Shore protection work
- Water quality projects
- Road widening

*(Examples provided above are inclusive but not limited to.)*

## Linkages to the Smarter Niagara Incentives Program

Through the Smarter Niagara Incentives Program (SNIP), a municipality may apply for a matching grant of up to \$100,000 per project from the Niagara Region for improvements to the public domain. Public Domain Incentives funding can be granted for projects such as streetscaping, providing additional transit shelters or bike racks, and public buildings.



## Public Engagement and the Environmental Assessment Process



## What is an Environmental Assessment?

An Environmental Assessment (EA) is a study and design process required for capital works projects under the Environmental Assessment Act. A Class Municipal Environmental Assessment is commonly used for capital works projects related to road, water and sewer projects (i.e. sewer and road replacement project). Larger scale Complete Streets projects, such as a road diet or provision of additional transportation facilities would be subject to a Municipal Engineers Association Class EA.

Projects that are subject to an EA are categorized as Schedule A, B or C, which refers to the level of impact and scale of the project.

Schedule A – Primarily operational and maintenance related – have minimal impacts.

Schedule B – General infrastructure improvements or expansions – may have some impacts.

Schedule C – New facilities or significant expansion – may have significant impacts.



Standalone Complete Streets projects such as adding streetscaping, bicycle facilities, bumped in parking or burying utilities will commonly fall into the category of Schedule A and B projects. Complete Streets enhancements can be integrated as part of a larger initiative under a Schedule C project, preferably during a scheduled renovation or rehabilitation (i.e. road widening with bus bays for transit)

### The Five Phases of an Environmental Assessment

A Class Municipal Environmental Assessment is divided into five phases that range from the initial identification of an issue to the construction of a solution and monitoring.

#### 1. Problem or Opportunity

- Either by the municipality alone or in consultation with the public, an opportunity or problem is identified.
- Alternative Solutions

#### 2. Different types of solutions to address the problem or opportunity are developed and presented for comment.

- A study of possible environmental impacts is completed for each alternative solution.
- Agencies and the public are given a chance to review the proposed solutions and give comment. \*
- Preferred solution is selected.



#### 3. Alternate Design Concepts for Preferred Solution

- Different design solutions for the preferred solution are prepared.
- Inventory of natural, social and economic environment is completed.
- Environmental impacts identified.
- Preferred designs presented for agency and public review.\*

#### 4. Environmental Study Report

- Report on all the findings and potential impacts.
- Provide overview of the design solution to the opportunity or problem.

#### 5. Implementation

- Drawing completed and project is put out to tender.
- Construction.
- Project monitored for successes after completion.

*\*Opportunity for Public Engagement*



## How can the public participate in the process?

Throughout the Five Phase EA process, there are compulsory public engagement points. Required public notices for upcoming EA's and Public Information Centres (PIC's) can be found on a municipal website or in the local newspapers. Public engagement activities are typically held at local community centres or government buildings near to project site and include a presentation, visuals displays and drawings, and supporting studies and information. Although the opportunity for engagement under the Act is sufficient, it is largely responsive in that stakeholders have to respond to solutions rather than developing and suggesting their own. Stakeholders are not experts; however as the primary users their opinions and suggestions should be requested early and often, especially for projects that will impact daily accessibility and mobility. Like a Public Meeting under the Planning Act, public engagement is valuable to any project. As great public engagement leads to great public policy, it also leads to great public infrastructure. A copy of the EA Process chart is attached for reference in Appendix 1.



## Additional Opportunities for Public Engagement

There are ways to engage the public into the EA process that go beyond the requirements of the Act. These additional methods not only have the potential to reach more people but in many cases are more accessible and informative for stakeholders.

- Social media is an effective outlet for telling the public about an upcoming EA that there will be an opportunity to get involved. Posting to social networking sites (Facebook, Twitter, etc.) provides an opportunity to connect with those persons who may not check the paper or website regularly for updates. Stakeholder materials and surveys can be shared electronically with persons who request the materials. Although social media has the ability to reach different demographics effectively, it should be used carefully as the anonymity of public comment submissions may generate some unintended or negative comments. Open forums should be monitored closely to ensure the content is appropriate and not counter-productive to the project process.

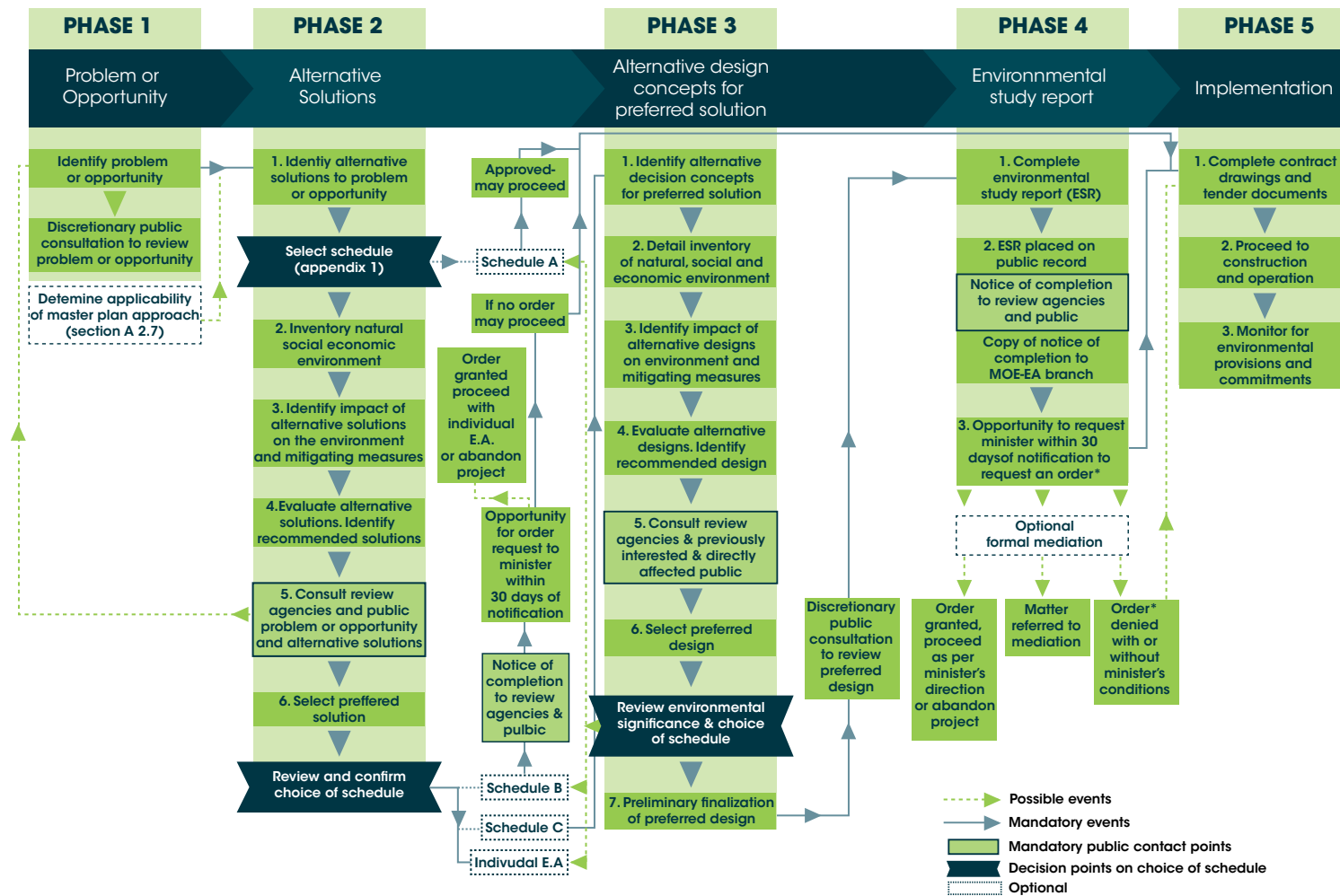


- Walking audits are an effective way to get public input before design solutions are formulated. A Walking Audit is a guided tour of an area by staff or a developer that provides an open forum for addressing concerns and hearing first hand understandings or an area. Although Public consultation is not required in Phase 1 of an Environmental Assessment, walking audits are an effective way to learn about an area and identify additional issues that can be addressed through the design and construction process.
- The New York City Department of Transportation uses an interactive street view mapping program for upcoming road projects. The application allows residents to view parts of the street online and apply comments and suggestions using digital sticky notes.





## Appendix 1



## Appendix 2

1. Township of West Lincoln - Griffin St. North
2. Town of Niagara-on-the-Lake - Regional Road 55
3. Town of Pelham - Pelham Rd.
4. City of St. Catharines - Queenston St. at Berryman Ave.
5. City of Thorold/City of St. Catharines - St. David's Rd.
6. City of St. Catharines - Queenston St. at Vine Street

These are visualizations to show options and possibilities. In many cases, these types of complete street enhancements will require considerations of cost, operational and maintenance issues, as well as coordination between local municipalities and the Region. These options are not ideal or possible in all circumstances.



Township of West Lincoln -  
Griffin St. North



Town of Niagara-on-the-Lake -  
Regional Road 55





Town of Pelham -  
Pelham Rd



City of St. Catharines-  
Queenston St. at Berryman Ave.





City of Thorold/City of St. Catharines-  
St. David's Rd.



City of St. Catharines-  
Queenston St. at Vine St.









# Complete Streets for Niagara

A working method to visualize the creation of a complete street

June 20th, 2013





COMPLETE STREETS FOR NIAGARA



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## Introduction and background of the report

In 2011, Healthy Living Niagara hosted an Active Transportation Summit to explore ways of making walking and cycling more accessible.

One of the key action items brought forward was the implementation of complete streets in municipalities throughout the region. In response, Niagara Region initiated the Complete Streets for Niagara project, which is intended to help direct the creation of a Regional complete streets policy and help local municipalities implement complete streets.

This document is intended to provide municipalities and stakeholders with tools for working with local communities to help visualize complete streets





### What is a complete street?

Complete streets accommodate different kinds of movement and uses in an integrated street. The Complete Streets for Niagara project defines complete streets as:

*“A public right-of-way in which the transportation facilities and adjacent land uses are planned, designed and constructed to accommodate users of all ages and abilities including pedestrians, bicyclists, transit vehicles, automobiles and freight traffic.”*





## What can complete streets help us achieve?

Beyond simply allowing for different kinds of movement, complete streets serve a number of different functions that have social, economic, environmental and health impacts:

### **Social**

The design of a complete street can help build a sense of place in a community by encouraging an inclusive, engaging public realm. As more people use the public realm the inevitable social interactions that happen can help build community cohesion and can even help reduce crime by providing 'eyes on the street'.

### **Economic**

By creating a more varied and interesting public realm, complete streets often encourage the retention of smaller, locally-owned businesses, which contributes to a stronger local economy. Housing or businesses near or adjacent to complete streets often have higher property values because of their proximity to so many resources.

### **Environmental**

The most immediate benefit of a complete street is its ability to reduce automobile use, subsequently reducing a reliance on fossil fuels and the production of greenhouse gasses. A complete street often contains plantings and street trees, which improve air quality and help moderate temperature.

### **Health**

Complete streets can encourage walking and cycling as regular and frequent modes of travel. The subsequent increase in activity has a significant and positive impact on the health of local residents. Further, the design of a complete street can reduce accidents between cars, bicycles and pedestrians.





## How this document is to be used

Niagara Region understands that great public policy comes from great public engagement.

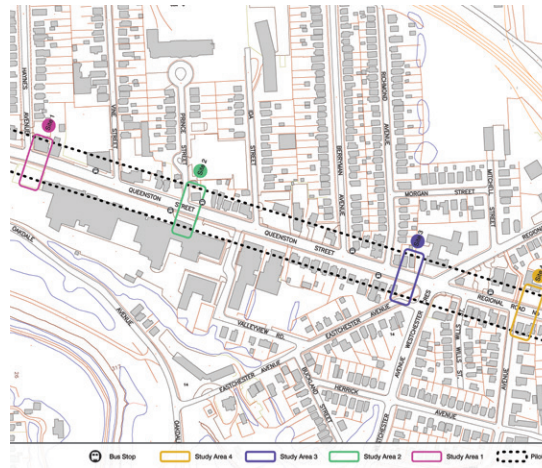
There are often many competing objectives for a street and defining a 'vision' for a complete street will help set priorities and guide decision making. Each municipality in the region has specific road conditions, unique needs and best practices for local public engagement, and this document is not intended to be proscriptive about the process of creating a complete street.

Instead, this document is intended to help municipalities within the Niagara Region work with the public to create a vision and prioritize key elements for the implementation of local complete streets. The document includes:

- a straightforward explanation of the function of a complete street and what to consider when establishing a vision;
- a discussion of the physical elements that make up a complete street;
- a description of the methods and tools used during a pilot study for creating a vision for a complete street on Queenston Street in St. Catharines.



Primary site visit



Analysis of the pilot site



Walking audit



Designing and visualizing the pilot site



## What to consider when establishing a vision for a street

### Movement

There is more than one kind of movement on a street, and a well-designed complete street accommodates pedestrians, transit, cyclists and cars. Each form of movement has its own restrictions and the key to implement a safe street is to ensuring that one form of movement doesn't take precedence over any other.

For example, sidewalks should be wide enough to create a safe and comfortable environment for pedestrians and car lanes should be wide enough to accommodate the volume of traffic and the speed of vehicles.

The specific requirements for each type of movement will vary depending on the context, however each type of movement must be integrated into the street.



