

Thorold Transportation Master Plan Background Report D: **Complete Streets Strategy**

Final Report
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1 Introduction

Streets have many roles. Streets are social places where residents can enjoy a sidewalk patio; streets provide access to businesses, parks, schools, and homes; and streets are the backbone of the transportation system moving people and goods, while providing space for utilities. Balancing the needs of the many street users and the many functions of each road requires a municipality to make often difficult trade-offs.

Complete Streets are roads that are designed, operated and maintained with the needs and safety of all road users in mind. This means that roads account for people who walk, use mobility aids, ride bicycles, take transit or drive. By improving the comfort and safety of active transportation users and more equitably designing the road right-of-way, it is possible to encourage more people to use sustainable modes.

Many streets in Thorold are already complete streets. For example, a rural road with low vehicular volumes, low pedestrian demand, and paved shoulders accommodates the needs of drivers, farm equipment, pedestrians, and recreational cyclists quite well, just as a quiet local road can accommodate pedestrians, cyclists, and motorists with minimal infrastructure. Two examples of a complete street are shown in Exhibit 1.1. However, there are also many roads in Thorold that could better accommodate all road users through a Complete Streets approach.

The process of transforming a city to a Complete Streets city begins with adopting a Complete Streets approach that informs planning and design for all roads-related projects. It is about gradual, opportunistic changes that, over time, create a city that better accommodates the mobility needs of everyone.

Exhibit 1.1: Examples of Thorold Streets that Accommodate all Road Users (Decew Road east of Merrittville Highway and Elgin Street east of Collier Road)



Source: Image Capture Sept 2018 and May 2014, respectively, ©2019 Google

1.1 Why Complete Streets

The vision for the Thorold Transportation Master Plan (TMP) calls for a transportation system that supports a high quality of life:

Thorold's regionally-integrated, multi-modal transportation system moves people and goods safely, effectively and efficiently to support a thriving, vibrant, livable community.

A Complete Streets strategy is instrumental to achieving the TMP vision by incrementally building a safer and more accommodating transportation network.

The benefits of increasing the use of sustainable modes are substantial. Active transportation has health benefits for individual users and for the community as a whole, as active transportation increases physical activity and produces no air pollution. Complete Street can also increase transit ridership as adequate and accessible pedestrian infrastructure makes it easier to access transit. When more people choose to make trips by active modes and by transit, traffic congestion can be reduced. This not only has environmental benefits, but reduced traffic makes city streets more pleasant and safer for everybody.

Complete Streets also have economic benefits. Research cited by Transport Canada notes that safe and convenient pedestrian amenities boost foot traffic, which can increase retail sales benefiting local retailers¹. Streets with reduced traffic that are safer and more attractive have also been found to increase property values².

1.2 Report Overview

This report provides a strategy and recommended policies for the City of Thorold to implement a Complete Streets approach to guide future decision-making in a way that better balances multiple road functions.

This document contains the following sections:

- **Section 2** provides a summary of policies and documents that are relevant and/or applicable to Complete Streets in Thorold;
- **Section 3** highlights opportunities and challenges associated with implementing a Complete Streets strategy in Thorold;
- **Section 4** describes the Complete Streets decision-making framework;
- **Section 5** outlines Complete Streets infrastructure considerations;
- **Section 6** describes how the performance of Complete Streets should be measured; and
- **Section 7** recommends a Complete Streets policy for Thorold to guide future decision-making.

¹ Transport Canada (2009), Complete Streets: Making Canada's roads safer for all.

² Ibid

2 Existing Policy Review

This policy review includes existing provincial, regional and municipal land use and transportation documents and policies that are applicable to developing a Complete Streets policy in Thorold.

2.1 Provincial Policy

2.1.1 Growth Plan for the Greater Golden Horseshoe (2019)

The Growth Plan for the Greater Golden Horseshoe contains direction for municipalities on Complete Streets. Policy 3.2.2.3 states that “in the design, refurbishment, or reconstruction of the existing and planned street network, a *Complete Streets* approach will be adopted that ensures the needs and safety of all road users are considered and appropriately accommodated.”

