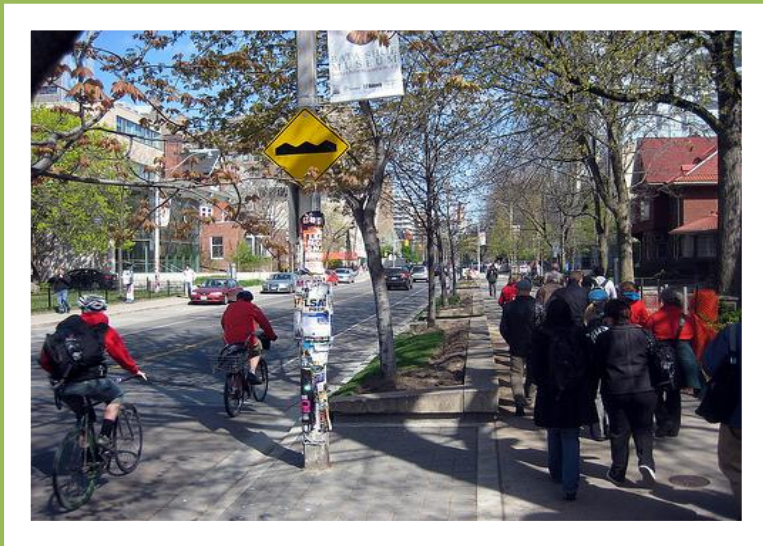


# COMPLETE STREETS GAP ANALYSIS: OPPORTUNITIES AND BARRIERS IN ONTARIO



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Clean Air Partnership (CAP) is a registered charity dedicated to improving air quality, minimizing greenhouse gas emissions and reducing the impacts of air pollution and climate change. The Toronto Centre for Active Transportation (TCAT), a project of CAP, conducts research, develops policy, and creates opportunities for knowledge sharing, all with the goal of providing evidence and identifying workable active transportation solutions.

# Table of Contents

<b>Executive Summary .....</b>	<b>v</b>
<b>Introduction .....</b>	<b>0</b>
1.1.    About the gap analysis.....	0
1.1.2 Gap analysis structure .....	0
1.1.3 Gap analysis limitations .....	1
1.2    The Complete Streets Movement .....	1
1.2.1 What is a Complete Streets policy? .....	2
1.2.2 The United States .....	2
1.2.3 Canada .....	2
1.2.4 Ontario policy context.....	4
<b>2 Policy Analysis.....</b>	<b>6</b>
2.1    Documents reviewed.....	6
2.2    Policy analysis tool .....	6
2.3    Ten Elements to a Comprehensive Complete Streets Policy .....	7
2.3.1 Element 1: Language and Intent .....	7
3.2.2 Element 2: Users and Modes .....	8
3.2.3 Element 3: Projects .....	9
3.2.4 Element 4: Exceptions .....	10
3.2.5 Element 5: Connectivity.....	13
3.2.6 Element 6: Jurisdiction.....	13
3.2.7 Element 7: Design .....	15
3.2.8 Element 8: Context Sensitivity .....	16
3.2.9 Element 9: Performance Measures .....	17
3.2.10 Element 10: Implementation Plan .....	18
2.4    Summary of the Policy Analysis.....	19
<b>3 Complete Streets Implementation Survey .....</b>	<b>20</b>
3.1    The survey .....	20
3.2    Survey responses.....	20
3.2.1 General respondent information .....	20
3.2.2 Responses to specific questions .....	20
<b>4 Conclusions .....</b>	<b>29</b>

4.1 Future research topics .....	29
4.2 Policy and implementation analysis .....	29
4.3 The popularity of Complete Streets is growing .....	30
<b>5 Case Studies.....</b>	<b>31</b>
5.1 Thunder Bay.....	31
5.2 The City of Waterloo.....	34
5.3 Calgary .....	37
<b>6 References.....</b>	<b>40</b>
<b>Appendix A.....</b>	<b>44</b>
<b>Appendix B.....</b>	<b>50</b>

## List of Figures

Figure 1 - Ontario's First Downtown Segregated Bike Lane, Laurier Avenue West, City of Ottawa.....	v
Figure 2 - York Blvd near the Farmer's Market, City of Hamilton .....	4
Figure 3 - Court Street South, City of Thunder Bay .....	31
Figure 4 – Davenport Road, City of Waterloo .....	34
Figure 5 - Before and After photo of the Davenport Road redesign in Waterloo .....	35

## List of Tables

Table 1 – Cities included in the Gap Analysis .....	1
Table 2 – Official Plans that include direction to include pedestrian, cycling, or transit infrastructure improvements during three road construction phases .....	11
Table 3 – Official planning documents that are, or can be, used to implement Complete Streets.....	23
Table 4 – Municipalities that use the term 'Complete Streets' in at least one official planning document .....	24
Table 5 – Activities integral in moving towards implementing a Complete Streets approach .....	25
Table 6 – Most important steps towards adopting a Complete Streets approach .....	26
Table 7 – Barriers and solutions for adopting and implementing a Complete Streets approach .....	27

## Executive Summary

“When the rubber hits the road and when we design, we fall short; but, we’re getting better”.

- Anne Ostrom , Take Heart Coordinator at the Thunder Bay district Health

### Why Complete Streets, Why now?

Popularity for Complete Streets is growing in Canada inspired by the success of the movement in the United States where 330 jurisdictions and 26 states have adopted policies or have made written commitment to do so as of April 2012 (National Complete Streets Coalition, 2012a). In Ontario, over 40% of the 17 municipalities included in this gap analysis already mention the term Complete Streets in at least one of their official planning documents. Interest is rapidly growing across the country as well.

Winnipeg's 2011 Transportation Master Plan recommends that the City draft and adopt an Official Complete Streets policy (City of Winnipeg, 2011); Moncton, NB recently identified Complete Streets as a priority for the development of their new Municipal Plan (Cormier, 2011); Edmonton has launched an online discussion on how the City can achieve Complete Streets (City of Edmonton, 2012); Toronto Public Health recently reported that the City's Official Plan includes a Complete Streets policy (Perrotta et al., 2012); and the Regional Municipality of Niagara is currently conducting a gap analysis to discover how existing provincial and regional policy can support the adoption of Complete Streets in the Region's 12 municipalities (Craig Rohe, Personal Communication, April 12, 2012).



Figure 1  
Ontario's First Downtown  
Segregated Bike Lane, Laurier  
Avenue West, Ottawa  
(Photo Credit: Ryan Anders  
Whitney)

Conferences and workshops supporting the adoption of Complete Streets policies are also growing in popularity. The 2012 Complete Streets Forum hosted by TCAT sold out nearly a month in advance (TCAT, 2012); the City of Hamilton hosted a Transportation

Summit exploring the value of Complete Streets on April 5, 2012 (Clean Air Hamilton, 2012); and the Ontario Traffic Council held a Transportation Planning Workshop in Oakville on April 20, 2012 exploring, in part, Complete Streets on provincial roads (Ontario Traffic Council, 2012). The Province of Ontario is beginning to take note: the newest version of the Transit-Supportive Guidelines, released by the Ministry of Transportation, contains a section dedicated to Complete Streets with recommended 'best practice' strategies for adoption at the local level (Ministry of Transportation, 2012).