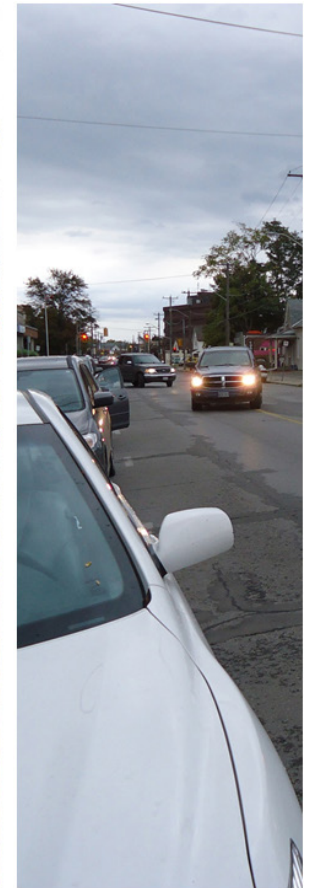
Sidewalks designed for different levels of mobility



Ability to accommodate transit



Provide safe spaces for cyclists



Accommodate both driving lanes and on-street parking



## Land use

Different land uses impact how a street functions. For example, shops and apartment buildings produce different kinds of pedestrian flow and have different impacts on street-related parking or sidewalk widths than housing or open spaces, which often require a setback from the street.

Offices and retail typically front onto the public realm, although institutional uses and office uses may have specific requirements, such as driveways or surface parking. Regardless of the type, each different land use places particular demands on a street.

A complete street will accommodate a variety of different uses, creating a more interesting and active street.



Active uses along the street helps create a vibrant and engaging environment.



Open spaces and plazas contribute to the public realm



Residential buildings can contain active uses at grade



## The public realm

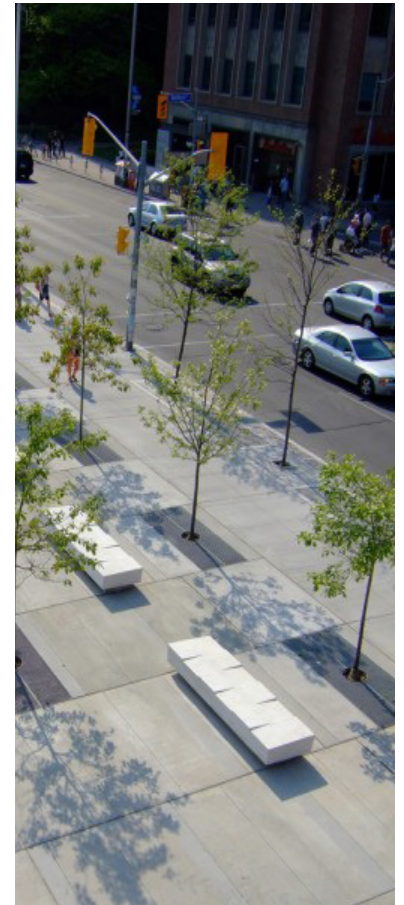
The public realm is more than just the pavement between the front of a building and the road; it reflects the identity and character of a place. The public realm includes street trees, furniture, waste disposal and lighting and it should provide a safe and comfortable pedestrian experience. Consideration should be given to the conditions needed for healthy street trees, although plantings should not interfere with pedestrian mobility. Lighting helps increase the safety of the street and should be included and pedestrian amenities, such as information posts, garbage/recycling containers or benches contribute to a quality pedestrian environment. Overall, the public realm should be approximately 40% to 50% of the entire street width.



Street trees provide shade and increase the visual appeal of a street



Street plantings provide an interesting environment and improve the pedestrian experience



Well-placed street furniture encourages an active street life



### Building orientation and form

The massing of buildings and the way that they are oriented toward the street has a strong effect on the pedestrian experience. Buildings that front directly onto the street provide a more urban feel to the street, adding variety and interest, and often contributing to a sense of safety for pedestrians. Conversely, buildings with ample setbacks from the street produce a less urban condition and can create the perception of a wide, grand street. Regardless how far they are set back from the street, the setback line for buildings should be consistent along the length of the street and main entrances should be oriented to address the street.



Building size and orientation should contribute to a consistent street wall.



## Physical components of a complete street

### Sidewalks

Sidewalks should provide enough room for comfortable pedestrian movement. The types of land uses lining the street should be taken into account, as should the volume of people using the sidewalk. Typically, a sidewalk should be at least 1.8 metres wide, although sidewalks may be wider if they are to accommodate street trees, plantings or street furniture.



Wider sidewalks can accommodate planting and street furniture and improve the pedestrian experience



## Cycling infrastructure

Cycling infrastructure is a critical component of a complete street, although the way that the infrastructure is implemented can vary widely. For example, bike paths can be curbed and fully separated from the vehicular roadway, or they can simply be painted as 'sharrows', which identify them as being included in the automobile lane. Typically, a one-way cycle lane should be at least 1.5 metres wide, although this may vary depending on the municipality or the width of the road. Consideration should be given to other forms of supportive infrastructure, such as bike-only crossing signals at key intersections or 'bike boxes' which allow cyclists to remain in front of cars when stopped at an intersection. Cycling infrastructure can extend beyond movement: bike lock posts can be located at key points along the sidewalk and protected bike lock stations can be built at the entrance to public buildings.



1.5 m bike lane integrated with vehicular/on-street parking lane



Shared bike lane



Dedicated bike lane



Multi-use pathway



## Transit infrastructure and furniture

Consideration should be given to how transit connections are integrated into the street. If stops have not been established, they should be located in close proximity to major intersections or at intersections with other modes of transit. If the opportunity exists, transit shelters or benches should be located at all stops.



Transit shelters for riders



Dedicated transit infrastructure incorporated into the street

## Accommodating vehicles

Vehicular traffic must also be accommodated within the roadway and consideration must be given to the level of traffic, the number of traffic lanes, the direction of traffic, and whether the street needs to accommodate dedicated left- or right-hand turn lanes. Lanes are typically between 3.25 to 3.5 metres wide, although standards may vary depending on the municipality, the anticipated traffic volume, and the hierarchy of the street.



Traffic calming in a highly pedestrian environment



Accommodating parking and vehicular movement



## Parking

On-street parking is an important amenity that can help support local retail, restaurants, and services by providing parking immediately adjacent to the use. Angled parking can accommodate a large number of parking stalls, however parallel parking minimizes the impact of the parking on the flow of cycling and vehicular traffic. Parallel on-street parking lanes are usually between 2.7 and 3.5 metres wide. Surface parking lots adjacent to the main street should be screened in order to minimize their impact on the pedestrian environment.



On-street parking



On-street parking integrated into the sidewalk



Off-street parking screened from the public realm



## Boulevards and medians

Medians, in the centre of the street, can serve a number of different purposes, depending on their width. At their simplest, they can be used to separate opposing traffic lanes, however a planted median can be a valuable tool for enhancing the public realm. Wider medians present an opportunity to create linear parks or enhanced pedestrian connections. The creation of boulevards and street planting between the sidewalk and the roadway can significantly improve the public realm by creating a safety buffer between pedestrians and on-street vehicular traffic and producing a visually appealing environment.



Boulevards improve the quality and visual appeal of the street



Medians can provide shade, facilitate crossings or buffer lanes of opposing traffic



## Street lighting and furniture



Lighting can add to the visual appeal and safety of a street



Garbage and recycling bins contribute to a clean street



Street furniture can improve activity on the street



Street furniture is an important respite for pedestrians

Complete streets must be safe for all users and street lighting is a key component of enhancing the safety of a street. Light standards can be designed for both pedestrian and vehicular movement, although municipalities will likely want to establish guidelines for the height and design of each standard to ensure that they fit within the surrounding context. Benches and street furniture contribute to a street by providing relief for pedestrians. Waste receptacles may also be located in close proximity to benches, allowing for easy waste disposal.



## Signage and way-finding

Signage is critical to the function of a complete street and should include pedestrian and cyclist oriented signage in addition to signage for vehicles. Information posts can be used as place-markers, particularly in areas with a high volume of out-of-town visitors. Street signage can also help create a unified public realm if it is designed and implemented with other street furniture elements, such as street lighting, benches, and waste receptacles.



Signage designed exclusively for pedestrians



Information posts can be used to support tourism

## Patios

Patios add vibrancy and life to a street. In areas with underused surface parking in front of buildings, patios can be encouraged in order to animate the street and bring the 'street wall' closer to the public realm.



Patios add to the vibrancy of the street



Patios should not compete with the pedestrian realm



## Queenston Street: A pilot study

### The Study

On December 8, 2012, Niagara Region hosted a workshop and walking audit. The event introduced the complete streets concept and used Queenston Street in St. Catharines as a pilot site to demonstrate what a complete street can look like in the Region. The Queenston Street corridor was chosen for its range of different roadway conditions and land uses.

The day began with a project overview and a presentation that provided precedents for a variety of complete streets in North America. The presentation was intended to introduce attendees to the project's objectives, goals and raise the issues and opportunities for implementing a complete street.

The presentation provided a foundation for how complete streets can support a range of transportation uses to effectively move cyclists, cars and public transportation while providing an engaging public realm for pedestrians. The

study team also provided participants with a "tool kit" of general standards, guidelines and infrastructure required for implementing complete streets.

The following section describes the agenda and room set-up for the day and illustrates the materials that were used to facilitate the study. The section provides the outcome of the visioning session and concludes by offering two examples of illustrations that show how the vision for Queenston Street could be implemented over time.





## Agenda

- 11:00 – 11:45 45 minute presentation about complete streets, which focused on:
- What is a Complete Street?
  - Regional Model Polices and Recommendations for Implementation
  - Overview of Existing Conditions and City Policy
  - Precedents: what Queenston Street could be like
  - Components of a Complete Street
- 11:45 – 12:35 A Walking Audit
- 12:35 – 12:50 Lunch Break
- 12:50 – 1:40 Break-out Session
- 1:40 – 2:00 Report Back and Next Steps

## Room set-up

The room was set up to include a welcome table, with the following items:

- a. A staffed registration table with sign-in sheets
- b. Agendas and walking audit hand outs and maps for each participant
- c. Participant name tags with coloured dots to correspond to break out groups
- d. Feedback forms

## Room logistics

- a. Projector, laptop, screen, microphone
- b. 40 chairs (+/-) set up to view presentation
- c. 4 tables set up for break-out sessions with 7-8 chairs at each (client); table to be big enough for 3x5 foot plots
- d. 5 sets of section & plan drawings (plotted at 3x5 feet), station photos, box of markers, trace, tape, study area aerial map, typical dimensions, break-out instructions
- e. 5 easels and flipcharts with markers; 1 set up at each break out table



### Street component check-list

The street component checklist outlines the key components of a complete street. It was used in the visioning session as a way of facilitating discussion about what components could be integrated into a local complete street. The checklist was not exhaustive, but provided an example of a tool that can be used to help create the vision of a complete street.

Within the Road Platform	Station 1		Station 2		Station 3	
	Existing	Required	Existing	Required	Existing	Required
Crosswalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle travel lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bike Lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Left/Right Turning Lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On Street Parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Centre Medians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments :

Within the Public Realm:	Existing	Required	Existing	Required	Existing	Required
Sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-purpose trails/routes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boulevards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Street trees and Other Landscaping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Street Lights and Utility Poles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Signage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benches and Street Furniture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transit Shelters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments :

Within the Private Realm:	Existing	Required	Existing	Required	Existing	Required
Front yards with private walks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Landscaping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Driveways/Parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commercial patios	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments :

Within the Road Platform	Station 1		Station 2		Station 3	
	Existing	Required	Existing	Required	Existing	Required
Crosswalks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vehicle travel lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bike Lanes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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On Street Parking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Centre Medians	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments :

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Boulevards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Commercial patios	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

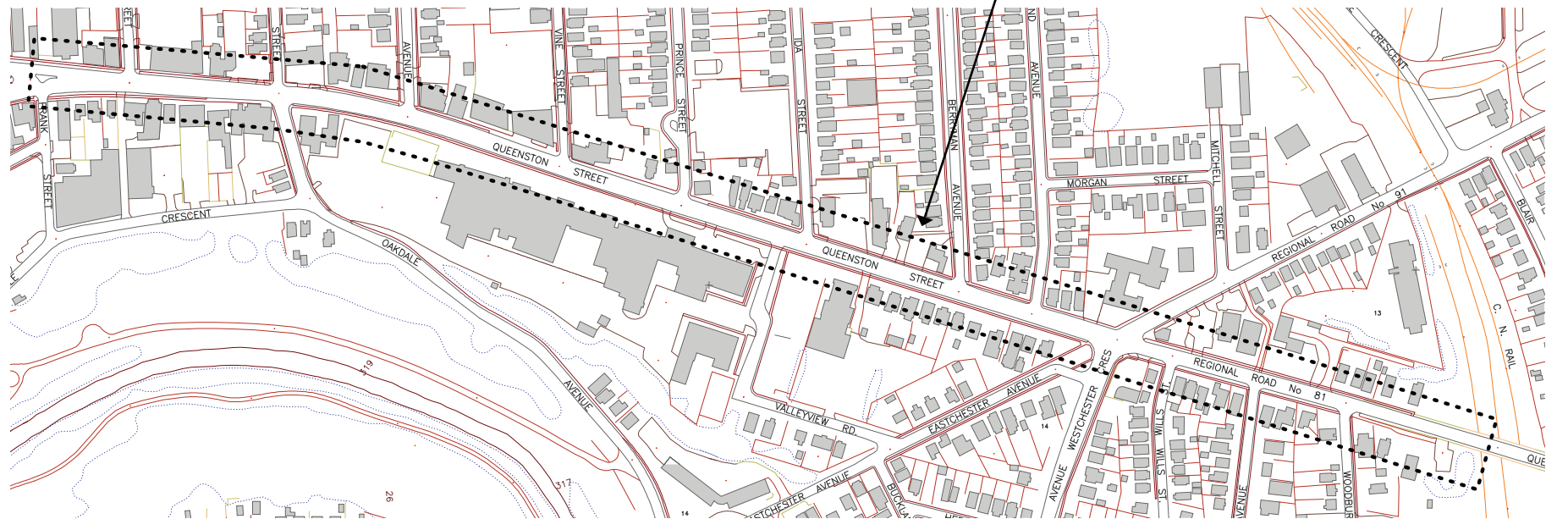
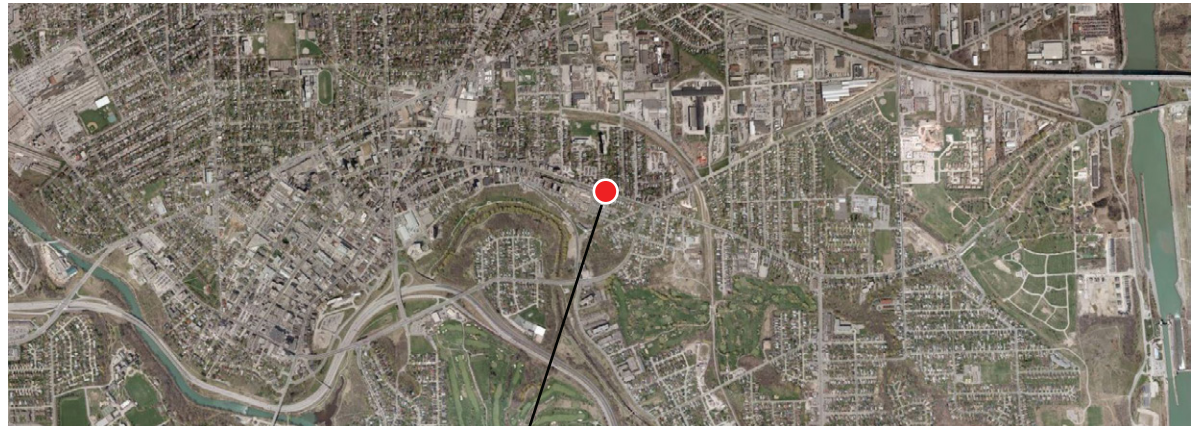
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## Study area analysis

The study area was designed to include as broad a section of Queenston Street as possible. The easternmost portion of the study area was in important addition, as it reflected the transition of the street from a Regional Road to a local street.