This Complete Streets Strategy will help Thorold work towards this important policy objective.

2.2 Niagara Region Policy

2.2.1 Niagara Region Transportation Master Plan

The Niagara Region Transportation Master Plan includes a Complete Streets strategy and design guidelines. The design guidelines include six typologies that account for the road function and land use context of Regional Roads. These typologies, and their associated right-of-way (ROW), include:

- **Main Streets** (ROW 20 m – 26 m) are pedestrian oriented shopping streets often with a heritage character and smaller scale mixed use buildings.
- **Urban General Narrow** (ROW 20 m to 26 m) are narrow roads located in the Region’s most urbanized and denser centres.
- **Urban General** (ROW 26 m – 36 m) are major urban arterials that support high density development, including commercial and retail uses.
- **Transitioning** (ROW 26 m – 36 m+) have wide rights-of-way and are generally located in commercial or residential areas that are transitioning to a more urbanized and mixed-use setting.
- **Hamlets** (ROW 20 m to 26 m) are villages in rural areas with street-oriented retail.
- **Rural** (ROW 20 m to 36 m+) roads are located primarily within the Region’s agricultural and natural areas.

The design guidelines also include best practices for the design of boulevard and roadway elements and demonstration plans. It is noted that these guidelines were developed for Regional arterial roads and may require adaptation to be applicable for municipal roads.

2.3 City of Thorold Policy

2.3.1 Thorold Official Plan

Thorold's Official Plan defines Complete Streets as "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."

The Official Plan also contains Complete Streets policies specific to the Brock Business Park Area Secondary Plan that state:

All new streetscape and road improvements will be designed and constructed to:

- *Accommodate safe and accessible spaces for all users;*
- *Be context-sensitive, considering the road function (speed, traffic, capacity, etc.) for all modes (automobiles, pedestrians, cycling and transit): and*
- *Enhance the overall attractiveness of the Brock Business Park Area.*

It is the intent of this Strategy to develop a Complete Streets policy for all of Thorold.

Functional Road Class

Thorold currently classifies roads under its jurisdiction into the following classes:

- **Arterial:** Roads intended to carry significant traffic volumes from Regional Roads to local and collector roads.
- **Collector:** Roads intended to carry traffic from Regional roads and arterial roads to local roads. Collectors generally have lower speeds and lower volumes, which often makes them more accommodating for active transportation.
- **Local:** Roads intended to carry traffic from the Regional Road network and from Thorold arterials and collectors to individual properties. Pedestrians and cyclists are heavy users of local roads, as many trips start and end on these roads.

These road classes are under review as part of the Thorold TMP. See Background Report G: Road Classification for more information.

In addition to these classes of municipal roads, the Region manages a network of arterial roads and the Province manages access-controlled freeways and arterial highways.

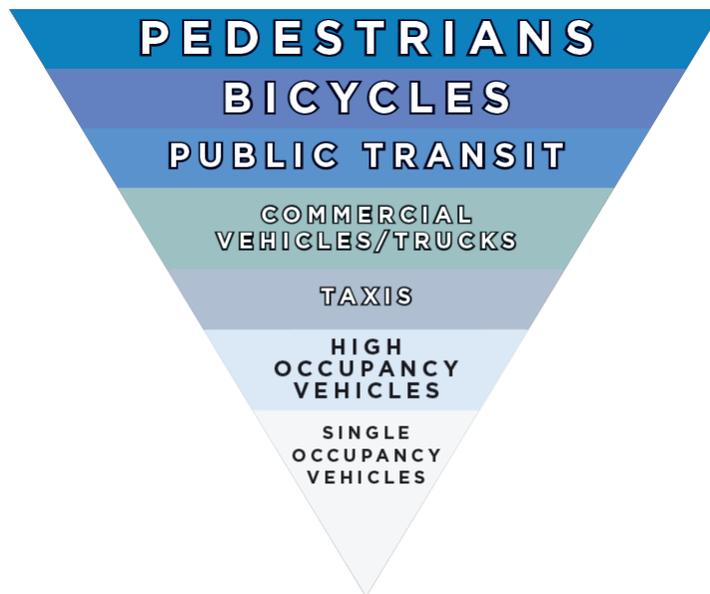
3 Needs and Opportunities

An overview of the needs that Thorold must address and the opportunities that Thorold can seize when moving forward with implementing a Complete Streets approach are described in this section.