And with good reason: the adoption of a Complete Streets policy requires planners and engineers to design roadways to be safe and comfortable for users of all ages and abilities, including pedestrians, cyclists and transit users.

## **Research Findings**

This research represents the first known in Canada highlighting the opportunities and barriers for the adoption of Complete Streets policies. More specifically, the transportation section of the Official Plan (OP) for 17 of Ontario's largest municipalities was analysed using the ten elements of a comprehensive Complete Streets policy developed by the National Complete Streets Coalition.

Of the OPs reviewed, eight of the ten elements were found in the majority of policies. The two elements that were missing most often were 1) the use of strong, direct language (i.e., 'must' or 'will') for implementing cycling, pedestrian, and transit networks and 2) a clear process for defining and granting any exceptions to accommodating all road users.

To supplement the OP analysis, an implementation survey was sent to planners, engineers, and advocates in the same 17 municipalities to discover what opportunities and barriers exist for adopting and implementing Complete Streets. While over 80 percent of the municipalities support the adoption of a Complete Streets policy there are gaps preventing adoption and implementation. The three most significant barriers were 1) gaining support from a diverse set of stakeholders, 2) departmental training, and 3) financing. Furthermore, political support was identified as a key factor in pushing forward a Complete Streets policy. The most important documents identified to do so include the Official Plan, the Transportation Master Plan, and Urban Design Guidelines.

## **What Does It All Mean?**

The results of this research show that many of the ten elements of a comprehensive Complete Streets policy already exist in the Official Plans of 17 of Ontario's largest

municipalities. However, there is growing support for the strengthening of these Complete Streets policy elements to further structure and enhance both existing and new transportation policies and to facilitate implementation of streets that are safer and welcoming for all. Specifically, stronger policy language can strengthen opportunities for implementation by removing policy ambiguity through words such as “must”, “shall”, and “will”, as opposed to “will consider”, “wherever feasible”, or “if possible”, when referring to the pedestrian, cycling, or transit network. If exceptions are necessary then they should be clearly articulated and have a defined approval process.

While 76% of municipalities cited some form of implementation plan in the transportation section of the OP the fact remains that achieving the implementation plan is the ticket to change. Practitioners will need tools with teeth, including training for city staff and design standards for implementation for every type of right-of-way, to take Complete Streets from policy to actual implementation.

Fortunately, Canadian municipalities are recognizing that successfully building Complete Streets requires going above and beyond policy. Calgary is in the middle of a three-year process to create Complete Streets Guidelines that will give practitioners concrete guidance on how the City's Complete Streets policy, adopted into both Calgary's Transportation Plan and Municipal Development Plan in 2009, will be implemented on every right-of-way throughout the City (City of Calgary, 2011). Edmonton has started a similar process (City of Edmonton, 2012).

With the gears well in motion, the future looks bright for Complete Streets in Ontario and across Canada.

# Introduction

## 1.1. About the gap analysis

A gap analysis is designed to highlight the 'gaps' or next steps necessary to move a project from a current state to a desired state. More specifically, it involves three parts: 1) analyzing the current state of a project, 2) identifying where the project could or should be, and 3) identifying what 'gaps' must be addressed in order to move the project from a current state to a desired state (Perth Downtown Revitalization, 2009).

This gap analysis has three steps following the above definition. The first is to provide an analysis of the current state of Complete Streets policies in Ontario; the second is to identify gaps that are preventing municipalities from adopting Complete Streets policies; the third is to use these results to develop online resources to assist municipalities with the adoption of Complete Streets policies across Ontario and Canada via the Toronto Centre for Active Transportation's (TCAT) Complete Streets Canada website ([www.completestreets.ca](http://www.completestreets.ca)).

### 1.1.2 Gap analysis structure

This gap analysis has three sections: Policy Analysis, Implementation Analysis, and Case Studies.

The Policy Analysis section presents the results of the analysis of the transportation section of 17 Official Plans (OP) from every Census Metropolitan Areas (CMA) in Ontario defined by Statistics Canada, in part, as having over 100,000 (Statistics Canada, 2012). The municipalities included in this section are listed in Table 1.

A modified version of the ten elements of a comprehensive Complete Streets policy (Appendix A), as developed by the National Complete Streets Coalition, was used to direct the analysis to measure how comprehensive the OP language was in supporting Complete Streets (Complete Streets, 2012).

The Implementation Analysis section presents the results of the implementation survey that was sent to one engineer, one planner, and one advocate in each of the profiled municipalities to understand what opportunities and barriers exist for Complete Streets. The survey (Appendix B) was developed by the author with input from the advisory committee.



**Table 1**

Cities included in the analysis of Official Plans

City of Barrie	City of Brantford	City of Sudbury
City of Guelph	City of Hamilton	City of Kingston
City of Kitchener	City of London	City of Oshawa
City of Ottawa	City of Peterborough	City of St. Catharines
City of Thunder Bay	City of Toronto	City of Windsor
City of Cambridge	City of Waterloo	

The Case Studies section profiles three Canadian municipalities that have made progress towards adopting Complete Streets: Thunder Bay, Waterloo, and Calgary. The case studies highlight that there is no one-size-fits-all approach to achieving Complete Streets but rather that a variety of different strategies may work depending on community context.

### **1.1.3 Gap analysis limitations**

The ten elements of comprehensive Complete Streets policy adapted for use in this study were originally designed to measure the strength of Complete Streets policies adopted in the U.S. Typically these policies are based on a smaller policy context, such as a resolution or an ordinance. In this research, however, the elements were applied to the larger scale policy context of an OP.

The ten elements do not measure if existing policy has been implemented. Rather, the elements are designed to give a sense of how prepared a municipality is to move forward with implementation from a policy context only.

There is a potential bias in the results due to the fact that participants were recruited for their participation in the implementation analysis survey based on contacts gathered from the advisory committee for this research, previous Complete Streets Forum attendees, and through other existing TCAT contacts. Therefore, respondents were likely to already have a strong interest in Complete Streets and may have responded more positively as a result.

## **1.2 The Complete Streets Movement**

The following section gives a brief history of the Complete Street movement in the United States and Canada.

### **1.2.1 What is a Complete Streets policy?**

Complete Streets policies help formalize a municipality's "intent to plan, design, and maintain streets so that they are safe for all users of all ages and abilities" (National Complete Streets Coalition, 2010, p. 9). More specifically, policies can help to direct transportation planners and engineers to "design and construct the right-of-way to accommodate all anticipated users, including pedestrians, bicyclists, public transportation users, motorists, and freight vehicles" (p. 9). Complete Streets is a flexible policy approach that allows every road to be designed based on its surrounding context. For example, a road in a downtown environment would not necessarily be designed in the same way as a suburban road in a less dense environment.