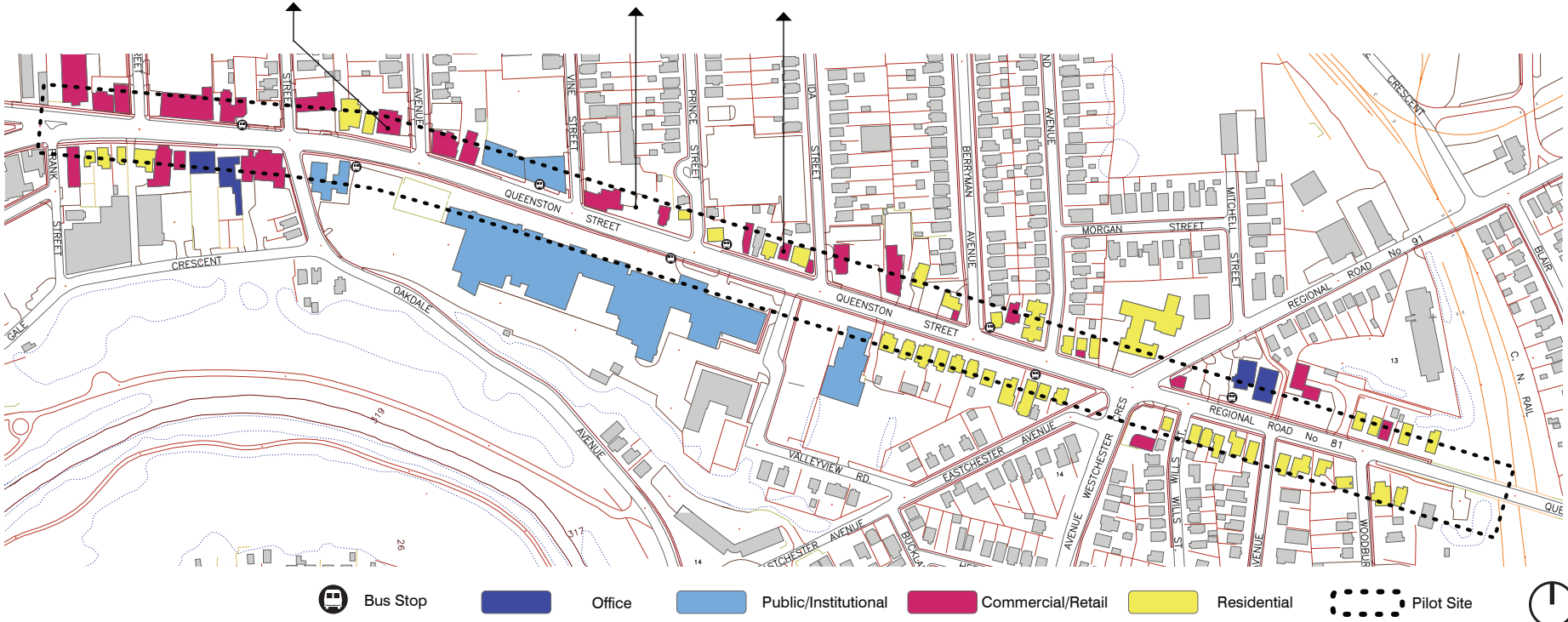
The following pages illustrate the various elements of the study area analysis.





Land use

An analysis of the land uses identified and illustrated how the street was currently used, which allowed for a better understanding of the types of movement and uses the street might need to accommodate.

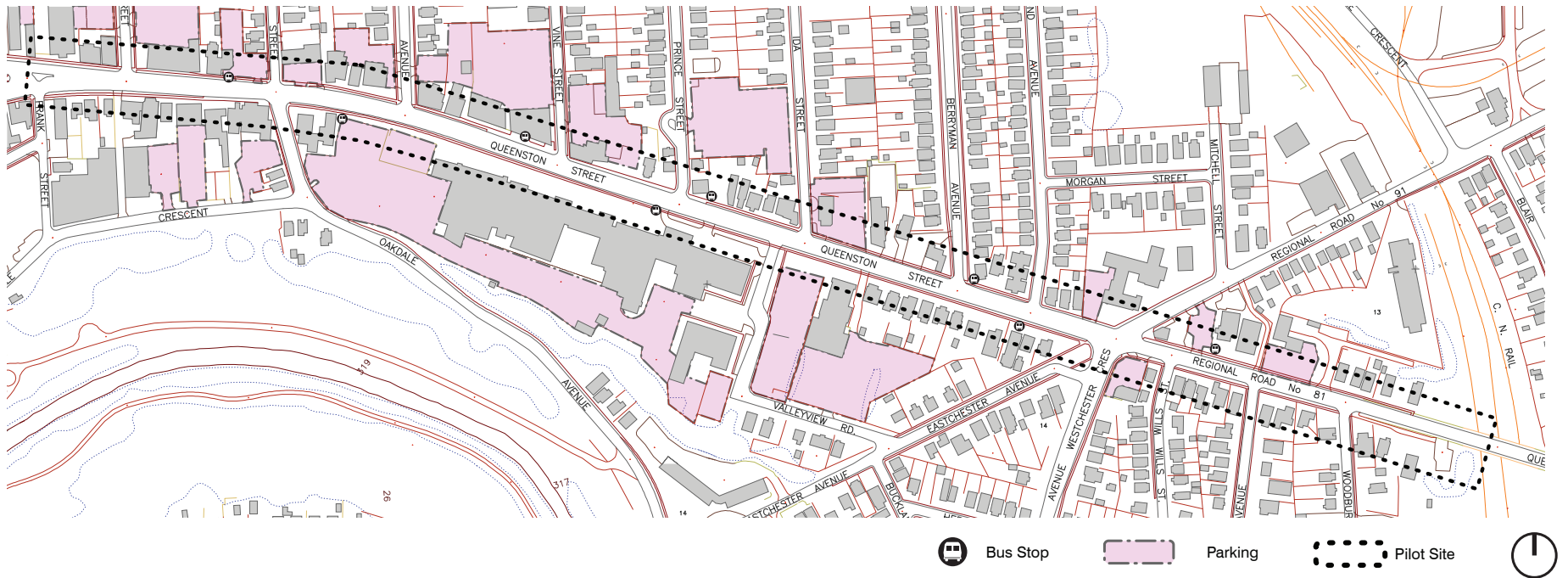




# COMPLETE STREETS FOR NIAGARA

## Parking

A parking analysis helped identify if on-street parking would be required or if there was sufficient capacity in lots adjacent to the street. A time of use study would help refine how and when surface lots are used and would help gain a better understanding of local parking capacity.









Bike network

An understanding of existing (or proposed) bicycle networks is critical for establishing a vision of a complete street. On Queenston Street, for example, some kind of cycling infrastructure would be a critical component of the street, as there are existing bike lanes on the Regional Road.



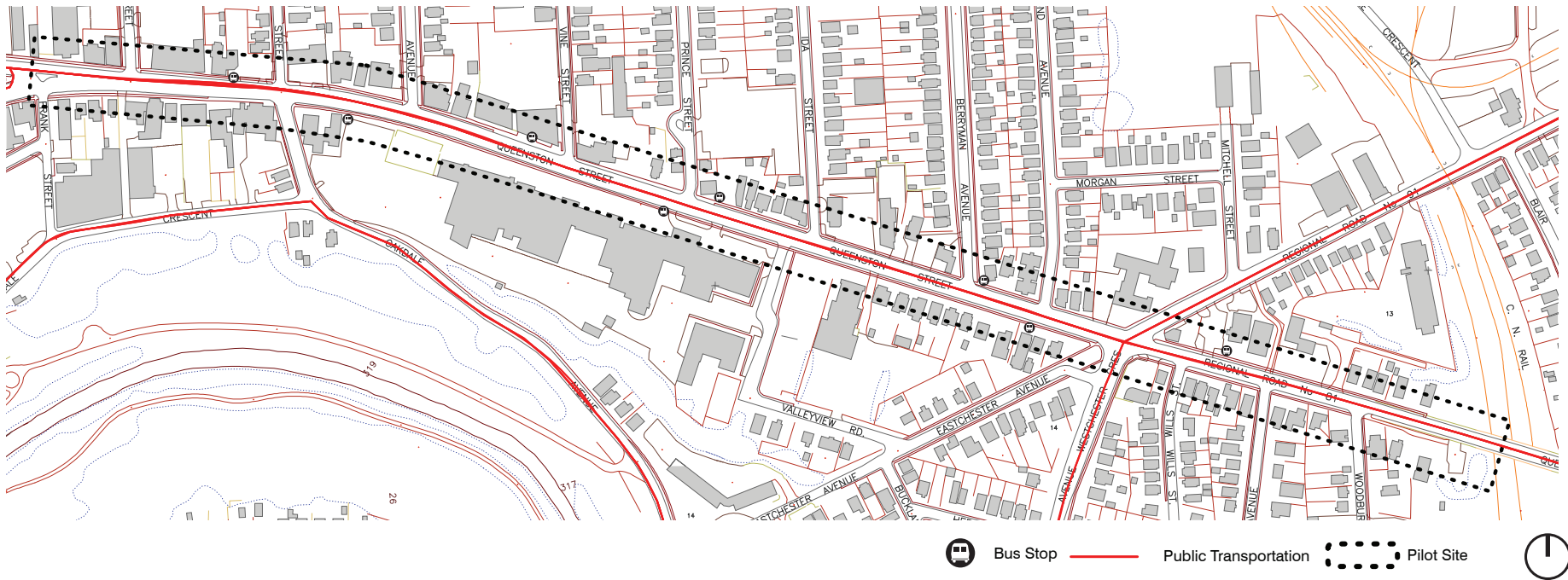
-  Bus Stop
-  Bike Route
-  Pilot Site
- 



# COMPLETE STREETS FOR NIAGARA

## Transit

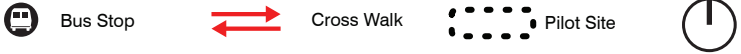
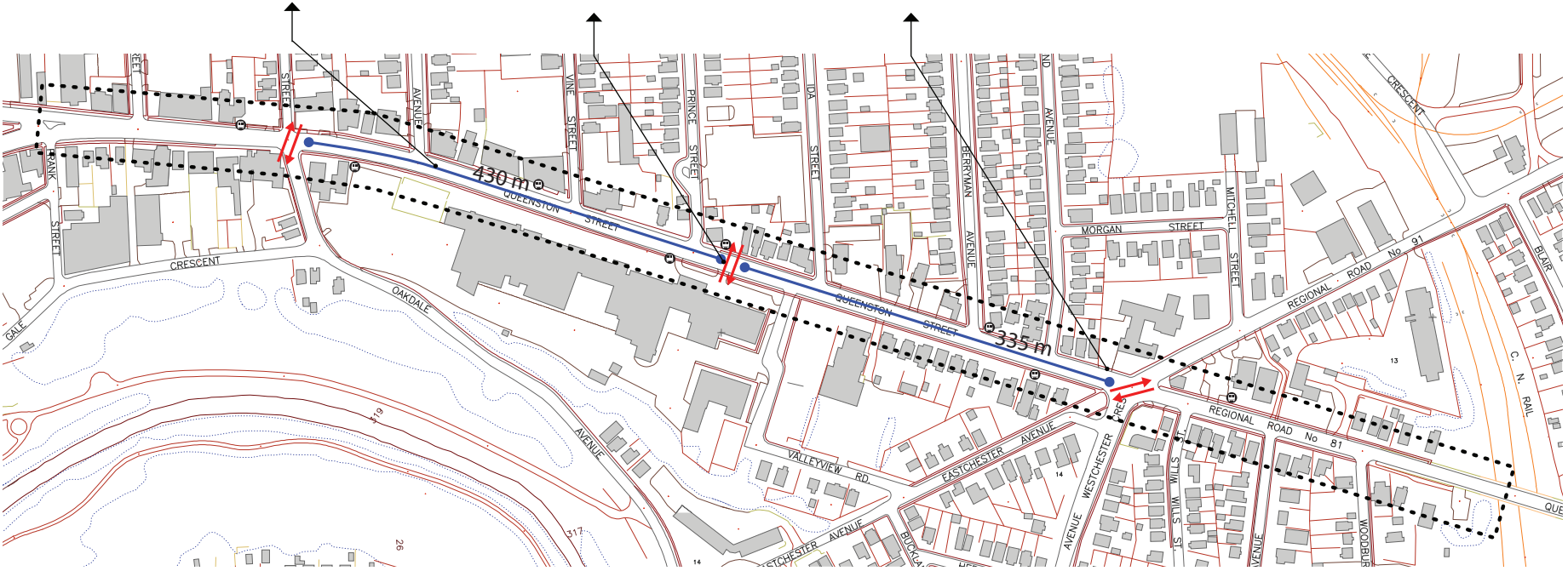
A transit analysis showed the major transit routes in the area surrounding Queenston Street and illustrated the location of bus stops and/or bus shelters.