3.1 Needs

- **Road User Safety** – Municipalities adopting a Complete Streets approach need to plan for and operate roads that account for the safety of all road users. Exhibit 3.1 illustrates a shift from the traditional hierarchy of road users where cars are prioritized to a Vision Zero⁴ hierarchy that prioritizes the safety of vulnerable road users. Vision Zero refers to the principle that there should be zero serious injuries and fatalities on the road network and that traffic related deaths are preventable through road design and policy. A Complete Streets approach is an important component of the Vision Zero concept. Prioritizing the needs of vulnerable road users should also be included in Thorold’s Official Plan, as further described in Section 7.

Exhibit 3.1: “Vision Zero” Modal Hierarchy



Source: Transportation Alternatives, Vision Zero Streets.

To supplement active transportation infrastructure, traffic calming can be considered, when warranted, to make active modes safer and more comfortable. For example, physical traffic calming measures such as

⁴ Vision Zero Streets. <https://www.visionzerostreets.org>, retrieved September 16, 2019

pedestrian median refuges, speed humps, and curb extensions can be used to reduce traffic speeds.

- **Land Use** – For a Complete Streets approach to apply across the entire city, three distinct land use contexts need to be addressed:
 - **Existing Built-Up Areas** – These areas include downtown Thorold and the surrounding urban area (sometimes called “Thorold Proper”) and Thorold South, on the east side of the Welland Canal. Roads in the existing built-up urban areas will generally require retrofitting Complete Streets elements within the existing right-of-way when a road is rehabilitated or reconstructed.
 - **Developing Urban Areas** – These areas include new growth areas that are transitioning from rural to urban neighbourhoods. The main growth areas for Thorold are in the south end of the city in Port Robinson West and east of Highway 58 as an expansion of Thorold South (e.g. Rolling Meadows). Within Thorold Proper, new development continues in the Confederation Heights and Artisan Ridge neighbourhoods. For developing urban areas, Complete Streets principles should be applied at the planning stages.
 - **Rural Areas** – The rural areas of Thorold consist mostly of light industrial uses, farmlands and rural residential, including part of the hamlet of Port Robinson located east of the Canal.
- **Measuring the Experience of Multiple Road Users** – For Complete Streets to be achieved, it is necessary to measure road network performance for all road users. This means that mode-specific performance metrics that include active transportation level of service are needed. Expanding how road network performance is measured may require additional data collection.
- **Funding** – The incremental cost of considering all modes upfront is less than the cost of having to rebuild or upgrade to add infrastructure for specific modes later.

Funding for a complete street is more readily available for new roads in growth areas, where the City can leverage developer contributions and/or development charges for new infrastructure to accommodate growth. Implementing a complete street through retrofitting roads in established areas requires an opportunistic approach.

The concept of Complete Streets needs to be embedded in all projects and procedures related to streets – from large projects such as road reconstructions, resurfacing and rehabilitation to routine procedures such as traffic signal updates, maintenance activities, etc.

- **Maintenance** – Another cost consideration for Complete Streets is on-going maintenance, particularly in a city with regular and substantial snowfall. In addition to being a legislative requirement per Ontario Regulation 239/02 (O.Reg. 239/02) under the Municipal Act, road

maintenance plays a significant role in improving the safety of the transportation network and improving mobility for all road users. The 2018 update to O. Reg 239/02 includes updates to sidewalk maintenance standards and bike lane maintenance; infrastructure will need to be designed with consideration for these maintenance requirements.