### **1.2.2 The United States**

The term 'Complete Streets' was originally coined in 2003 on behalf of America Bikes to replace the term 'routine accommodation' then used to plan for bicycle infrastructure on roadways by professional planning and engineering circles (McCann, 2010). The term gradually expanded to include pedestrians, transit users, and drivers, in addition to bicyclists, of all ages and abilities after America Bikes led the formation of a Complete Streets Task Force. Early members of this Task Force included AARP, the American Planning Association, the American Public Transportation Association, the American Society of Landscape Architects, and the American Heart Association. The original goal of Complete Streets was to influence the federal transportation bill that became the Safe, Accountable, Flexible, Efficient Transportation for Equity Act: A Legacy for Users (SAFETEA-LU), but it was soon realized that the approach could also be adopted by municipal and state governments (McCann, 2010).

In 2005 the National Complete Streets Coalition was formed with funds from the original Task Force with the goal of providing resources to municipalities to support the adoption of Complete Streets across the United States. As of February 2012, over 315 Complete Streets policies have been adopted at both the municipal and state level across the United States, with federal interest still brewing (McCann, 2010). The success of the movement in the U.S. has sparked popularity in other countries including Canada.

### **1.2.3 Canada**

In August 2009, the Toronto Centre for Active Transportation (TCAT) and the Toronto Cyclists Union (TCU) began working together to bring a Complete Streets policy to Toronto inspired by the success of the Complete Streets movement in the United States.

In just a few short months, a steadily increasing number of groups and individuals, as well as senior City of Toronto staff and politicians, became interested in supporting the adoption of a Complete Streets policy in Toronto. It was realized through this process that other Canadian municipalities could benefit from a Complete Streets approach and that some were already taking the lead.

Drawing on the U.S. experience, several municipalities in Canada started to officially adopt Complete Streets policies in 2009. For example, Calgary adopted a Complete Streets policy into their Municipal Development Plan (Alberta's equivalent of an Official Plan) and Transportation Plan in 2009 and is currently drafting a Complete Streets Guide to oversee the implementation of Complete Streets on roads throughout the City (City of Calgary, 2011). Waterloo officially adopted a Complete Streets policy in the City's Transportation Master Plan in 2011 (City of Waterloo, 2011) and is currently working on adopting a policy in their OP.

Interest in Complete Streets is growing across the country with a spike in the last quarter of 2011 and the first quarter of 2012. For example, Winnipeg's 2011 Transportation Master Plan recommends that the City draft and adopt an official Complete Streets policy (City of Winnipeg, 2011); Moncton, NB recently identified Complete Streets as a priority for the development of their new Official Plan (Cormier, 2011); Edmonton has launched an online discussion on how the City can achieve Complete Streets (City of Edmonton, 2012); Toronto Public Health recently reported that the City's OP includes a Complete Streets policy (Perrotta et al., 2012); and the Regional Municipality of Niagara is currently conducting a gap analysis to discover how existing provincial and regional policy can support the adoption of Complete Streets in the Region's 12 municipalities to be released in mid-2012.

Furthermore, conferences and workshops featuring Complete Streets are gaining popularity at the non-profit, municipal, and provincial level. The third-annual 2012 Complete Streets Forum hosted by TCAT sold out nearly a month in advance (TCAT, 2012); the City of Hamilton hosted a Transportation Summit exploring the value of Complete Streets on April 5, 2012 (Clean Air Hamilton, 2012); and the Ontario Traffic Council held a Transportation Planning Workshop in Oakville on April 20, 2012 exploring, in part, Complete Streets on provincial roads (Ontario Traffic Council, 2012). The Province of Ontario is beginning to take note as well with the newest version of the Transit-Supportive Guidelines containing an entire section dedicated to Complete Streets with recommended 'best practice' strategies for adoption at the local level (Ministry of Transportation, 2012).



Figure 2  
York Blvd near the Farmer's Market, City of Hamilton  
(Photo Credit: Darryl Bender)

#### **1.2.4 Ontario policy context**

Ontario has a strong history of adopting policy to guide transportation practices. Matters related to transportation planning in Ontario are guided via a variety of policy documents that are required by The Planning Act at both the provincial, regional, and municipal level (Ministry of Municipal Affairs and Housing, 2012).

The Planning Act guides the development of the Provincial Policy Statement (PPS) and several regional plans that are in turn used by municipalities to prepare their Official Plan (OP) used to direct the overall land use practices in a given municipality. More specifically, the PPS "contains clear, overall policy directions on matters of provincial interest related to land use planning and development" (Provincial Policy Statement, 2005). The PPS currently contains several policies that could be interpreted to support Complete Streets principles at the municipal level including the following:

**Policy "1.5.1 A Healthy, active communities should be promoted by:**

- a. *planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, and facilitate pedestrian and non-motorized movement, including but not limited to, walking and cycling" (Provincial Policy Statement, 2005).*

**Policy “1.6.5.4**

*A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support the development of viable choices and plans for public transit and other alternative transportation modes, including commuter rail and bus” (Provincial Policy Statement, 2005).*

Regional plans, such as the 2006 Growth Plan for the Greater Golden Horseshoe (GGH) surrounding Toronto created under the Places to Grow Act of 2005, are also required by The Planning Act to be used by a municipality when developing their OP. The Growth Plan contains many policies that support active transportation in a similar fashion to the PPS but does not specifically use the term 'Complete Streets' (Ministry of Public Infrastructure Renewal, 2006). A similar plan exists for Northern Ontario that was released in 2011 and supports a 'multi-modal transportation system' (Ministry of Infrastructure and Ministry of Northern Development, Mines and Forestry, 2011) but does also not reference Complete Streets.

Additionally, the Province of Ontario and other regional government bodies provide guidelines and policy documents that communities can choose to use in the development of their Official Plans. For instance, the Ministry of Transportation released new Transit-Supportive Guidelines in 2012 to help encourage sustainable transportation and which includes an entire section on Complete Streets designed to assist with adoption in local municipalities (Ministry of Transportation, 2012). Furthermore, in 2008 Metrolinx, a regional government body created by the Government of Ontario to improve the coordination and integration of all modes of transportation in the Greater Toronto and Hamilton Area (GTHA), released *The Big Move*, a regional transportation plan for the GTHA, with the goal of influencing regional transportations practices (Metrolinx, 2008).

## 2 Policy Analysis

### 2.1 Documents Reviewed

In Ontario, every municipality is required to develop an Official Plan (OP) that is used to guide how land should be used in a given municipality. The OP is subject to approval by the Ontario Ministry of Municipal Affairs and Housing, or the regional municipal government, and must be reviewed for updates every five years (OMMAH, 2012).

The OP was the sole document analyzed for this research because it represents the most comprehensive document used in municipalities to help guide their land-use decisions. However, Complete Streets policies can be adopted in a number of different policy documents such as in a Transportation Master Plan, a Strategic Plan, a Design Manual etc. en route to adopting a policy in the OP (OMMAH, 2012; Pedestrian and Bicycle Information Center, 2012). As such, if an implementation survey respondent stated that an official planning document outside of the OP cited the term 'Complete Streets' then that document was scanned for confirmation (see 3 Implantation Analysis).