Crosswalks

The identification of crosswalks helped facilitate a discussion about pedestrian connectivity and allowed participants to highlight key crossing points and issues of safety.

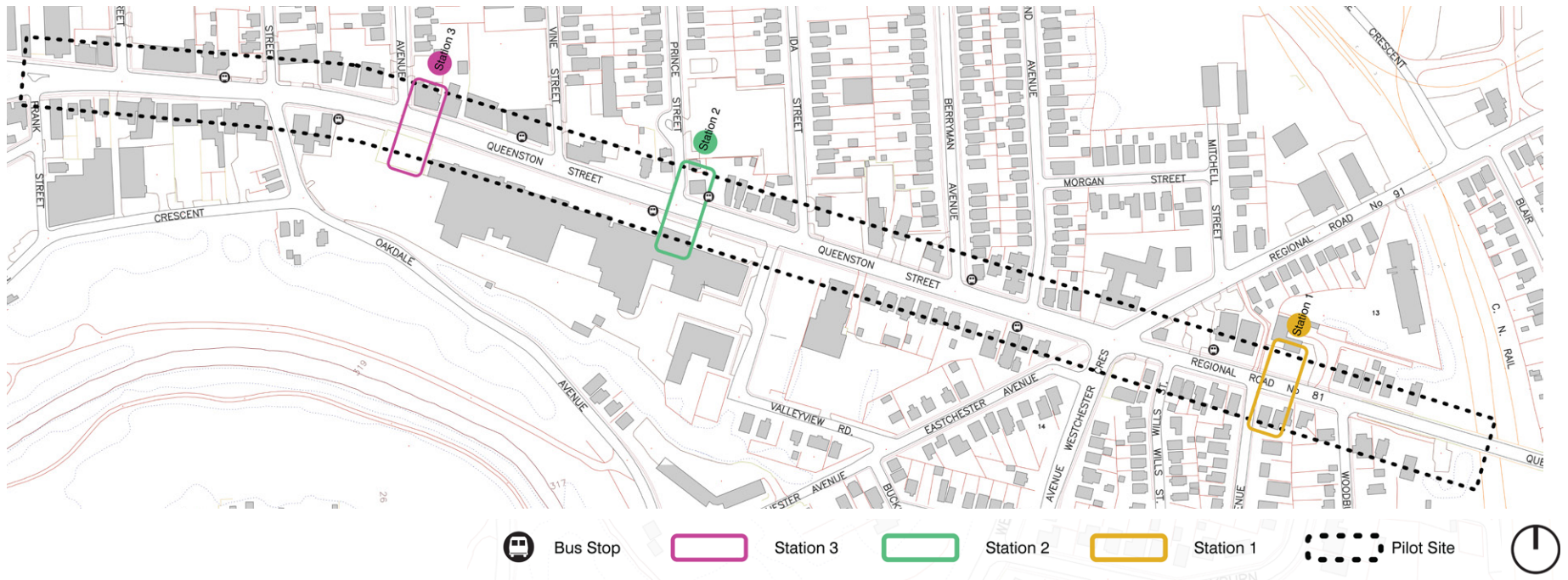




# COMPLETE STREETS FOR NIAGARA

## Study area and station analysis

In order to facilitate discussion during the walking audit, the study team created street sections for three different parts of Queenston Street. The sections were used as a tool for discussing how the character of the street changes and how a complete street would incorporate these different conditions.

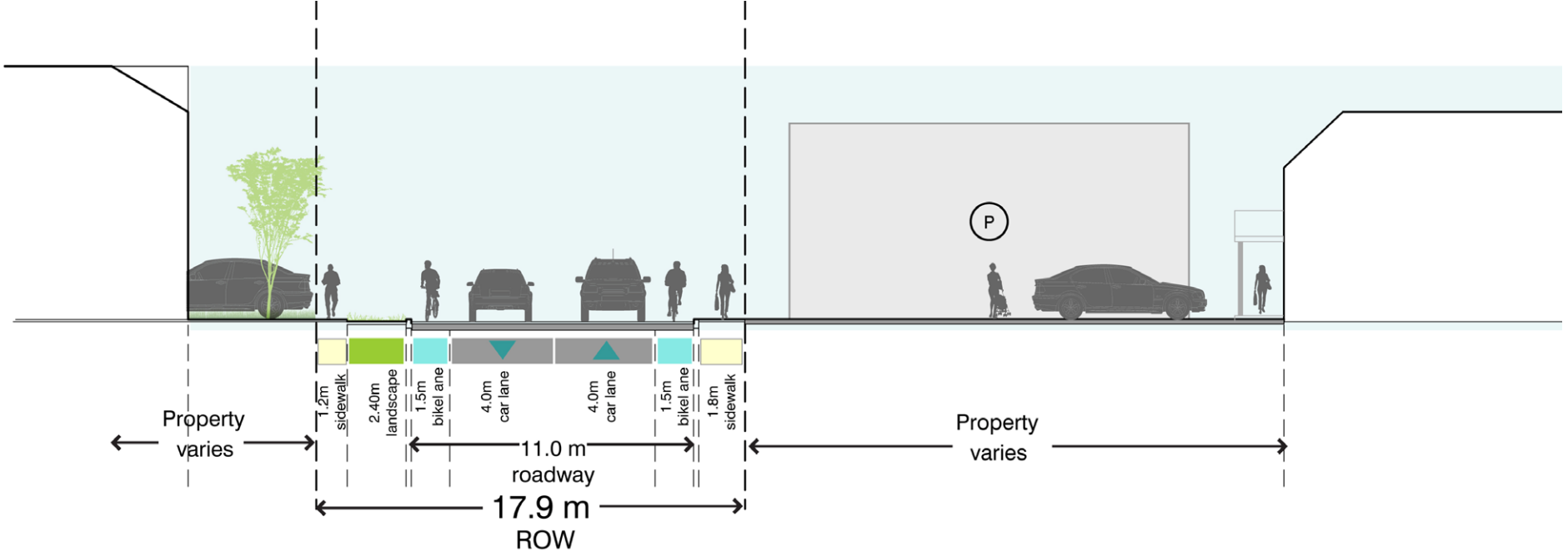
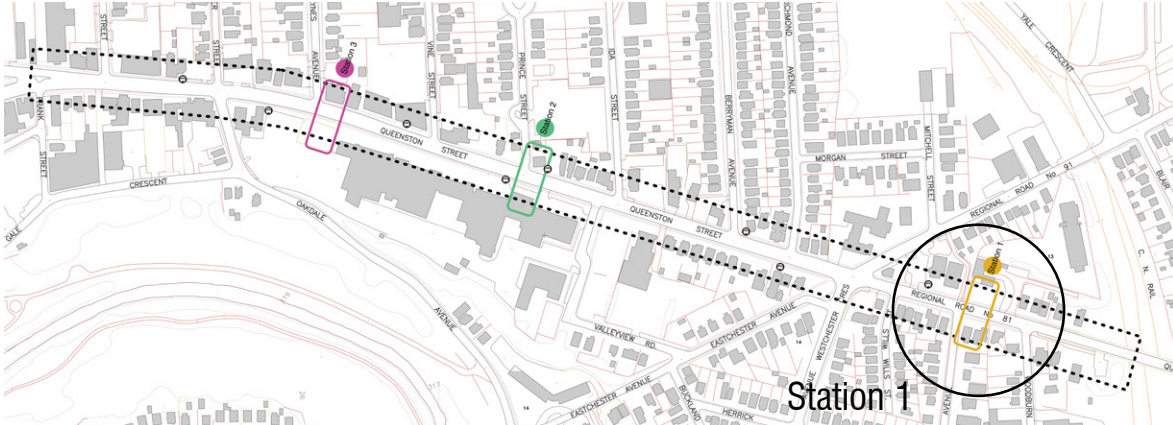




Station 1



Regional Road 81 facing west

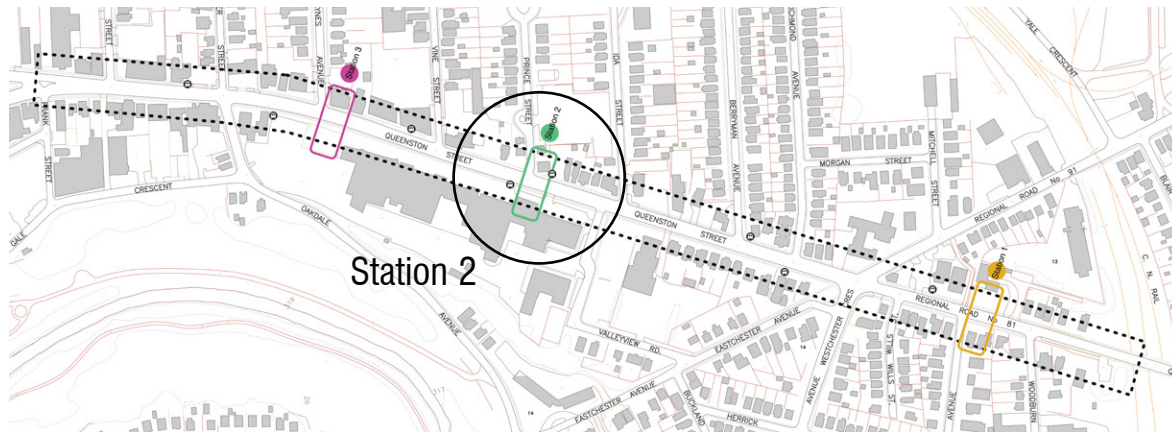


Station 1: Existing street section (existing condition)