- **Implementation** – Implementing a Complete Streets approach requires the cooperation and commitment of all city departments that have a role in transportation projects. The City of Thorold is well positioned to implement a Complete Streets approach because the engineering department administers all road projects. Any street upgrades that require traffic signal coordination will require Niagara Region to be involved as the signal operator.

3.2 Opportunities

There are many opportunities to link a Complete Streets approach with broader planning initiatives in Thorold. The active transportation network being developed as part of the TMP will provide the City with a comprehensive list of projects to create a more multimodal transportation network. The Travel Demand Management (TDM) Strategy, also being developed as part of the TMP, provides education and programming strategies that can complement infrastructure additions by encouraging people to try active transportation for at least some of their trips. Traffic Calming can also complement a Complete Streets approach. While not a replacement for purpose-built active transportation infrastructure, traffic calming where warranted can make streets safer for all road users and more inviting for vulnerable road users.

Another important piece of a Complete Streets approach is identifying lower-cost retrofit options that do not require substantial roadway reconstruction. Where practical and appropriate, lower-cost options can help to increase the network of Complete Streets without large financial expenditures – this often means that the network of streets that better accommodate the needs of all users can grow faster.

Lower-cost options include⁵:

- **Road Diets:** road diets reallocate road space to accommodate more road users by, for example, taking a four-lane street with four through lanes and creating two through lanes, a centre left turn lane, and bike lanes.
- **Bike Lanes:** there is often enough space to safely accommodate bike lanes within the existing right-of-way, even on two lane streets.
- **High Visibility Crosswalks:** crosswalks can be made to be more visible through pavement markings and signage, which can improve pedestrian safety.

⁵ New York State Association of Metropolitan Planning Organizations. Complete Streets Fact Sheet 2.0. https://www.dot.ny.gov/programs/completestreets/repository/NYSAMPO_CompleteStreetsWeb_131106.pdf. Retrieved August 6, 2019

- **Mid-Block Crossings:** mid-block pedestrian crosswalks or crossovers can provide a safer location to cross the street when distances between intersections are long.
- **Curb Extensions:** curb extensions can shorten the distance that pedestrians must cross and make pedestrians more visible to drivers. These are typically implemented in areas with on-street parking.
- **Traffic Signals:** pedestrian signals can be added at signalized intersections.

4 Complete Streets Decision-Making Framework

A standardized Complete Streets implementation process will encourage the systematic application of Complete Streets principles. Niagara Region developed a Complete Streets decision-making framework as part of its TMP. It is recommended that the City of Thorold employ this framework to plan and implement Complete Streets projects to encourage consistency with Regional processes. The process is summarized below. Full details can be found in *Niagara Region's Complete Streets: Vision and Direction for a Changing Region*.⁶ The Complete Streets decision-making framework does not develop new projects; it takes projects already identified and evaluates them from a Complete Streets perspective to identify ways of better incorporating the needs of all road users.

4.1 Planning Phase

Compile Upcoming Projects and Identify Funding Opportunities: Upcoming projects should be compiled from a variety of sources including maintenance plans, the City's Capital Plan, and this TMP. Once projects are compiled, Thorold should identify funding opportunities. Working with Niagara Region, opportunities for collaboration should also be explored. For municipal roads where traffic signals are not impacted, this process can happen without involving Niagara Region.

Define a Vision and Goals for the Corridor: A vision and set of goals for the corridor that align with the Complete Streets principles in this report and in Niagara Region's Guiding Principles for Complete Streets should be developed. This planning phase also involves reviewing the project through the Municipal Class Environmental Assessment process, if applicable.

Analyze Corridor Opportunities and Constraints: Opportunities can include a discussion of infrastructure types for various modes, while constraints can include everything from right-of-way width to community concerns. These should be assessed against the vision and goals for the corridor.