### 2.2 Policy Analysis Tool

The ten elements of a comprehensive Complete Streets policy are used by the National Complete Streets Coalition to rate the strength of Complete Streets policies adopted in U.S. jurisdictions. A revised version of the ten elements was adopted by the author to assess the overall prevalence of Complete Streets in the transportation sections of the OP.

The ten elements, as developed by the National Complete Streets Coalition, are as follows (Complete Streets, 2012):

- **Element 1: Language and Intent** – uses strong policy language such as 'must' or 'will' implement when referring to the pedestrian, cycling, and transit network.
- **Element 2: Users and Modes** – must mention, at minimum, that 'all users' of the transportation system includes pedestrians, bicyclists and transit users of all ages and abilities.
- **Element 3: Applies to all road projects** – helps ensure that pedestrian, cyclist, or transit infrastructure will be reviewed for inclusion in new road projects, retrofit/reconstruction road projects, and repair/maintenance road projects for the entire right.

- **Element 4:** *Exceptions* - exceptions about when a Complete Streets policy will not be followed should be clear and require a procedure for approval.
- **Element 5:** *Encourages Connectivity* –aims to create a comprehensive, integrated, connected network of pedestrian, cycling, and transit infrastructure to benefit all users and modes.
- **Element 6:** *Jurisdictions* – a Complete Streets policy is strongest when it is adoptable by all agencies to cover all roads at the municipal, regional/county/district, and provincial level. In lieu of this, language stating that the municipalities will work with all jurisdictions is necessary.
- **Element 7:** *Design Criteria* – Cites the use of the latest and best design criteria and guidelines to aid in Complete Streets implementation.
- **Element 8:** *Community Context* – states the context of the roadway and the surrounding community context dictates what Complete Streets infrastructure will be accommodated.
- **Element 9:** *Performance Measures* - establishes performance standards with measurable outcomes.
- **Element 10:** *Implementation Plan* - includes specific next steps for policy implementation.

Please see Appendix A for the original ten elements developed by the National Complete Streets Coalition and the revised rubric adopted by the author.

## 2.3 Ten Elements to a Comprehensive Complete Streets Policy

The following section presents the results of the Policy Analysis. Each element has its own section featuring three parts: (1) a definition of the element, (2) an example of the strongest OP policy quotes representing each element from the municipalities reviewed, and (3) a summary of the overall prevalence of the element from the municipalities reviewed.

### 2.3.1 Element 1: Language and Intent

#### Element Definition

Language and Intent evaluates the strength of the Complete Streets language used in OP policy related to pedestrians, cyclists, and transit users of all ages and abilities. The strength of the language helps to set the tone by creating a stronger commitment to policy implementation.

Words including 'shall implement', 'must implement', and 'will implement' are ideal when referring to Complete Streets. However, words like 'might implement', 'will consider implementing', or 'intends to implement' are helpful when moving towards a more inclusive policy framework and can be considered progress en route to adopting stronger language.

### Example

#### ***Official Plan of the City of Peterborough – Section 5.2 Transportation Objectives***

"The development of the City's Transportation System **shall be** (emphasis added) directed towards the following objectives:

iii) Plan for a more balanced transportation system to accommodate increased use of public transit, cycling and pedestrian facilities;" (City of Peterborough, 2009).

### Overall Prevalence

For this analysis the OP language must use direct words such as 'must', 'will', 'shall, as opposed to 'may implement', 'if appropriate', or 'will at a later date', when referring to pedestrians, cyclists, and transit users of all ages and abilities.

Hamilton, Waterloo, Toronto, and Peterborough used direct language when referring to cyclists, pedestrians, and transit users in most cases representing 24% of the municipalities surveyed. The other 13 (76%) municipalities did not include direct language when referring to each of pedestrians, cyclists, and transit users.

### **3.2.2 Element 2: Users and Modes**

#### **Element Definition**

A Complete Streets approach recognizes that people of all ages and abilities travelling on foot, bicycle, and transit deserve equal consideration in the transportation system. In the OP, this is best achieved by providing each of these travel modes with a subsection in the transportation section and mentioning the need to consider users of all ages and abilities for each mode.



## Example

### ***Official Plan of the City of Waterloo – Section 5.4 The Road Network: Policies***

"Roads under the City's jurisdiction will be planned as 'complete streets', enabling users of all ages and abilities – pedestrians, bicycles, transit riders and motorists – to interact and move more safely along and across City streets" (City of Waterloo, 2011).

## Overall Prevalence

All 17 (100%) of the OPs analyzed referred to the need to plan the road network for pedestrians, cyclists, and transit users. However, only 29% (Waterloo, Hamilton, Toronto, Windsor, and London) mentioned that people of all ages and abilities would be considered for at least one of the pedestrian, cycling, or transit network. In other words, the need to consider people of all ages and abilities was not explicitly mentioned in 71% of the communities.

Ontario has mandated accessibility standards that were introduced in 2005 with the Accessibility for Ontarians with Disabilities Act (AODA). Under the Transportation Standard of that Act, in conjunction with the Built Environment Standard that is currently under development, access to transit and removing 'barriers in outdoor spaces' is a key approach to making Ontario more accessible (Ministry of Community and Social Services, 2011). This Act, however, has not made it to the transportation section of the OP level in most municipalities based on the fact that 71% of the municipalities did not mention people with disabilities or people of all ages in the pedestrian, cycling, or transit networks.

### **3.2.3 Element 3: Projects**

#### **Element Definition**

A successful Complete Streets policy recognizes that all transportation improvements provide a valuable opportunity to change the way roads are designed. As such, strong policies recognize that, while the ideal time to apply a Complete Streets approach is when a new road is built, improvements to the road network should also occur during routine retrofitting or maintenance operations when possible.

Opportunities to integrate Complete Streets into general repair and maintenance work are plentiful. Examples include repainting an old crosswalk that is faded (or adding an additional crosswalk), retiming pedestrian signals during maintenance work so the

elderly have enough time to cross the street, or reducing lane width to provide more space for cyclists during routine restriping.

## **Examples**

### ***Official Plan of the City of Kitchener – Section 2.2. Active Transportation #1***

“The City will ensure, whenever feasible, the provision of facilities to encourage walking and cycling, and to address the needs, safety and convenience of pedestrians and cyclists when constructing or reconstructing public facilities” (City of Kitchener, 2011).

### ***The Official Plan of the City of London – Section 18.2.13. Bicycle Policies***

“Ongoing road maintenance and new road construction and associated infrastructure shall have consideration of the bicycle in the design and placement of intersection treatments, sewer grates, manhole covers, signage and railway crossings” (City of London, 2006).

## **Overall Prevalence**

Overall, 80% of municipalities stated that they would include pedestrian infrastructure in new road construction, whereas 67% stated the same for cycling infrastructure and 57% for transit infrastructure (Table 2). However, only 33%, 43%, and 53% of municipalities stated that they would use general road retrofit or reconstruction as an opportunity to improve access for cyclists, transit users, pedestrians respectively. Collectively 31% of the OPs stated that they would use maintenance and repair work as an opportunity to improve the transportation network for at least one of the pedestrian, cycling, or transit network.