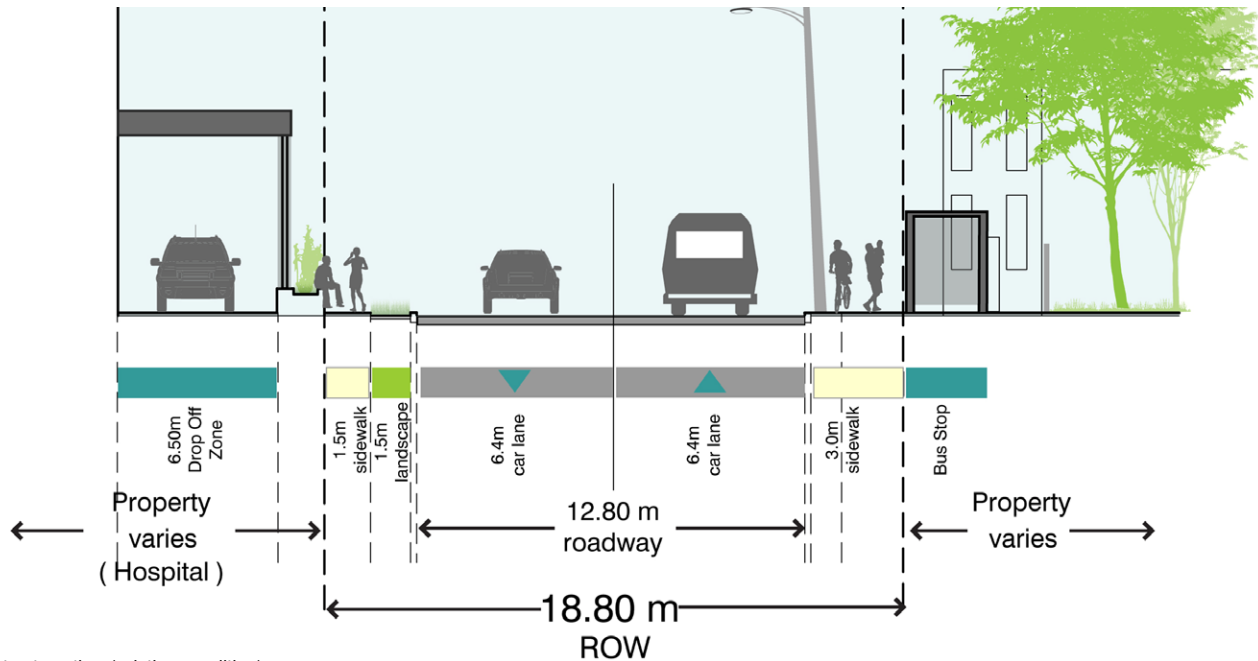


# COMPLETE STREETS FOR NIAGARA

## Station 2



Queenston Street at Prince Street facing west



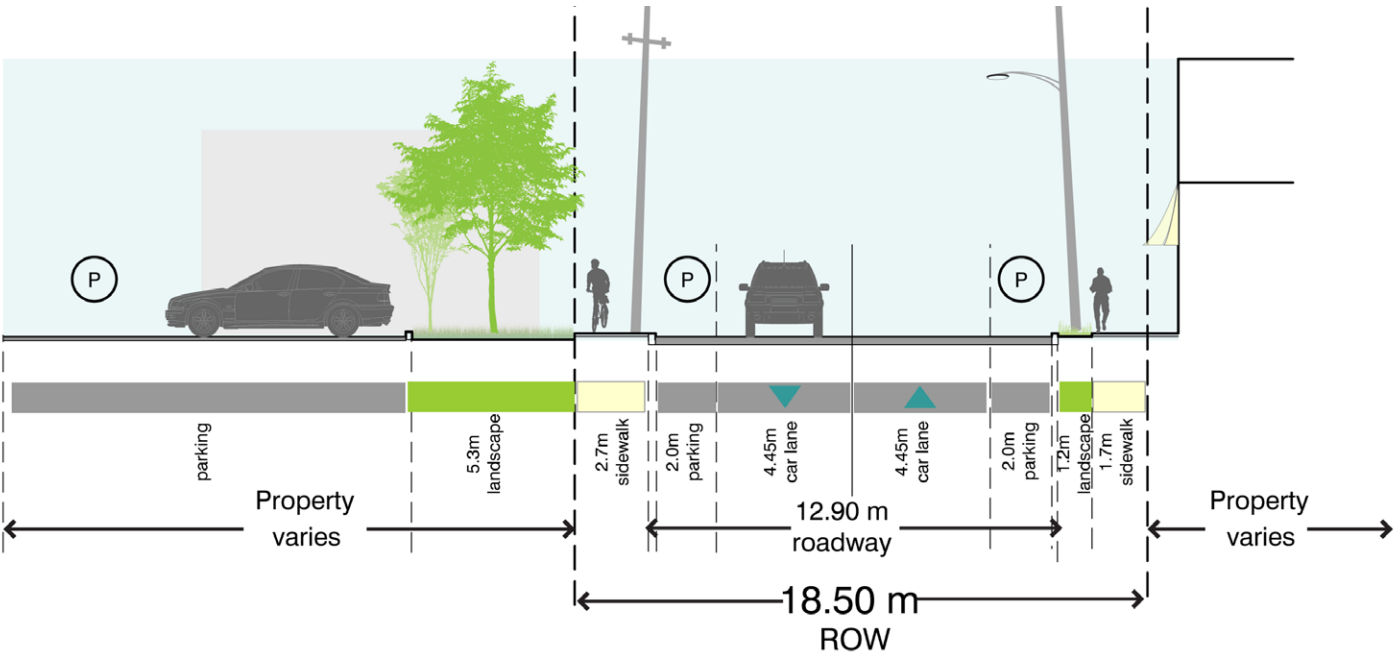
Station 2: Existing street section (existing condition)



Station 3



Queenston Street facing west



Station 3: Existing street section (existing condition)



## Walking audit

The visioning session took participants on a walking audit of the pilot site – Queenston Street between Oakdale Avenue and the railway corridor. Attendees were provided with an area map detailing the walking audit route and three cross-sections of Queenston Street. The cross-sections represented three stopping points to discuss existing issues with the street and adjacent land uses. The goal of the walking audit was to help attendees visualize and discuss how the street could be improved and transformed into a complete street. Bringing the public to the pilot site also helped the Consultant Team determine areas to target for improvement.





## Visioning exercise

After the walking audit, participants returned to the meeting venue to discuss their ideas and vision for transforming Queenston Street into a complete street. Participants were divided into two breakout roundtable groups and were asked to define their vision for the street using the key components presented to them in part one and their observations from the walking audit.

### *Discussion Points from Table 1:*

Participants expressed the need for creating mixed-use spaces and transportation options for people with disabilities who cannot drive. This suggestion was informed by the supportive housing within the pilot site.

It is imperative that the street complement Queenston Street's diverse population. The street should support its local land use context and community and be designed to be accessible to everyone.

The street should promote cycling and walking through bicycle lanes, crosswalks, seating, and ample sidewalk widths. Bicycle lanes should also be provided on both sides of the street to serve as a traffic calming measure. Due to the limited width of the street, dedicated turning lanes should be removed to allow for bike lanes.

The suggestion to eliminate on-street parking to provide more pedestrian amenities was also expressed. However, it was also discussed that local businesses and restaurants rely on on-street parking to attract patrons and eliminating such parking would be detrimental to the street's economic viability.

### *Key Infrastructure Suggestions from Table 1:*

- Provide a bicycle lane and sidewalk that are both 1.2 metres wide on the south side of the street
- Provide a bicycle lane that is 1.2 metres wide and sidewalk that is 1.8 metres wide on the north side of the street
- Retain two 2 meter wide landscaped planting strips on both sides of the street
- Limit car lane widths to 3.5 metres
- Consider a traffic circle at the Queenston-Eastchester intersection to improve pedestrian safety
- Install bicycle lanes and sidewalks on Prince Street to connect between the school and Queenston Street
- Eliminate on-street parking
- Provide a public park in front of the General Hospital to create a linear park
- Increase tree canopy
- Implement traffic calming measures



### *Discussion Points from Table 2:*

Participants at table two commented that most residents in the immediate Queenston neighbourhood do not drive and that the street needs to be accessible to all residents.

Drive-thru restaurants should be eliminated because they create traffic and pollution in a neighbourhood that does not have a high rate of car ownership.

Queenston Street should host a mix of uses to support the local community - a grocery store and bank were noted as critical necessities. Street cafes should be encouraged to activate the street.

Parking should be located behind buildings and on-street parking should be limited to the north side of the street where there are more businesses and retail stores. Car lanes should be narrowed to provide pedestrian and cycling amenities.

Sidewalk widths need to be widened to encourage walking and hydro-electric poles should be placed underground in order to provide latitude for implementing improvements to the street. A culture of jaywalking needs to be fostered to make the street oriented towards the pedestrian.

### *Key Infrastructure Suggestions from Table 2:*

- Eliminate on-street parking on the south side of the street
- Narrow existing car lanes
- Widen existing sidewalks and remove overhead hydro-electric poles underground





## A vision for Queenston Street

After the roundtable discussions, participants were invited to share their table's suggestions for improving Queenston Street. The following are an overall vision both tables shared for the renewal of Queenston Street and key infrastructure directions for turning the Queenston Street into a complete street.

### *Vision Elements for Queenston Street*

- Provides uses for the neighbourhood that create a “complete community”
- Create a street that is accessible to all, on a pedestrian scale (i.e. wheelchairs, scooters) and focused on local residents
- Continue to serve as a corridor for medical services
- Ensure the street supports the socio-economic character of the neighbourhood
- Serve as a wine route to support the Region's wine industry

### *Infrastructure Directions for Queenston Street:*

- bicycle lanes and cycling facilities
- accessible curbs for people with disabilities
- traffic calming measures
- pedestrian crosswalks with countdown timers and mid-block crossings
- limited on-street parking
- pedestrian realm improvements (i.e. mixed use spaces, sidewalk cafes)



## Illustrating the vision

After the visioning session, the study team incorporated the vision elements and infrastructure directions into a series of illustrations that showed how complete streets could be implemented over time at two locations on Queenston Street.

The vision includes:

- an improved pedestrian realm;
- two one-way bicycle paths;
- two traffic lanes with no impact on traffic movement;
- improved transit facilities;
- on-street parking on the north side of the street;
- additional crosswalks;
- street-trees;
- patios on select properties;
- future private development.

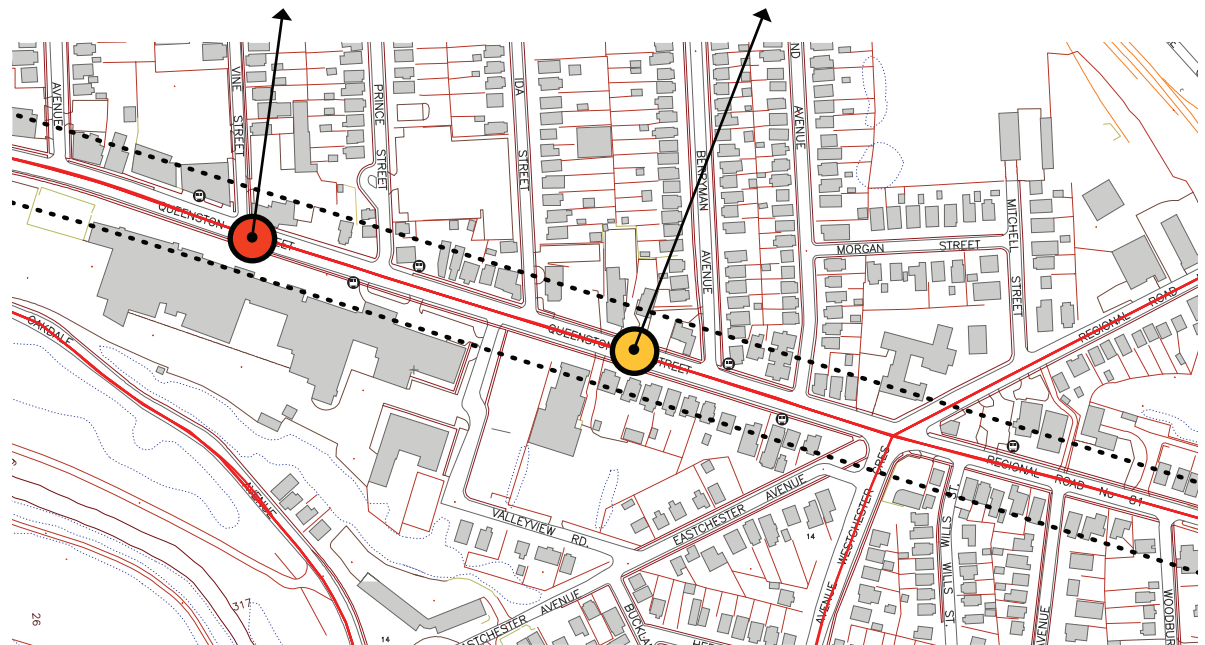
Two visualizations were created (Site 1 and Site 2) which are illustrated on the following pages.



Queenston Street at Vine Street facing west



Queenston Street at Berryman Avenue facing west







● Site 1: Existing condition









 Phase Two: Public realm improvement









● Site 2: Existing condition









● Phase Two: Public realm improvement















# COMPLETE STREETS FOR NIAGARA







# Complete Streets





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# Why Complete Streets?

In November of 2011, an Active Transportation (AT) Summit was hosted by Healthy Living Niagara to explore ways to make walking and cycling more accessible and occur more often within the region. The participants who attended the summit included municipal planners and engineers, elected officials, community stakeholders and local residents. A list of 15 actions was derived by the participants; the top action requested was the implementation of 'Complete Streets' to help encourage more active transportation on existing roads. In response, Niagara Region initiated the *Complete Streets for Niagara* project and will strive to facilitate the completion of streets within Niagara.

The participants committed to do more than 'talk' about the issue and agreed to participate actively in the implementation of any of the recommended projects that would help facilitate more active transportation in the region. This project attempts to acknowledge the desire of those 100 participants and work to improve active transportation levels across Niagara.

This discussion paper aims to:

- Define Complete Streets and how they might function in the Niagara Region
- Illustrate best practices on how to implement Complete Streets enhancements and policy
- Raise questions about implementation and illustrate the benefits of improving active transportation in the Niagara Region
- Outline the project process





# What is a Complete Street?

There are many definitions of 'Complete Streets' which share common themes. The most widely cited definition is provided by the National Complete Streets Coalition (NCSC), which states:

“A complete street is a road that is designed to be safe for drivers; bicyclists; transit vehicles and users; and pedestrians of all ages and abilities.”

Complete Streets can be implemented on many scales and may include a main arterial or Regional road with bicycle lanes, a suburban road with sidewalks, or a rural road with widened shoulders for bicycle or pedestrian traffic. It is important to note that all users do not need to be accommodated in order for a street to be complete (Toth, 2011); however, there should be an accommodation of more than just one transportation mode.

Complete Streets typically exhibit good urban design which can stimulate interaction between the modes, the people, and the built environment. Complete Streets help to balance the use of cars, bicycles, pedestrians and public transit vehicles on a right-of-way and are designed to function at a slower speed than automobile oriented streets. High vehicular speeds and pedestrian traffic are not a good mix. Complete Streets are designed to move vehicles slower and allow all modes of transportation to share the road at a reduced and safer speed. These improvements are not simply built; they are typically implemented through policies within an Official Plan, Secondary Plan or Community Improvement Plan, after giving careful consideration to appropriate urban design principles within the context of the street being studied.

There is no right or wrong way to complete a street because all streets are different and serve different modes and purposes within their communities. Although the terminology suggests that the right-of-way itself is the area of interest, many professionals and associated academics alike believe that Complete Streets policies should be a focused exercise in place-making. Transportation and land use are intrinsically linked and the development or deterioration of either will impact the other. Complete Street policies improve the movement of modes, universal accessibility, levels of social interaction and the overall design and feel of a street.





# Why does the Niagara Region need a Complete Streets Policy?

“Complete Streets policies are often engineering policies that promote the development of infrastructure for active transportation, pedestrianism and mass transit into new road construction in addition to better urban design” (Toth, 2011). As many as 50 local governments in the United States have implemented Complete Streets policies at a local or state level to achieve more balanced modal splits, less congestion and improved overall health for local residents. Communities that have implemented these policies include Louisville, Charlotte and New York City, which are duly noted as the most effective Complete Street policy makers. In Canada, the City of Waterloo is the only municipality to develop and execute an ‘official’ Complete Street policy so far; however there is inspiring work emerging from the western provinces, specifically in the City of Calgary.

Most Complete Streets policies are used to enhance mobility and accessibility through improvements to the physical right-of-way. Mobility is the act of movement itself, accessibility is the ability of people of all ages and abilities to access and use the infrastructure or facilities; for example being able to take transit or walk to a destination. Providing opportunities for improved accessibility will in turn increase mobility. The underlying desire to improve the circulation and flow of people within a Complete Streets is evident in the various definitions of such policies below:

“Complete Streets policies aim to create a streetscape where people of all ages are able to safely move along and across a street regardless of their mode of transportation.”  
(Hill and Disher, 2009)

“Complete Streets is an urban planning and transportation engineering term used by policy makers to describe roadways purposefully designed and operated to achieve safe, attractive, and comfortable access and travel for all users.”  
(Dr. Henry Moller, U of T, 2010)

Not all Complete Streets policies are branded as comprehensive policies or guidelines, in fact, many are simple site-specific public realm improvement policies embedded in transportation or community development plans. A variety of plans, policies and initiatives can be used to achieve streets which help promote healthy lifestyles, improved social interaction and better mobility. In addition to specific Regional and Municipal Official Plan policies related to Complete Streets some additional measures may include Transportation Demand Management Plans (TDM), Secondary Plans, and Community Improvements Plans (CIP's).