4.2 Design Phase

Identify Potential Infrastructure Needs for the Street: For arterial roads, a street typology from Niagara Region's Complete Streets Guidelines should be selected. For collector or local roads, infrastructure considerations are provided in Section 5 of this report.

Evaluate Alternative(s) and Community Fit: Design alternatives should be evaluated, including measures of multi-modal level of service performance as

⁶ <https://www.niagararegion.ca/2041/transportation-master-plan>

described in Section 60. Stakeholder and public engagement should also be undertaken at this stage.

Design to Context Using Design Guidelines: For arterial roads, the Niagara Region Complete Streets Design Guidelines should be used to provide guidance on the corridor design according to the street typology. For collector and local roads, the City of Thorold may need to rely on other design guidelines, such as Transportation Association of Canada (TAC) or National Association of City Transportation Officials (NACTO) guidelines, that are more appropriate to lower-class roads.

4.3 Build and Operate Phase

Construct: Construction should be coordinated between the City, the contractor, and the Region (when applicable). Impacts to local businesses and to connections for pedestrians and cyclists should be minimized.

Operate and maintain: Operations along the corridor should be monitored, particularly in the early stages, to determine if any adjustments are needed (i.e. signal timing, additional signage, public education etc.)

Monitor and report: The corridor should be further monitored to determine whether the project is achieving the desired outcomes and to monitor any positive/negative impacts on the surrounding neighbourhood. In addition to using multi-modal indicators, the following performance indicators may be included:

- Mode split changes;
- Demographics of users;
- Collisions;
- Patrons and retail sales at local businesses;
- Transit ridership;
- Property values; and
- Qualitative data, such as perceptions of safety for vulnerable road users.

5 Infrastructure Considerations

The method of accommodating the needs of all road users depends in part on the land use context, intended function of the street as a public space, and the transportation function of the street. Roads should meet the minimum needs of all intended users while enhancing the safety and comfort of vulnerable users. This should create a transportation network that balances the needs of all road users.

The needs of a road should be determined by the following general factors:

- **Land Use and Network Context:** Land use context refers to the adjacent area's predominant development pattern (residential, commercial, industrial etc.) and the development's relationship or planned relationship with the street (e.g. street front shops vs. big box plazas). The network context refers to the street's role in the overall transportation network as defined in the Thorold TMP or Niagara Region TMP. Roles of streets can include facilitating vehicular movement, providing access to residences and businesses, and acting as commercial main streets in historic urban cores, among others.
- **Functional Road Class:** Functional class is defined in the Official Plan – and will be updated through this TMP – and includes important characteristics including the physical width of the right-of-way. While policy will help determine what design features should be included on a particular corridor, the width of the right-of-way may ultimately determine what design features can fit.

Although a Complete Streets approach aims to prioritize the safety of vulnerable road users, there are certain instances where a municipality may wish to provide infrastructure above and beyond the minimum required for safety, particularly

when enhancing a road's function as a public space. For instance, a municipality may want to provide wider sidewalks or temporary sidewalks on a downtown street to allow room for season sidewalk patios, as shown in Exhibit 5.1.

Exhibit 5.1: Patio Sidewalk Extension in Newmarket Ontario



5.1 Arterial Roads

Niagara Region's Complete Streets guidelines recognize that arterial roads can serve different functions depending on the surrounding land use context.

As noted in Section 2, Niagara Complete Streets typologies can be applicable to Thorold arterial roads, as municipal arterial roads will have similar functions to Regional arterial roads.

5.2 Collector and Local Roads

For Thorold's collector and local roads, the proposed functional classes developed as part of the TMP can serve as the basis for prioritizing the needs of vulnerable road users. The typical uses of each road type and examples of how multiple road users can be accommodated are described below. However, every street is unique, and an individual review of each street is needed to determine what, if any, changes are required to better accommodate the needs of the street's users. In many cases, infrastructure needs will be similar across multiple road classes and functional class should only be one of many considerations.