It is important to note that Language and Intent used in the policy language under Projects should be strong. For example, in the OP quote from Kitchener above, ‘whenever feasible’ can create an ambiguous situation where it is unclear when cycling and walking facilities will be provided. Using stronger language, such as “shall” or “will” can remove this ambiguity as would a specific clause that states when the infrastructure would not be considered (see 3.2.4 Element 4: Exceptions).

**Table 2**

Official Plans that include direction to include pedestrian, cycling, or transit infrastructure improvements during three road construction phases

Road Construction Phase	Transportation Mode		
	Pedestrian	Bike	Transit
New Construction	80%	67%	57%
Retrofit and Reconstruction	53%	33%	43%
Includes at least one of pedestrian bike and transit			
Maintenance and Repair		31%	

### 3.2.4 Element 4: Exceptions

#### Element Definition

Defining exceptions about when a Complete Streets policy will not be followed helps ensure strong implementation. Creating an approval process for these exceptions can help ensure that loopholes in policy are avoided and that every mode is considered on every road. While there is no ideal approval process, using an existing committee (such as an active transportation advisory committee) or a high-level department head to review and grant the exception is recommended by the National Complete Streets Coalition (NCSC, 2010).

Below are some examples of appropriate exceptions that are considered to leave little room for loopholes. The examples have been slightly adjusted from the National Complete Streets Coalition (NCSC, 2010) to suit the Canadian context.

1. Accommodation is not required on corridors where specific users are prohibited, such as pedestrian malls or the 400-Series Highways in Ontario.
2. Cost of accommodation is very expensive compared to the need or potential use.
3. An absence of current or future need based on research and other documentation.
4. Transit accommodations are not required where there is no existing or planned transit service based on existing planning documentation (e.g., OP, TMP).

5. Routine maintenance of the transportation network that does not create any opportunities to change the roadway geometry or operations, such as mowing, sweeping and spot repair.
6. Where a project along the same corridor is already programmed to provide facilities exempted from the project at hand.

## **Examples**

### ***Official Plan of the City of Peterborough – Section 5.7 Pedestrian Network Policies***

“Sidewalks shall be required in all new residential subdivisions as follows:...Where Council determines that physical or practical circumstances would prohibit or not warrant a sidewalk connection, such facilities may not be required to be constructed” (City of Peterborough, 2009).

### ***Official Plan of the City of Thunder Bay – Section 10.52 Sidewalk Linkages***

“Sidewalks shall be provided along one side of local roads within the urban area except for short streets, loops or cul-de-sacs where, in the opinion of the City Engineer, the expected traffic volumes will be less than 200 trips per day (the traffic volume generated by approximately 20 residential units), approval may be given to eliminate all sidewalk requirements” (City of Thunder Bay, 2005).

## **Overall Prevalence**

Many municipalities are starting to show signs of including exceptions in their OPs. Currently, references include adding transit infrastructure ‘where appropriate’ and these clauses could be expanded into specific exceptions with a concrete approval process. Further still, Peterborough uses a clause that states pedestrian infrastructure will be considered unless otherwise approved by Council (see quote above). While this example sets a solid approval process, the term ‘physical or practical circumstances’ could be expanded to include specific instances, such as when research shows that there is a current and future absence of demand. For the Thunder Bay example we would caution against excluding sidewalks on any local road without research proving the absence of current and future demand.

Only four municipalities (24%) stated some type of exception for one of cycling, pedestrian, or transit infrastructure and only two municipalities (12%) identified an approval process for this exception. Stating specific instances when Complete Streets

infrastructure will not be considered along with the approval process for the said exemption can help ensure that ambiguity does not hinder implementation.

Some municipalities may have exceptions listed in other policy documents such as a Transportation Master Plan. These exceptions should ideally be listed in the OP or should be cited in the OP to direct readers to the appropriate location in another document.

### **3.2.5 Element 5: Connectivity**

#### **Element Definition**

A connected and integrated transportation system is necessary to allow all users to move freely between any number of origins and destinations. A comprehensive Complete Streets policy explicitly mentions the need to create a continuous network that supports all modes of transportation.

#### **Example**

##### ***Official Plan of the City Hamilton – Section 4.2.8 a, Urban Design and Complete Streets***

“Establishment of a **continuous** (emphasis added) grid road network as the preferred street layout to allow pedestrians, cyclists, transit vehicles, automobiles and goods and services vehicles to move efficiently through municipalities” (City of Hamilton, 2011).

#### **Overall Prevalence**

Municipalities performed well on this indicator by recognizing that all modes in the transportation network must be connected and integrated. Overall, 76% of municipalities included connectivity language for both pedestrians and cyclists whereas 36% included language for transit.

### **3.2.6 Element 6: Jurisdiction**

#### **Element Definition**

Working with other jurisdictions can help ensure a regional network of Complete Streets. For example, in any given community there might be roads under the jurisdiction of the municipality, the province, and the region, district, or county. It is necessary to have all levels of government working towards the same goals when adopting and implementing a Complete Streets approach.

Ideally, there would be municipal, regional/county/district, and provincial support for creating a Complete Streets approach that also encompasses developer requirements. In lieu of this, the best policies state that the municipality will work with the province, private developers, and either the region, district, or county (if applicable) on issues related to planning Complete Streets.

### **Example**

#### ***Official Plan of the City of Cambridge Chapter – Section 6: Transportation and Infrastructure***

“To provide, in partnership with the Province and Region, for a safe, sustainable, effective, accessible and energy efficient transportation system using a wide range of travel modes to move people and goods” (City of Cambridge, 2011).

### **Overall Prevalence**

Language related to a given municipality's willingness to work with the province, private developers, and the region, country, or district was common. Overall, 59% of municipalities stated that they will work with the province on integrating at least one of pedestrian, bicycle, and transit infrastructure onto provincial roads, whereas 79% said the same for the Regional level (where applicable). In terms of working with private developers, 82% said that they would work on some issues related to integrating pedestrian and bicycle infrastructure with developers whereas 100% of the municipalities said that they would work with developers on integrating transit. 79% of municipalities said that they would work with adjacent municipalities, where applicable, on integrating at least one of pedestrian, cycling, and transit infrastructure.

It is important to note that Ontario municipalities are comprised of a variety of geographical contexts. For example, the Greater Toronto Area (GTA) must give special consideration to regional transportation planning, in addition to provincial and municipal, as the health and mobility of the entire urban region depends on the integration of the transportation network. Municipalities in Northern Ontario, on the other hand, are mostly geographically isolated from other municipalities making it more reasonable to focus on the municipal and provincial context.

### **3.2.7 Element 7: Design**

#### **Element Definition**

Design Guidelines are important to help turn policy into action because they provide decision makers with a blueprint for potential change. Reference in the OP to design standards or mention that the municipality is currently in the process of developing design standards to implement Complete Streets can strengthen potential for implementation.