Complete Streets policies are effective tools that can be used to positively shape the communities we live in and achieve a variety of different goals. As stated by Gary Toth at the Complete Streets Forum in Toronto in 2012, “Complete Streets policies are not a mandate for immediate retrofit”. They are however a way to ensure that all construction and rehabilitation projects are chances to improve the existing infrastructure. Complete Streets policies are not a ‘silver bullet’ that fixes all problems, nor are they a prescription on how to make change. Every community is different and requires a unique approach. The policies should be shaped around the current and perceived future needs in a way that is achievable and applicable at various scales. Complete Streets policies are a guide for creating better streets in a community. As stated by John LaPlante at the Complete Streets forum, “every (construction) project should lead to a better street.”



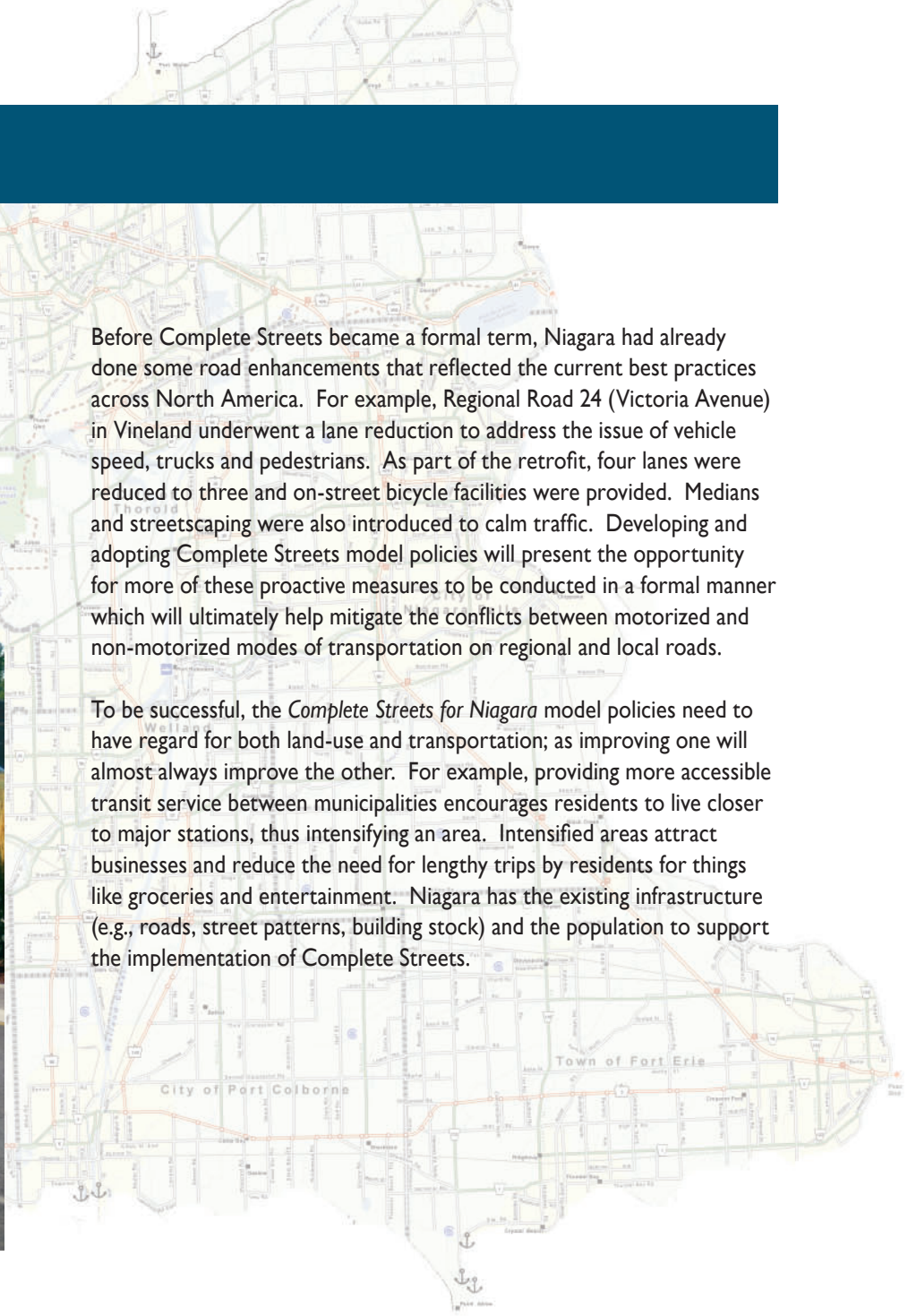


# Complete Streets for Niagara

Most roads within the Niagara region are primarily used by the automobile. While automobiles will always play an important role within Niagara's communities, Complete Streets can help balance the modal share with walking, cycling, and transit. With the introduction of a new pilot inter-municipal Transit System (Niagara Region Transit), improvements to municipal transit services, and the development of a world class bike trail system (Greater Niagara Cycle Route, Trans Canada Trail, Waterfront Trail), municipalities have multiple opportunities for regional connectivity, and encourage more pedestrian and cycle traffic.

Before Complete Streets became a formal term, Niagara had already done some road enhancements that reflected the current best practices across North America. For example, Regional Road 24 (Victoria Avenue) in Vineland underwent a lane reduction to address the issue of vehicle speed, trucks and pedestrians. As part of the retrofit, four lanes were reduced to three and on-street bicycle facilities were provided. Medians and streetscaping were also introduced to calm traffic. Developing and adopting Complete Streets model policies will present the opportunity for more of these proactive measures to be conducted in a formal manner which will ultimately help mitigate the conflicts between motorized and non-motorized modes of transportation on regional and local roads.

To be successful, the *Complete Streets for Niagara* model policies need to have regard for both land-use and transportation; as improving one will almost always improve the other. For example, providing more accessible transit service between municipalities encourages residents to live closer to major stations, thus intensifying an area. Intensified areas attract businesses and reduce the need for lengthy trips by residents for things like groceries and entertainment. Niagara has the existing infrastructure (e.g., roads, street patterns, building stock) and the population to support the implementation of Complete Streets.





# What will Complete Streets look like?

Complete Streets will look different in different places, appropriate to context and to modes expected in that corridor (Laplante and McCann, 2008); as will the policies. For example, a set of model policies for municipalities within the Niagara region will not look the same as those for Toronto's neighbourhoods, nor should they. Although the modes or amount of investment may vary, the policies will share common elements and goals; that of supporting safe, alternative forms of transportation within communities and making streets places to go to and not simply places to go through. While it may not be appropriate to compare the successes of one to the other; Niagara can take inspiration from policies and actions by larger communities. As Niagara works to improve its streets, stakeholders will need to remember that transportation must have character, as well as capacity (Swift, Hall, Chellman, 2003).

Scale will be the biggest obstacle when developing model policies for the Region. Complete Streets within the Niagara Region will have various scales of application due to the geographic and demographic differences amongst the 12 municipalities. In St. Catharines or Niagara Falls, additional bike lanes and transit stops could be supported by the larger populations living in the downtowns, whereas towns with more rural land like Pelham and Fort Erie may be more strategic with their project locations due to low population density and geographic separation.





# Complete Streets and the Public Realm

Complete Streets create more opportunities for access and improved mobility while at the same time improving the appearance and functionality of the public realm. The public realm is an important aspect of Complete Streets which is not fully captured within the NCSC definition. “The design of a street is only one aspect of its effectiveness. How the street fits within the surrounding transportation network and supports adjacent land uses will also be important to its effectiveness” (Charlotte Urban Street Design Guidelines). In the larger urban examples like New York City or Charlotte, the city centres already have a compact design and higher population density. In Niagara, the development is more spread out and thus pedestrianism and cycling is more difficult. Streets that are enhanced in areas of interest such as around downtowns, shopping areas or education institutions will have a better chance of being used to their full potential.

In many of the communities, Complete Streets are retrofitted into existing rights-of-way that are undergoing scheduled rehabilitation. There are two ways to accommodate different modes within a street, widen the surface or reduce the number of motorized vehicle lanes. The former is not always feasible. Many of Niagara’s Regional roads cannot be widened due to existing storm water management systems, utilities, roadside infrastructure and available land. Adding more road surface would require a significant investment in the right-of-way and the associated infrastructure (water, sewer, hydro, etc.). Road diets are becoming a more common form of accommodation on the roadways and similarly cannot be applied in all situations due to the required carrying capacity for vehicles.

Policies for implementing Complete Streets must have regard for the monetary constraints of the Niagara Region and the municipalities. This raises the question about “who pays” when it comes to completing Niagara’s streets? The public realm within a Regional right-of way has a complex mix of responsibility which is split between the Region, the local

municipality and property owners. Improvement plans are fairly straight forward; however the cost structure can be an issue of contention because of various levels of responsibility.

In the context of a Regional road, the Region is responsible for everything ‘between the curbs’ such as the road surface, travel lanes, storm water management, lighting, traffic calming medians, and signalization. The local municipality is responsible for sidewalks, on-street parking, landscaping and transit facilities and furniture. The private landowner is responsible for those enhancements on his or her property which can include, awnings, lighting, the building façade and signage. All of these components give a street character and a sense of place; however, the costs associated with their implementation vary significantly and may be a burden to the primary investor in the area.





# The Economic Value of Complete Streets

Completing local streets has the potential to add more people into an area to improve economic conditions. Feeling comfortable in an environment and being able to move easily can encourage more people to frequent local businesses and social services. Complete Streets may offer cost savings at all areas of local government; however, the research on this topic is limited. There are some general gains that can be made through investment in complete streets:

- Lower rates of disease and obesity, thus lowering health care costs
- More people on the street, thus lowering levels of crime (eyes on the street)
- Bring in development and wider tax base
- Increase bicycle tourism and economic impact is significant for Niagara



Complete Streets typically attract smaller-scale local businesses. As stated by Dan Burden (2012), “these types of businesses contribute roughly 60 cents on every dollar made back into the community. These businesses rely on pedestrian traffic heavily because of their small nature and inability to compete with large power centres. Franchise or ‘chain’ stores contribute roughly 20 cents on every dollar spent whereas ‘big box’ stores only contribute 6 cents back into the community.” By creating streets which support small business the local economy can thrive. Furthermore, housing and businesses near or adjacent to complete streets have realized higher property values purely based on their accessibility to so many resources.

The Niagara region is a popular destination for cycle tourism; an economic segment which has many benefits for both the Region and the local municipalities. Research has indicated that cycle tourists spend more money in a day visit than tourists which arrive by car. In Canada, Quebec has a strong cycle tourism industry which generates millions of dollars annually, which can be attributed to the fact that cyclists spend more than drivers. In 2005, cycle tourists spent an average of \$83 a day, whereas tourists in automobiles spent \$66 a day (April Economides, 2012).

Developing infrastructure which supports alternative modes of transportation has been shown to cost significantly less than single purpose roads. For example, to construct a kilometer of on-street bike lane in Canada costs an average of \$20,000 to install, whereas a kilometer of road costs an average of \$1.3 million (The Business Case for Active Transportation). Parking is another significant cost associated with streets. Spaces need to be maintained, cleared of snow and road space away from other vehicles which include bicycles, busses and other automobiles.





Parking spaces accommodate people who come from further distances so their abundant provision in local business areas should be reviewed. Based on research from communities across Australia, “Car parking is of less significance to local retail activity than is often thought. Space for people on foot is a

more significant attribute.” (National Heart Foundation of Australia, 2011). The provision of more active transportation supportive infrastructure will not only increase the amount of foot traffic to local business, but these people will also spend more money than those arriving by automobile.

Once the infrastructure is in place the indirect economic benefits in regards to healthcare, increased customer activity and tourism equates to roughly \$3.6 billion annually (Based on 5 per cent active transportation). Therefore the investment should be directed into an area where there is higher probability that people will be using the street.

In Toronto, a study was conducted regarding the rationale of reallocating road space along Bloor Street, a major arterial shopping street in the City. Their research has shown that nearly 90 per cent of people visiting those businesses and shops do so by a mode other than the car. (The Clean Air Partnership, 2009)

A common argument is that reducing on-street parking, in this case for a proposed bike lane, will have a negative impact on businesses. From this research, the group established that those people arriving by alternate modes visited more often and lingered around longer in the stores and ultimately spent more money per month. Many Complete Streets enhancements do require a change in the use of space on the road, however, this helps to illustrate that people will not stray away from areas just because there is less space dedicated to the automobile. Off-street parking locations can accommodate more vehicles and free up space on the road for cyclists and transit vehicles and make a safer pedestrian environment.

The selection of a street to ‘complete’ should not be random or arbitrary. Using a place-making approach which focuses on the importance or role of an area can help ensure that the transportation network improvements yield wide ranging results. The transportation system can benefit if its routing, facilities and design reflect the area. Typical linear enhancements should not be the end of the improvement, as permeability into adjacent areas is important and will allow for increased opportunities related to active transportation and mass transit.

Street and road improvements can be the most expensive projects to undertake from an infrastructure standpoint. Although there will be certain economic benefits to their implementation there will be costs which will be incurred by the Region and the municipalities. Depending on the type of infrastructure improvements, money which is budgeted for road works may be diverted to fund strategic improvements on major thoroughfares. All economic benefits should be weighed against the overall cost of the improvements.



# Improving Public Health

Complete Streets provide opportunities for incorporating walking and cycling into the daily lives of Niagara residents. Additionally, providing better access to public transportation creates more opportunities for physical activity as all transit trips begin with pedestrian movement or cycling.