Urban

Collector: These roads connect residential urban neighbourhoods to the arterial road network. Collectors in Thorold accommodate a variety of land uses including residential, commercial, and industrial. Active transportation needs on the collector roads vary greatly based on adjacent land use, but connectivity to neighbourhood destinations, such as schools, can generate significant volumes of pedestrian traffic. Most collector roads require some type of cycling infrastructure to be comfortable for most cyclists.

Major Local: These streets provide access to individual properties and connect to collector streets or directly to arterials. Land uses are primarily residential with some roads serving light commercial uses. Like Collectors, community destinations on Major Locals can generate large volumes of pedestrian traffic. Active transportation on Major Local roads is typically accommodated with signed routes and/or shared lanes when traffic volumes and speeds are low.

Minor Local/Mews: These are short, cul-de-sac or dead-end streets with single detached homes as the predominant land use. These streets do not serve through traffic and require minimal infrastructure to accommodate active transportation users.

Public Laneway: These are narrow roads that provide access to abutting properties and connect to Major Local Roads. Public Laneways are not intended for through traffic and do have dedicated pedestrian and/or cycling facilities.

Rural

Collector: Rural Collectors provide routes for through traffic in Thorold's rural areas, while also providing individual property access. Cycling and pedestrian traffic is usually very low on these corridors, except where the corridor serves as

a recreational cycling route. On established recreational routes, wide shoulders and signage are typically adequate to accommodate active transportation users.

Local: Rural Local roads provide property access in Thorold's rural areas. These roads typically have low traffic volumes. As with Rural Collector roads, cycling and pedestrian volumes are typically low.

5.3 Design Resources

There is no one universal set of design guidelines for Complete Streets. Many jurisdictions have developed their own guidelines, while many others use available resources. Thorold can draw on existing guidelines and standards when designing Complete Streets projects.

Common resources for Complete Streets design elements include:

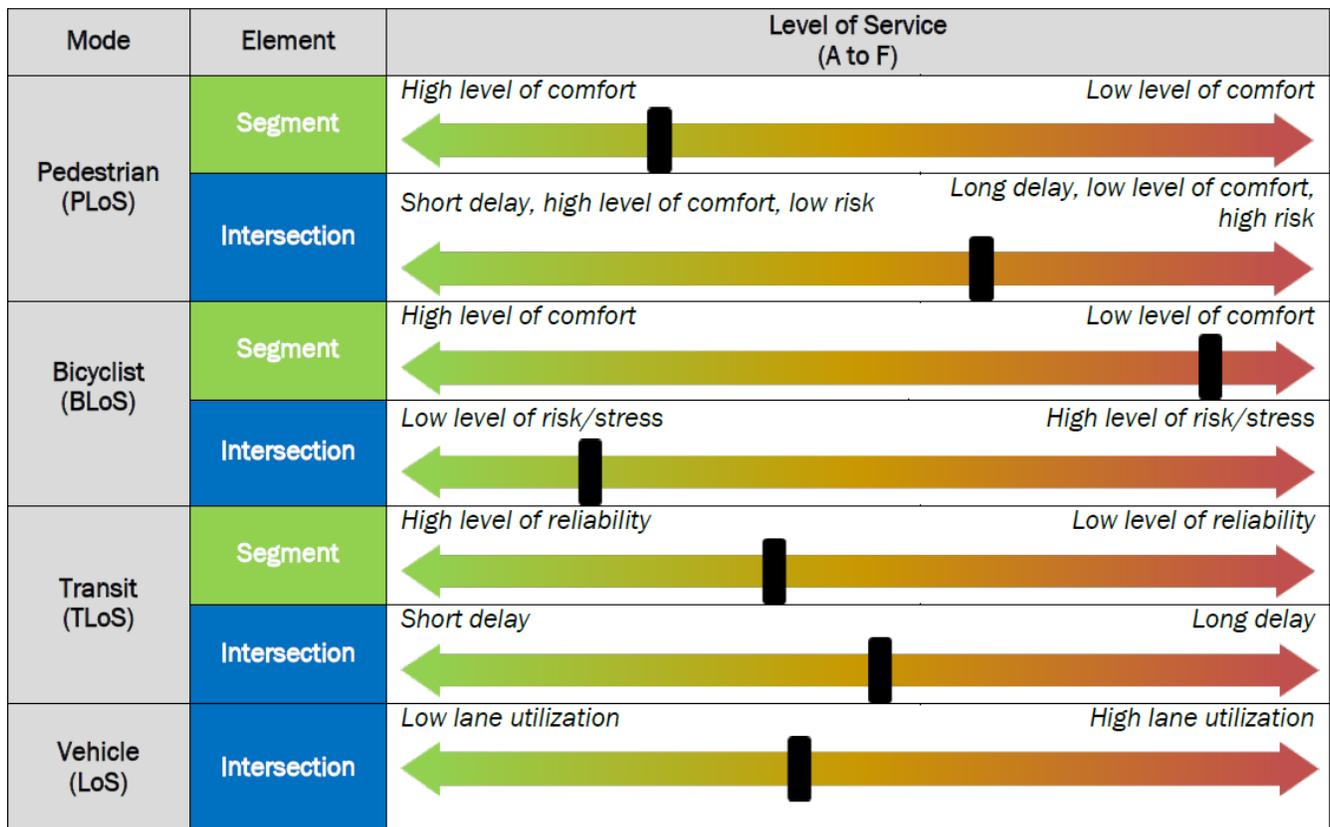
- **Ontario Traffic Manual (OTM) Book 15, Pedestrian Crossings (2016) and OTM Book 18, Cycling Facilities (2014, update pending).** The OTM Books provide information and guidance to promote uniformity of treatment in the design, application and operation of traffic control devices and systems across Ontario. Book 15 and Book 18 provide guidance specifically on pedestrian and cycling facilities.
- **Geometric Design Guide for Canadian Roads, Transportation Association of Canada (2017).** The recent release of the updated Geometric Design Guide includes guidance on cross-sectional elements and two chapters dedicated to bicycle and pedestrian planning and design.
- **Canadian Guide to Neighbourhood Traffic Calming, Transportation Association of Canada (2018).** A common reference for guidance on traffic calming elements such as curb extensions, refuge islands, and other devices that slow traffic.
- **Urban Bikeway Design Guide, National Association of City Transportation Officials (NACTO) (2011).** NACTO developed this guide as part of its Cities for Cycling initiative to provide cities with state-of-the-practice solutions to create complete streets that are safe and enjoyable for cyclists. It includes descriptions, benefits, applications, design guidance, renderings, images and case studies for bike lanes, cycle tracks (segregated bike lanes), intersections, bicycle signals, and signage and pavement markings.
- **Urban Street Design Guide, NACTO (2013).** This guide provides direction for improving street design for inclusive, multi-modal urban environments.

6 Evaluation and Performance

A central component of the Complete Streets approach is understanding how given segments of the road network serve all users. Data for all modes should be collected before and after the implementation of a Complete Streets project. Performance measurement is an iterative process; it can be used to identify gaps and prioritize improvements and illustrate progress being made on encouraging sustainable modes.

To measure performance, multi-modal level of service (MMLOS) indicators should be used. MMLOS indicators measure road performance for all modes by assigning a level of service (LOS) of A through F for each mode based on performance, traffic conditions, and infrastructure features. Performance measures can include lane width, pedestrian crossing distance, and traffic stress experienced by cyclists among others. The concept is illustrated in Exhibit 6.1.

Exhibit 6.1: Level-of-Service Scale by Mode



Source: Niagara Region's Complete Streets: Vision and Direction for a Changing Region

Considerations for performance measures by mode for the City of Thorold are shown in Exhibit 6.2.