In the Canadian context, good design standards are currently being developed by various sources. The latest and best design standards from Canada include Planning and Design for Pedestrians and Cyclists: A Technical Guide from Vélo Québec, the upcoming Calgary Complete Street Guidelines, as well as other bicycle and transit guidelines from the Ministry of Transportation and the Transportation Association of Canada.

#### **Example**

##### ***Municipal Development Plan of the City of Calgary – Section 3.3. Activity Centres, Mobility Policies***

“When designing new streets or retrofitting existing streets, use the Complete Streets policies and guidelines of the Calgary Transportation Plan (CTP)” (City of Calgary, 2009).

#### **Overall Prevalence**

Twelve municipalities, or 71%, reference the need to use guidelines for at least one of pedestrian, cyclist, or transit infrastructure. Commonly referenced guidelines included those located in the City's Transportation Master Plan or recommend that the City develop and adopt guidelines in the future.

There was no reference to using the latest and best design guidance from Vélo Québec or other sources mentioned above. These are potentially an untapped resource that can be used to help municipalities' better implement a Complete Streets approach.

### **3.2.8 Element 8: Context Sensitivity**

#### **Element Definition**

Not all streets have the same design considerations and therefore not all streets will necessarily have the same Complete Streets elements. For instance, a street in a dense downtown environment will be designed differently than a street in a low-density suburban environment. Complete Streets recognizes that local context, whether urban, suburban, or rural, will have an impact on how a given street is designed.

#### **Examples**

##### ***Municipal Development Plan of the City of Calgary – Section 2.5.3 Complete Streets***

"Different types of streets have different functions, so their design should fit with the community context. By building a fully integrated, balanced, connected transportation network that minimizes conflict between different functions of the street (mobility, the environment and placemaking) we can meet the needs of Calgarians now and in the future" (City of Calgary, 2009).

"The road and street design must consider which elements are appropriate in each Complete Streets zone based on the function of the transportation facility and adjacent land use context" (City of Calgary, 2009).

#### **Overall Prevalence**

Ten municipalities (59%) explicitly acknowledged that streets would be designed differently dependent on the context. The most common examples of this were through providing different levels of bicycle or transit infrastructure in accordance with road classification (e.g., a local street vs. an arterial).

The adoption of specific design guidelines, as mentioned above in the Design element (3.2.7 Element 7: Design), can help municipalities envision what Complete Streets look like in a variety of contexts, thereby allowing for a better integration of context sensitivity language into policy.



### 3.2.9 Element 9: Performance Measures

#### Element Definition

Many communities across Ontario have been creative when establishing performance measures for Complete Streets. Some of the most common include measuring the kilometres of newly installed bike lanes; mode share changes for commuters driving, walking, cycling, and taking transit; percentage of streets with a sidewalk; percentage of transit stops within a certain walking distance of residential areas, etc.

Ideally performance measures will be directly listed in the OP. If performance measures are listed in another policy document (e.g., Transportation Master Plan) that document should be referenced in-text in the transportation section of the OP.

#### Examples

##### **Official Plan of the City of Ottawa - 2.3.1 Transportation**

"In keeping with the Transportation Master Plan, the City will seek to achieve the following increases in the share of morning peak-hour travel by pedestrian, cycling and public transit modes by 2031:

- Walking modal share of all person trips – from 9.6 per cent in 2005 to 10 per cent in 2031;
- Cycling modal share of all person trips - from 1.7 percent in 2005 to 3 per cent in 2031;
- Public transit – from 23 percent of total motorized trips in 2005 to 30 percent in 2031" (City of Ottawa, 2003).

##### **Official Plan of the City of London – Section 18.1 Transportation Objectives**

"Encourage, as an overall system performance objective, a 15% reduction in peak hour auto use by striving to achieve the following mode split targets (City of London, 2006)".

	1987 (Actual)	2002 (Actual)	Target 2024
<b>Walking</b>	10.5%	6.9%	9%
<b>Biking</b>	1.5%	0.5%	2%
<b>Public Transit</b>	9.5%	6.9%	10%
<b>Automobile</b>	78.5%	83.6%	77%
<b>Other</b>	--%	2.2%	2%

## Overall Prevalence

Many municipalities see the need for strong performance measures. Fourteen municipalities (82%) mentioned some type of performance measurement to assess the impact of new pedestrian, cycling, or transit infrastructure. Common performance measures included ensuring that a transit stop is located within a given distance from every household, ensuring that there are x number of bike racks on transit vehicles, increasing mode shares by x percent, and directing readers to another policy document outlining performance measures.

### **3.2.10 Element 10: Implementation Plan**

#### Element Description

Effective policy implementation is critical, yet challenging. Countless municipalities plan for progressive change then face difficulties with implementation due to development pressures, a political change, or other unforeseen barriers. Providing clear and concise implementation steps can help turn policy into practice regardless of unforeseen difficulties.

The National Complete Streets Coalition has identified four key steps to aid in the Complete Streets implementation process. For OPs in the Ontarian context, however, we did not include these steps because the adoption of Complete Streets policies is not as established in the Canadian context to warrant measuring policies against the four implementation steps identified by the Coalition (see Appendix A for the four key steps).

#### Examples

##### **Official Plan of the City of Waterloo – Section 6.2 Supporting Documents and Implementation**

“Council may approve, and update as appropriate, additional documents to provide further direction with regard to these Official Plan policies. Such documents may include, but not necessarily be limited to” (City of Waterloo, 2011):

- (1) City of Waterloo Transportation Master Plan, including a component to address pedestrian and bicycle movement;
- (2) Traffic Calming Policy;
- (3) Sidewalk Policy;
- (4) Multi-Use Pathways Policy;

- (5) Intersection Control Policy;
- (6) Transportation Demand Management Policy;
- (7) Complete Streets Policy;
- (8) Green Streets and Infrastructure Policy;
- (9) Parking Strategies;
- (10) Pedestrian Charter.

### ***Official Plan of the City of Ottawa (2.3.1 Transportation, Walking #10)***

"The City adopted a Pedestrian Plan in 2009 that provides guidelines and standards for pedestrian facilities and circulation, identifies discontinuities in the pedestrian network, and develops a network implementation strategy. The plan will guide the City in the development and implementation of new programs and facilities to encourage people to walk and reduce their dependency on the automobile".

### **Overall Prevalence**

Thirteen municipalities, or 76%, referenced an implementation plan within the OP or in another transportation policy document. Eight of these municipalities (47%) took the implementation plan a bit further and mentioned, on at least one issue related to pedestrian, cycling, or transit infrastructure, that there was a committee that would oversee the change such as City Council or a pedestrian and cycling committee. Eight more municipalities (47%) included some type of Complete Streets element in the project scoping process. Examples of this could include the provision of transit in the development review process and bike facilities in new developments.

## **2.4 Summary of the Policy Analysis**

Of the OPs reviewed, eight of the ten elements of a comprehensive Complete Streets policy were found in the majority of policies. The two elements that were missing most often were Language and Intent [the use of strong, direct language (i.e., "must" or "will") for implementing cycling, pedestrian, and transit networks] and Exceptions (a clear process for defining and granting any exceptions to accommodating all road users). The elements that were represented best include Users and Modes, Performance Measures, Implementation Plan, Connectivity, Jurisdiction and Design Guidance.