The Niagara Region has conducted significant amounts of research on the health of its residents. In light of the findings, solutions are going to be required to curb many significant health issues such as heart disease, diabetes and obesity that will be on the rise in the near future. Niagara has an above average percentage of obese youth and adults. Data compiled by Niagara Region Public Health has indicated that 31.7 per cent of Niagara's youth (12-17 years of age) are considered obese. Of residents 18 and over, 49.3 per cent are classified as overweight or obese. While many factors can contribute to these numbers such as diet and genetics, a lack of daily physical activity plays a significant role. According to the Active Kids Canada Report Card, only 9 per cent of our children and half of adults are getting recommended levels of physical activity. By providing more opportunities for physical activity in daily tasks through policy and infrastructure development, the obesity rate could be lowered significantly. The key to success may be to not make exercise a task in itself, such as going to the gym, but more of a passive activity that is done throughout the day. For example, in Canada only 12 per cent of trips to the store, work or school are made by an active

mode of transportation. These low numbers reflect the form of built environment that limits the opportunities for activities such as walking, cycling, rollerblading, etc. Communities that have implemented Complete Streets programs have often had the right "bones" to incorporate more active transportation, which many Niagara municipalities already have.







Communities that are more walkable see the direct and indirect benefits of their design. The City of London, England is a world leader in terms of its walkability and dedication to accommodating all modes of transportation. Transport for London, which plans and provides all transportation services states that there are five C's required when creating a street that is walkable:

- **'Connected'**
  - Streets need to link places together of both local and regional significance
- **'Convivial'**
  - Streets need to be safe and lively and conducive to social interaction
- **'Conspicuous'**
  - Appropriate types of way-finding should be provided
- **'Comfortable'**
  - Should be safe, aesthetically pleasing, have good landscaping
- **'Convenient'**
  - Should be functional and serve as a quick route between places and attraction

Municipalities in Niagara have limited areas with good walkability, with the majority located in the downtowns. Providing more opportunities for active transportation and mass transit does not necessarily mean that people will use Complete Streets; they must also be walkable. The 'walkability' of a street can be measured through the level of pedestrian activity. A street which has been designed without sidewalks, lighting, signage, benches, or crossing signals is not conducive to higher levels of foot traffic.



# Active Transportation

If a pedestrian network is not set up to be walkable, interesting or feel safe, people will be hesitant to use it. Even the smallest investments such as signage, fixing sidewalks and paths, and landscaping can help create a better sense of place and encourage more pedestrians to visit an area. Active Transportation groups in Niagara have been very vocal about improving the infrastructure for walking and cycling in the Region. This project shall attempt to address their needs and create an opportunity for further dialogue with the people who are, or will, use these streets daily. To quote the Living Streets UK group, this is an exercise in “changing the relationship between those who manage the streets and public space and those who use it” (Living Streets UK).

The Region has made significant improvements in regards to enhancements in downtowns and its off-road trails system. The community improvement work which has been completed in Ridgeway and Port Colborne includes the provision of a safe and easily navigable public realm which accommodates multiple modes of transportation such as pedestrians, cyclists, automobiles and freight traffic. The Region and its local and regional active transportation partners have worked together to make the off-road transportation network, including the Greater Niagara Circle Route, one of the best in Canada. Complete Streets can build upon and link to the already existing on and off road bicycle network to facilitate increased levels of active transportation.

Through the Complete Streets model policies, municipalities may be able to capitalize on existing infrastructure and redesign their roads, rather than rebuilding them. Intensification and redevelopment opportunities are exponentially higher if an efficient transportation system is in place. A Complete Streets policy can help remedy some of the legacy problems within the municipalities such as the limited provision of sidewalks, wide multi-lane arterials with no pedestrian refuge areas, limited crossings, and limited accessibility to local and regional transit.



Perceptions of public safety fit within the lens of health. Pedestrian and cyclist collisions with automobiles and other motorized vehicles can be severe or fatal, especially when vehicles are travelling at high speeds. When vehicles travel at speeds of 50 km/h or greater there is an 80 per cent fatality rate for cyclists and pedestrians if a collision occurs. “The safety issue of reduction in traffic mortality and injuries should also be viewed as a tangible health benefit from a health-care costs savings perspective, as there are fewer emergency room and rehabilitation resources consumed.” (Moller, 2010) Many studies have shown that as the modal share of pedestrians and cyclists increases on the roads, the amount of collisions, injuries and fatalities they experience decreases. Often these collisions occur when pedestrians and cyclists attempt to cross the road where there is no signalized or indicated crossing provided. Strategic improvements that can be identified through future consultation with area cyclists and pedestrians can help ensure that complete streets feel as safe as possible.



# Social Implications

In regards to transportation, “social benefits are often more difficult to quantify than economic or environmental benefits” (Urban Transportation Showcase Program, 2006). As with many large scale investments, such as infrastructure, stakeholders are most interested in numbers which illustrate what can be saved, what profit can be made, what the cost is, increases in capacity and so forth. Showing good metrics can push a program forward quickly if the benefits are clear and can be measured.

Complete Streets facilitate more social gains than economic or environmental ones, and in order for people to believe in them the benefits need to be highlighted, as many are intangible. The benefits created as a result of complete streets investments are a form of capital, defined as ‘Social Capital’ which is the networks and interactions that inspire trust and reciprocity among citizens” (Urban Transportation Showcase Program, 2006). Kevin Leyden (2003) suggests that the neighbourhood designs that are most likely to produce social capital are those found in complete neighbourhoods, which usually exhibit characteristics of the neighbourhoods we are now trying to create. Leyden notes that these types of neighbourhoods encourage active transportation such as walking and cycling as the primary form of movement, which suggests that a complete neighbourhood has complete streets.



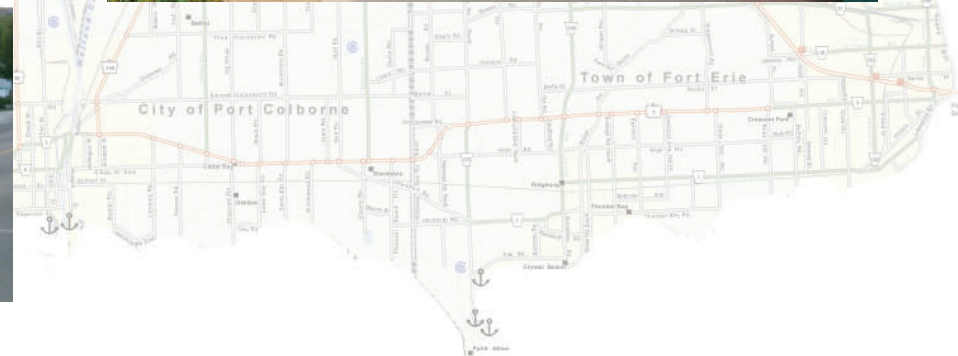


# Complete Streets build a sense of Community

Aside from improvements to the health of Niagara residents as previously mentioned, Complete Street initiatives can help build community values, stimulate neighbourhood interaction and even decrease crime. The occurrence of “bump-in’s” with other pedestrians is common for those who walk and cycle. These interactions help build community values and help create a sense of place, as well as security, which make the streets a more inviting place to be.

Increased social interaction is another benefit that accompanies the development of Complete Streets, promoting financial investment and environmental stewardship. For many people in Niagara, the ability to use a private vehicle may not exist due to financial or personal issues.

Complete Streets are inherently equitable, which means that all people have the same access to the amenities on that street such as work, education, and services. To be truly equitable and accessible, infrastructure and policy needs to be developed in a way which is functional to those who have the most limited abilities.





# Accessibility

The *Accessibility for Ontarians with Disabilities Act (AODA)*, is a Provincial initiative which is committed to making all public infrastructure accessible to everyone, regardless of ability. AODA measures are applied progressively and proactively, as retrofitting all existing infrastructure is challenging and expensive. The Niagara Region took a significant step in 2010 and voluntarily adopted the Facility Accessibility Design Standards, which ensures that all Regional infrastructure meets AODA standards. Almost all local municipalities in Niagara have adopted the policy. Streets are one of the largest pieces of regional infrastructure, and accordingly, they should be accessible to everyone. Complete Streets makeovers offer an opportunity to make the streets equitable and accessible to everyone in many ways which can include signage enhancements, curb grading, lighting and personal safety measures. Complete Streets are founded on accessibility and justly, Niagara's Facility Accessibility Design Standards are a set of standards which can help make streets accessible to all.

Streets facilitate transportation for the community, not just those who can legally operate motorized transportation. Niagara is dedicated to building Age Friendly Communities which meet the needs of residents across their entire life span. Age Friendly Communities are an excellent example of socially inclusive environments. Streets that are designed for the safe traverse of persons of all ages and abilities are the most desired. They provide an opportunity for all segments of the population to use community infrastructure equally and create numerous opportunities for social interaction and physical activity as well as create a sense of ownership over the streets they use daily.

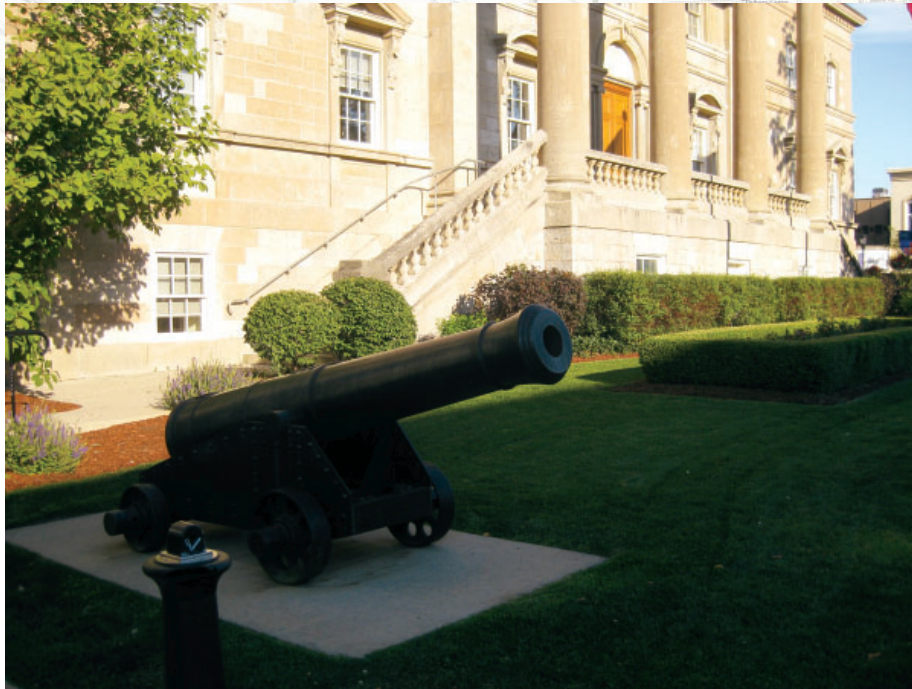


Actively engaged citizens care about their community and will wish to see it remain safe and clean. Crime Prevention through Environmental Design (CPTED) principles can be applied to enhance the public realm and make streets more inviting for pedestrians and cyclists. More 'eyes on the street', as first defined by Jane Jacobs, helps to reduce the need for extensive policing and surveillance, providing a natural privacy that is less intrusive than that provided by a government authority.



# Promoting Culture


As Niagara is the Culture Capital of Canada for 2012, it is fitting that the importance of heritage and culture be reflected in our streets. The public realm contains many pieces of purposeful and essential street furniture that can help people move more easily; however, that does not mean it needs to look plain. Streets should be a reflection of their surrounding community and population, and should have their own unique identity, which helps prevent all complete streets from becoming part of the geography of nowhere (where all places look the same and you cannot tell them apart). Local artists, historians and other individuals that work within Niagara's unique culture industries can help design the streets to be more interesting for pedestrians, cyclists and tourists.



Opportunities for customization of street furniture such as lights, benches and gardens can be provided to local artists or craftsmen to add more authenticity and local feel to the street. Larger scale features such as planted medians can exhibit local plant species. Signage and way-finding are additional ways which highlight the significance of an area and tell a story. Historical plaques and banners give the street more meaning and provide an opportunity for learning as well as travel. Culture is inherently an identity, one which can be used to establish generic and lifeless thoroughfares into vibrant and interesting places which all users can appreciate and admire.



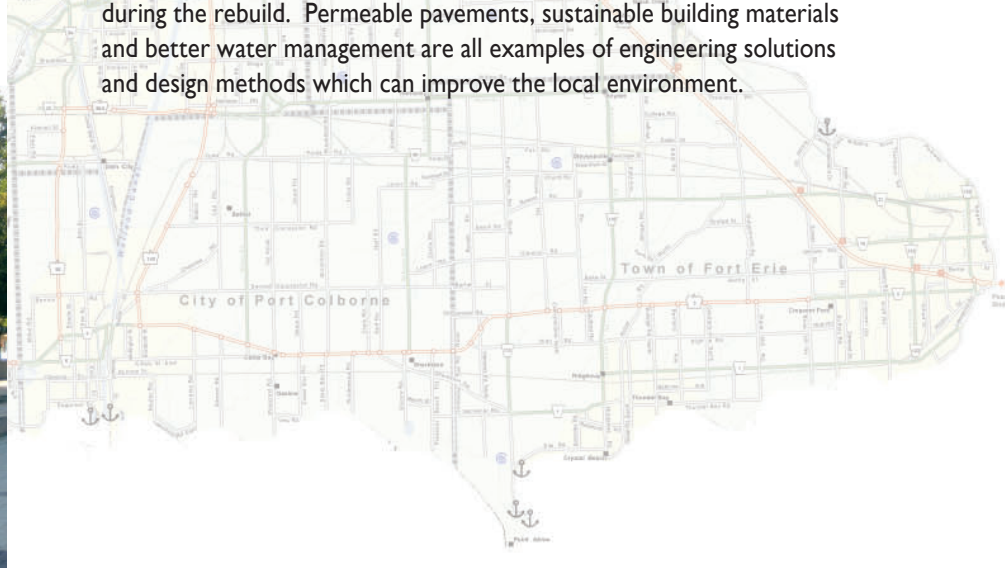
# A Healthy Environment



From an environmental perspective, the benefits are quite clear; the more citizens that use streets via public transit and active modes of transportation, the fewer cars there are to produce greenhouse gases. Close to 90 per cent of Niagara residents use the automobile as their primary form of transportation. Any reduction in motorized traffic will be beneficial to the respiratory health of Niagara residents. Complete Streets can also draw people to an area for work and residency, and limit the requirement for developing and servicing greenfield land. As per the 2006 Community Greenhouse Gas Emissions Inventory prepared by the Region, transportation contributed 40 per cent of annual emissions region-wide. This percentage equates to over 1.6 million tons of CO<sub>2</sub> into our environment. Facilitating more opportunities for active transportation can have a significant impact on the amount of annual pollution from vehicles in the Niagara Region and will undoubtedly have profound effects on the respiratory health of our residents.