Exhibit 6.2: Considerations for MMLOS Performance Measures

MODE	SEGMENTS	INTERSECTIONS
Pedestrian	Sidewalk and boulevard width, traffic volume and speed, presence of on-street parking.	Pedestrian exposure to traffic (crossing with or without a median, corner radius, signal timing and phasing, crosswalk treatment) and pedestrian delay
Cycling	Level of traffic stress (type of cycling facility, number of travel lanes, operating speed, bikeway blockage, commercial driveway frequency, unsignalized intersections, operating speed, and width)	Level of traffic stress (type of cycling facility at intersection, approach lane configuration, operating and turning speed, length of right-turn lanes)
Automobile	Volume to capacity ratio	Control delay
Trucks	Number of lanes and curb lane width for ease of travel	Effective corner radius and number of departure lanes for ease of making turns through intersection

A target level of service for each mode can be established for a given street segment to meet the overall vision for the street and the transportation network – targets can fit the unique needs and context of the street. For example, lower levels of service (e.g. no bike lanes and sidewalks on only one side of the street) may be acceptable for vulnerable users on low volume local roads. For a downtown main street, however, wide sidewalks on both sides of the road and bike lanes may be the target for pedestrians and cyclists, while lower levels of service (e.g. fewer and narrower travel lanes) may be acceptable for automobiles and goods movement vehicles.

Refer to Niagara Region Multi Modal Level of Service Guidelines for more information.⁷

⁷ Niagara Region Complete Streets Vision and Direction for a Changing Region (Appendix D). <https://www.niagararegion.ca/2041/pdf/tmp-complete-streets-vision-and-direction.pdf>. Retrieved August 6, 2019

7 A Recommended Complete Streets Policy

This section outlines the recommended components of a Complete Streets policy for Thorold that will apply to the rehabilitation of existing roads as well as construction of new roads. Adopting a Complete Streets policy does not mean that the City must upgrade the entire road network immediately. First, many streets in Thorold are already complete streets, as they safely accommodate all road users. Second, the policy is intended to ensure that the needs of all road users are accommodated as the City engages in on-going road construction, operations and maintenance activities.

The following principles should be incorporated into the recommended policy:

- **Always Consider the Needs of Vulnerable Road Users** – The aim of Complete Streets is to safely accommodate all modes, which requires explicitly considering the safety needs of vulnerable road users.
- **Consider All Projects** – A core element of any Complete Streets policy is that all projects must be planned using the Complete Streets approach. This means that the needs of all road users must be considered in every project.
- **Plan for Neighbourhood Connectivity** – Neighbourhoods that are designed with pedestrian/bike only connections between streets, shorter block lengths, and pedestrian facilities are more supportive of sustainable modes and as such support the Complete Streets approach and should be encouraged in all new developments.

7.1 Recommended Official Plan Policy

The City of Thorold is adopting a Complete Streets approach to every new road, road reconstruction and road rehabilitation project. Each project will be planned, designed, constructed, operated and maintained with the explicit consideration for the needs of road users of all ages and abilities. It is recognized that not all projects will be able to accommodate all road users to the highest level of service. Where constraints exist, planners and designers will need to demonstrate that the proposed design afforded due consideration for all potential road users and that the prevailing design meets the needs of the intended function of the street and fits within the existing and planned community context.

7.2 Implementation Actions

For the Complete Streets approach to be successful, all standards, policies and procedures related to roads should be updated to better reflect the needs of all road users. These and other recommended actions for implementation are:

- Adopt the Complete Streets policy in the Official Plan.
- Integrate the Complete Streets approach in all relevant City departments and divisions.

- Develop and hold a workshop for City staff and external stakeholders to describe the new approach and how road planning and design processes will change.
- Develop a Multimodal Level of Service evaluation framework and develop target levels of service for each mode.
- Update design guidelines and standards to include minimum accommodation for all users on all streets.
- Review and update Maintenance Standards referencing Ontario Regulation 239/02 to address all modes.
- Review traffic operational study policies and procedures to ensure that they explicitly consider the safety of all modes.
- Review pavement marking and signage guidelines and adopt new approaches to enhance the safety of vulnerable users, such as high visibility crosswalks, cycling facility intersection markings, etc., where warranted.