## **3 Complete Streets Implementation Survey**

Planners, engineers, and advocates all play an important role in the Complete Streets planning process and, to ensure that a wide variety of perspectives are represented, all were asked to complete the Complete Streets Implementation Survey. More specifically, planners and engineers are the decision-makers responsible for all of the activities related to adopting and implementing a Complete Streets approach whereas advocates often play a role in getting Complete Streets on the local agenda by lobbying and educating the public and decision makers.

### **3.1 The Survey**

The Complete Streets Implementation Survey was developed by the author (Appendix B). Specifically, the survey required respondents to identify if the adoption of a Complete Streets policy would be useful in their municipality, the most important activities for adopting Complete Streets, and what barriers and possible solutions would be most effective to help push forward adoption and implementation. Subsequently, the responses were analyzed.

### **3.2 Survey Responses**

#### **3.2.1 General Respondent Information**

The survey was sent to 49 people in total – 15 engineers, 17 planners, and 17 advocates. A total of 37 responses were received for a response rate of 73%. At least one response from every profiled municipality was received with the exception of Windsor. Of the respondents, 10 were engineers, 12 were advocates, and 15 were planners. Seventy percent of respondents said that they have, or kind of have, political support to move forward with Complete Streets with the remainder stating that they either do not have political support or are not sure if they do. The respondents have worked on issues related to transportation planning for an average of approximately eight years and have been in their current position for an average of five years.

#### **3.2.2 Responses to specific questions**

##### **Question: Would a Complete Streets policy be a useful tool in your municipality?**

Over 80 percent of respondents stated that the adoption of a Complete Streets policy would be a useful tool to help their municipality ensure that roads are routinely designed for users of all ages and abilities. Of these respondents, the general consensus

was that a Complete Streets policy can be used as an inclusive, over-arching policy. For example:

***“I think the adoption of a complete streets policy helps to broaden our thinking with respect to transportation planning, and can serve to establish a set of planning priorities based on new values (such as the vulnerability of users, rather than traffic flow indicators) - it is important that these values be formalized as guidelines for planners and engineers within municipalities”.***

**–Advocate, Peterborough**

While many elements of a comprehensive Complete Streets policy, including planning for pedestrians, cyclists, and transit users, are currently identified in various policy documents in the profiled municipalities (e.g., Official Plan, Transportation Master Plan, Active Transportation Plan, etc.) some respondents articulated that Complete Streets could be used to frame and expand on existing policy to make it more legible and cohesive.

***“While we already have tools in place to attempt to ensure roads are accessible to all ages and abilities giving a policy a title like 'Complete Streets' will encourage the use of the policy and make it understandable to all. By educating people on this term the city can push for the policy to be followed”.***

**– Planner, Hamilton**

***“It [Complete Streets] would be an easy reference for decision-makers to rely on, and for concerned citizens to be aware of. The term 'Complete Streets' provides direction in and of itself. A policy would support other City documents that promote active transportation, which is sometimes buried or not explicit”.***

**– Planner, Kingston**

However, not all respondents stated that the adoption of a Complete Streets policy would be useful in their municipality. Two respondents said that the development of a Complete Streets policy would not be useful and four respondents said that they were 'not sure' if such a policy would be useful. These respondents generally thought that a Complete Streets policy would not provide more implementation opportunities than current policies that have already been adopted. For example:

***“Given Toronto's history of adopting good policies but not following through on implementation, I don't see how any new policies would be any different”.***

**– Advocate, Toronto**

Other respondents believe that the current policies are already comprehensive enough to cover all aspects of Complete Streets, suggesting that adopting a new policy was not necessary. For example:

***“The City of Ottawa has existing policy language that reflects the principles of complete streets; a specific complete streets policy might help highlight this existing policy language, but it's hard to say how much would really change”.***

**- Engineer, Ottawa**

Five out of the six respondents who stated that the adoption of a Complete Streets policy was not necessary were from the three largest municipalities in Ontario (e.g., Toronto, Ottawa, and Hamilton). Respondents from small to mid-sized Ontario municipalities, with the exception of one respondent, uniformly stated that adopting a Complete Streets policy would help them ensure that their roads would be built for users of all ages and abilities. This is likely because Ontario's larger municipalities generally have more comprehensive policies than small-to-mid sized municipalities that reflect Complete Streets.

**Question: What policy documents can be used to guide Complete Streets, or a similar approach?**

The Official Plan was cited as the most common document to guide and implement a Complete Streets approach because it is the most overarching policy document guiding a municipality's land-use practices. Often other documents are used to influence the Official Plan review (completed every five years by municipalities), however, to ultimately change the language used in the Official Plan. For example, the City of Waterloo first adopted Complete Streets in their Transportation Master Plan which is now being used as a guide to inform the update of the Official Plan.

Outside of the Official Plan, both the Transportation Master Plan (TMP) and Urban Design Guidelines (UDG) were mentioned as important documents to guide the development of a Complete Streets policy (Table 3). The TMP is used by municipalities to establish the way forward for their entire transportation system and is, in theory, based upon the policies from the Official Plan. The Urban Design guidelines, on the other hand, act as the blueprint between progressive policy language and the design standards necessary to actual implement Complete Streets changes. Both plan an important role and should be coordinated with the Official Plan to create a cohesive set of policy documents all in support of a Complete Streets approach.

**Table 3**

Official planning documents that are, or can be, used to implement Complete Streets

Planning Document	Respondents (#)
Official Plan	25
Transportation Master Plan	18
Urban Design Guidelines	13
AT/Cycling/Pedestrian Master Plan	8
Engineer Guidelines/Provincial Guidelines	3
Transportation Demand Management Plan	2
Regional Plan	2
Strategic Plan	2
Other	4

#### ***What documents in your municipality currently cite the term 'Complete Streets'?***

Municipalities in Ontario and beyond are currently citing the term 'Complete Streets' in various Official Planning documents outside of the Official Plan. Seven municipalities (41%) studied in this research use the term Complete Streets in at least one official planning document (Table 4). This shows that the term is on the radar of many municipalities but few have yet had the opportunity to update their OP to reflect Complete Streets.

#### ***What is your municipality doing to transition to a Complete Streets approach?***

Respondents were asked about the presence of four activities happening within their municipalities that have been identified as integral to adopting Complete Streets. The activities were adopted from the National Complete Streets Coalition's Implementation Activity that the author received at the Association for Pedestrian and Bicycle Professionals 2011 Professional Development Seminar in Charlotte, NC and revised according to the Ontario context. The four activities are:

1. *Changing internal procedures to represent a Complete Streets approach.* This refers to change that contributes to an organized and streamlined Complete Streets approach. Examples include hiring a coordinator and/or forming a committee to coordinate and oversee that a Complete Streets approach is adopted and applied to all projects.