Noise pollution is an often forgotten part of environmental sustainability but one that has an incredible impact on human health. Within large urban centres the noise levels can rise above safe limits due to the heavy amount of vehicles (cars, trains, transport trucks) and road noise. Increased vibration levels cause stress and sound waves can even keep us up at night, limiting sleep and hurting our cardiovascular system. An increased share of active transportation can contribute to more tranquil spaces.

Landscaping is also an important portion of many Complete Streets initiatives, mainly because it can bring nature back into cities and towns. Trees and plants provide natural cooling and limit the heat island effect. Also, the provision of shade in pedestrian areas makes for a more comfortable environment, as well as limits exposure to harmful UV radiation. In addition to incorporating local plant life into streets there is an opportunity to include many environmentally sustainable technologies during the rebuild. Permeable pavements, sustainable building materials and better water management are all examples of engineering solutions and design methods which can improve the local environment.





# Issues and Obstacles

There are many issues and obstacles that will present themselves should Niagara's municipalities incorporate Complete Streets into their communities. The issues are those which can be addressed and remedied using Complete Streets, whereas obstacles are those social, economic, cultural or environmental barriers that may make their implementation difficult.

Issues	Obstacles
Deteriorating Infrastructure	Funding
Limited Active Transportation Infrastructure	Limited Transit Services
Perceptions of Safety	Aging Population
Dispersed Employment and Population	Low Employment densities
Parking Requirements	'Red Tape' (Politics and Process)
Auto-centric Focus	'Who is Responsible?' (Region, Local, MTO or Public?)
No sense of place for our roads	No numbers on current Active Transportation levels

While there are obstacles to the implementation of Complete Streets, they are things that must be addressed for the good of the Region in general. Complete Streets may serve as the catalyst that gets these questions answered and problems addressed so other projects can go forward with ease.

## Opportunities

Although there are many issues and obstacles that slow the implementation of more active transportation in Niagara, there are also several opportunities to be capitalized on. These opportunities include events, infrastructure, tourist draws and planning tools. More specifically, they include:

- Enhanced Public Transit Service
- Tourism
- Regional Bicycle Network
- Large student population and the universal transit pass
- Informed and Active Public (Local Active Transportation Groups, Students)
- Sustainable Niagara
- Smarter Niagara Incentives
- Ontario Municipal Transportation Demand Management Grant Program
- Pan Am Games



# Issues and Obstacles

## The Process

The Complete Streets project shall entail three phases. The first phase will include investigating what Complete Streets are and how they function. The findings will be presented in the form of a discussion paper that will ask a series of questions which will be addressed during internal and external consultation. Answers to these questions will be incorporated into the development of model policies.

### Phase 1 – Research and Review

- Research
- Case Studies and Best Practices
- Assessment of policy within Provincial and Regional Framework

**Deliverable: Discussion Paper**

Phase 2 will include consultation with interested parties. It is through this collaboration that a set of draft model policies will be created for application to a pilot site in the next phase of the project.

### Phase 2 – Consultation and Policy Development

- Development of policies in consultation with stake holders
- Consultation with Active Transportation Summit participants
- Public meeting / Open house
- Develop site selection criteria
- Select the pilot site
- Checkpoint with Integrated Community Planning Committee

**Deliverable: Model Policies and Recommendations for Implementation**

The third phase of the project will involve applying model policies to a selected site. Visual renderings and interactive data will be presented to show how effective a complete streets model policy set and investment could be within Niagara.

### Phase 3 – Implementation Strategy

- Pilot Project
- Visual renderings/ Charettes
- Model Guidelines

**Deliverable: Pilot Project; Model Complete Streets Guidelines**

### Next Steps – Out of Scope

- Possible Regional Policy Plan Amendment
- Inclusion in Transportation Master Plan
- Ongoing consultation and incentives assistance with municipalities who implement Complete Streets



# Roles, Responsibilities and Stakeholders

Complete Streets have the opportunity to benefit all Niagara residents; therefore, a cornerstone of this project will be consultation. While there are many benefits (social, economic, environmental, and cultural) associated with Complete Streets there are equally things at stake. The Technical Advisory Group is listening to find out what each community needs and why they need it, as opposed to prescribing a set of general strategies for them. Each set of individual and group recommendations are as valuable as the next; it is the intent of this project to develop model policies that have benefits for the Region, municipalities and the citizens of Niagara. Every group has a different role to play to bring these streets to life.

There will be four (4) groupings of 'stakeholders' for this project which include the Technical Advisory Group (TAG), Municipal Stakeholders, Private Stakeholders and Public Stakeholders.

The TAG will consist of the main Regional partners that are steering this project, including Healthy Living Niagara, Niagara Region Public Health, Integrated Community Planning and Niagara Region Public Works.

**Municipal Stakeholders** will include staff (planners, engineers, other) from the 12 municipalities, local transit agencies (Welland Transit, St. Catharines Transit, Niagara Falls Transit, Niagara Region Transit) school boards, Niagara Parks Commission and interested elected officials.

**Private Stakeholders** will include those business or property owners along Regional roads that will have an opportunity to contribute to the improvement of the road via aesthetic improvements, infrastructure (bike racks, awnings, lighting).

**Public Stakeholders** will include those members of the public who are interested in the idea of Complete Streets such as Regional cycling groups, local cycling groups, walking groups, the elderly and youth.

A breakdown of the group interests is below:

## **Healthy Living Niagara (HLN)**

HLN initiated this project indirectly when it hosted the Active Transportation Summit in November of 2011. Through a series of improvements and additions to the Active Transportation network in the Region, HLN hopes to see the overall health of Niagara residents improve, specifically in the youth population. Levels of obesity, stress, high blood pressure and depression can all be minimized through a more active lifestyle. HLN has secured \$25,000 from the Ministry of Health and Long Term Care to fund this project.

## **Niagara Region Public Health (NRPH)**

Active Transportation has countless benefits to the health of those who use it. Completing Streets and facilitating an increase in walking and cycling levels can lower overall health costs to the Region and the province by reducing the amount of premature death and ambulance calls.

## **Integrated Community Planning (ICP)**

ICP will be developing model policies for municipalities that want to improve the quality and accessibility of their streets. ICP staff will look at current Provincial, Regional and local policies to gauge how well Complete Streets fit within it. Complete Streets will be recommended as a way of encouraging more alternative forms of transportation and encouraging more compact, mixed use development in the long term.



# Roles, Responsibilities and Stakeholders

## Niagara Region Public Works (NRPW)

As the facilitator of infrastructure on Regional right-of-ways, Public Works is a member of the Technical Advisory Group as well as a stakeholder. Complete Street improvements along Regional roads will come with a cost and be factored in as an expense under the Public Works budget.

## Municipalities

Complete Streets will unfold within the 12 municipalities and change the way people get around. Small improvements will have many social, economic and environmental benefits that can be capitalized on. Area municipalities will have to be vocal and active participants in the process to highlight their specific needs and how they see complete streets working within their communities.

## Transit Authorities

Transit is an important part of Complete Streets initiatives. Transit authorities can provide information about ridership and routing which can be incorporated into on-street enhancements. An increase in active modes of transportation, primarily walking, increases transit ridership and efficiencies.

## School Boards

Active transportation begins with education. School Boards can provide the TAG with information regarding school travel patterns and if enhancements to area streets can encourage more healthy, active travel by the students.

## Elected Officials

Elected officials vote to bring change into effect in the communities. Having involved officials provides the Region with information from their will be extremely valuable. If elected officials are a part of this process from the beginning, it will help make the implementation process easier going forward.

## Private Stakeholders

The Region and municipalities have a role to play in the funding and development of Complete Streets. As many businesses and residences front onto possible pilot sites they stand to gain economic benefits as well as public realm improvements. Private realm improvements such as planting, active transportation infrastructure and lighting can help create a sense of place on local streets.

## AT Summit Participants

As this project was initiated in response to the actions developed by participants of the AT Summit, it shall provide the opportunity to be actively involved and do more than 'simply talk'.

## Local and Regional Active Transportation Groups (e.g., cycling clubs, walking groups)

Local residents who walk, cycle and take transit know which streets are unfit for walking, where there should be better neighbourhood connections and where transit stops need to be located. The Complete Streets team needs to hear these opinions and integrate them into the policies to ensure that their needs are met and that when the first complete street is built people capitalize on it.

## Elderly

Designing streets to be accessible for all is a key component of Complete Street policies. As Niagara's population ages, having regard and listening to concerns from the elderly can help with street design and encourage support for their implementation.



# Roles, Responsibilities and Stakeholders

## High School and Post-Secondary Students

Many of Niagara's students have the ability to drive to school, however many use public transit. The TAG is interested in knowing how Niagara can make the transit services more accessible and functional for those youth that choose other forms of transportation, so they continue these good practices after graduation.

## Families

Families require streets that are accessible and convenient for activities such as walking to school, work or to local services. The Complete Streets team would like to know where families feel more improvements are needed to make streets feel safer and offer better mobility and accessibility.

## Conclusions

Complete Streets offer a variety of benefits to those communities which implement them. In Niagara, Complete Streets could improve our overall health, stimulate local economy and change the way we move. Taking steps to integrate their principles into road rehabilitation projects and new developments will transform Niagara's transportation system and public realm drastically. Many agencies and individuals within the region have a role to play in their implementation, as do those at the local level. It is time for Niagara to take the lead in this progressive movement and step towards creating complete communities that are healthy, prosperous and allow people to move freely in the most sustainable and equitable way possible.

As John LaPlante stated at the 2012 Complete Streets Forum, "healthy cities don't happen – they are created by design." Niagara has the opportunity to reshape and design its municipalities in a way which improves resident health, creates better and more accessible public spaces and encourages investment.

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# Glossary

**Accessibility:** A measure of the ability of a person to easily access goods, services or destinations.

**Active Transportation:** Any form of self-propelled (non-motorized) transportation that relies on the use of human energy such as walking, cycling, inline skating or jogging.

**Complete Streets:** Roadways that are designed and operated in a context sensitive manner to enable safe access for all users. Pedestrians, cyclists, motorists and transit users of all ages and abilities must be able to safely move along and across a complete street. Central to the complete streets concept is the requirement that all road users be included in design decisions. (National Complete Streets Coalition)

**Heat Island:** The term “heat island” describes built-up areas that are hotter than nearby rural areas. Unlike vegetation, paved and hard surfaces absorb heat throughout the day and release it which keeps the temperature higher than it actually is.

**Infrastructure:** Physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes: sewage and water systems, septage treatment systems, waste management systems, electric power generation and transmission, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.

**Intensification:** The development of a property, site or area at a higher density than currently exists through: (Provincial Policy Statement, 2005)

- a) Redevelopment, including the reuse of brownfield sites;
- b) The development of vacant and/or underutilized lots within previously developed areas;
- c) Infill development; or
- d) The expansion or conversion of existing buildings.

**Mobility:** The ability to move in one’s environment with ease and without restriction.

**Modal Share:** The percentage of person-trips or of freight movements made by one travel mode, relative to the total number of such trips made by all modes.

**Multi-modal:** The availability or use of more than one form of transportation, such as automobiles, walking, cycling, buses, rapid transit, rail (such as commuter and freight), trucks air and marine.

**Place-making:** A multi-faceted approach to the planning, design and management of public spaces.

**Public Realm:** All spaces to which the public has unrestricted access, such as streets, parks and sidewalks. In relation to Complete Streets, the public realm is the area of public space between the facades of buildings on a street which includes yards, sidewalks, the roadway and all associated physical infrastructure in between. (Metrolinx Mobility Hub Guidelines)

**Right-of-Way:** Land that is reserved, usually through legal designation, for transportation and/or utility purposes, such as for a trail, hydro corridor, rail line, street or highway. A right-of-way is often reserved for the maintenance or expansion of existing services.

**Road Diet:** The reconfiguration of existing road space, generally where capacity is substantially above demand, to improve safety and mobility for road users and providing an improved walking and cycling environment.

**Sustainability:** Meeting the needs of today without compromising the ability of future generations to meet their own needs.

**Transportation Demand Management:** A set of strategies that result in more efficient use of the transportation system by influencing travel behaviour by mode, time of day, frequency, trip length, regulation, route or cost. Examples include: carpooling, vanpooling, and shuttle buses; parking management; site design and on-site facilities that support transit and walking; bicycle facilities and programs; pricing (road tolls or transit discounts); flexible working hours; telecommuting; high occupancy vehicle lanes; park-and-ride; incentives for ride-sharing, using transit, walking and cycling; initiative to discourage drive-alone trips by residents, employees, visitors and students.

**Walkability:** A measure of how easily one can access services and amenities by walking or some other form of non-vehicular transportation.

**Wayfinding:** The means in which people orient themselves in physical space and navigate from place to place. Can include the physical design of spaces and assistive features such as signage.



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