**Table 4**

Municipalities that use the term 'Complete Streets' in at least one official planning document

Municipality (included in research)	Document
<b>Hamilton</b>	Official Plan
<b>London</b>	Transportation Master Plan Urban Design Guidelines
<b>Peterborough</b>	Transportation Master Plan Review
<b>St. Catharines</b>	Official Plan
<b>Sudbury</b>	Sustainable Mobility Plan
<b>Thunder Bay</b>	Strategic Plan 2011-2014
<b>Waterloo</b>	Transportation Master Plan Official Plan (Draft)

Municipality (outside of research)	Document Mentioned
<b>Calgary</b>	Municipal Development Plan (MDP) Calgary Transportation Plan
<b>Mississauga</b>	Strategic Plan Downtown 21 Master Plan
<b>Moncton</b>	Plan Moncton (to inform the new MDP)
<b>Oakville</b>	Active Transportation Master Plan
<b>Winnipeg</b>	TMP

2. *Offering education opportunities to personal/community leaders.* This refers to opportunities for staff to be trained including Complete Streets workshops specifically tailored for the local context.
3. *Updating design guidance.* This refers to adapting or creating urban design manuals or other guidelines to allow Complete Streets to be implemented on-the-ground such as Urban Design Guidelines or Complete Streets Guidelines.
4. *Creating new measures of success.* This refers to actually measuring the impact of street design such as mode share splits, kilometres of new bike lanes, measuring risk reduction, etc.

The latter three activities - education, design guidance, and creating measures of success - were nearly equally identified as activities that are currently being completed in the surveyed municipalities (Table 5). Some municipalities were even working towards all three simultaneously:



**Table 5**

Activities integral in moving towards implementing a Complete Streets approach

Activity*	Responses (#)
Changing Internal Procedures	7
Offering Education opportunities	17
Updating Design Guidance	20
Creating and measuring success	19
	*each responded could choose more than one activity

*“Staff are offered educational opportunities like webinars, conferences on Complete Streets - Plans / design guidance is being updated to reflect complete streets like language around multi-modal network and desirable urban form that is in our Strategic Plan and Official Plan - Km of cycling facilities are measured with a target of 30 km / year, Strategic Plan Action Plan has “cool indicators” including number of pedestrians at key intersections in downtown, number of public squares, number of hours streets are closed for events, etc”.*

**- Planner, Mississauga (survey not included in final study)**

Less frequent, however, was changing internal procedures to streamline a Complete Streets approach to ensure that it is applied to all roads.

### **Question: Steps for Implementing a Complete Streets approach**

Each respondent was asked to identify the most important steps to adopt and implement a Complete Streets policy or similar approach. Respondents provided long-answers that were scanned to look for common themes.

The top three most important steps to adopt and implement a Complete Streets approach were: 1) learning about other municipalities who have already initiated such changes, 2) updating the Complete Streets supportive language within a given municipality's high-level policy documents, and 3) gaining support from key stakeholders (Table 6).

Other important steps identified included stronger implementation guidelines to ensure that policy reaches practice, internal coordination of policy documents and initiatives to ensure that all are strive for the same goals, having a ‘champion’ to push forward with a Complete Streets approach at the city level, and changing internal procedures.

**Table 6**

Most important steps towards adopting a Complete Streets approach

	Engineer	Planner	Advocate	Total
<b>Top Three Steps</b>				
<b>Community case studies</b>	1	6	8	15
<b>Updating OP/TMP and drafting strong policy</b>	3	4	5	12
<b>Support from:</b>				
<b>Politicians/Council</b>	4	1	1	6
<b>Public</b>	1	1	1	3
<b>Engineers</b>	-	-	1	1
<b>Total</b>	5	2	3	10
<b>Other Steps</b>				
<b>Implementation Guidelines/process/targets</b>	1	3	1	5
<b>Internal coordination of policies and initiatives</b>	2	2	-	4
<b>Hiring a city champion</b>	-	2	2	4

**Question: Barriers and solutions towards implementing a Complete Streets approach**

Respondents were asked to identify the main barriers that they are currently facing when adopting a Complete Streets approach (Table 7). Subsequently, respondents were asked to identify any solutions that they think would be helpful in pushing forward with a Complete Streets approach. A long-answer response was provided for each question that was then scanned for commonly cited barriers and solutions. At least one identified barrier was then paired with at least one identified solution.

The barriers and solutions were related to one another based on key themes that emerged in the responses. In other words, while all of the barriers and solutions were identified by the respondents, they were not necessarily associated with each other prior to the analysis.

The first set of barriers identified was related to education and training to help developers, City staff, and other stakeholders, including the public and Business Improvement Associations (BIA), to support, adopt and implement a Complete Streets approach. The second set involved parking removal and reallocating space to other

**Table 7**

Barriers and solutions for adopting and implementing a Complete Streets approach

	<b>E</b>	<b>P</b>	<b>A</b>	<b>Total</b>
<b>BARRIERS</b>				
Developer Education/Support/Partnerships	2	2	-	4
Lack of Staff Training (including from the users end)	-	1	-	1
Lack of Support				
Public	4	4	8	16
Political/Council	2	1	5	8
Engineering	1	3	2	6
Planning	1	3	2	6
BIA	-	1	2	3
<b>SOLUTIONS</b>				
Public Information Sessions/Education	3	2	11	16
Professional Training (including user end)	4	5	3	12
Campaigns/Events/Forums	-	2	6	8
Media Engagement	-	-	1	1
New leadership	1	-	-	1
<b>BARRIERS</b>				
Parking Removal/Reallocation of Space	2	1	-	3
High Cost, Few Funding Opportunities	3	4	3	10
<b>SOLUTIONS</b>				
CS Website (fact sheets; info)	-	6	5	11
Updating Existing Studies/New Studies	1	-	-	1
<b>BARRIERS</b>				
Topography/Road Width Limits	-	-	1	1
Outdated Engineering Guidelines	4	4	3	11
<b>SOLUTIONS</b>				
Government Coordination/Sector Engagement	1	3	2	6
Local Implementation Examples	-	1	1	2
<b>BARRIERS</b>				
Interdepartmental Coordination	1	3	3	6
<b>SOLUTIONS</b>				
More Dedicated Staff Time	1	1	-	2
<b>BARRIERS</b>				
Government Support/Policy integration	1	2	1	4
<b>SOLUTIONS</b>				
Updated Engineering Guidelines	2	2	1	5
Policy Writing Assistance/Stronger Policy Language	-	3	-	3
<b>BARRIERS</b>				
Choosing Locations for Complete Streets	-	1	-	1
<b>SOLUTIONS</b>				
Citizen Requested Pilot projects	-	1	1	2

forms of infrastructure, such as bike lanes, and finding funding associated with such changes. The third set dealt with the need for updated engineering guidelines to allow engineers to easily support a Complete Streets approach as well as fitting this infrastructure into a road width that is constrained from space or other topography.

## 4 Conclusions

### 4.1 Future Research Topics

There are several research topics that would be useful for TCAT to investigate as the Complete Streets movement continues to grow across the country. These include:

- Expand the Official Plan analysis to include:
  - Municipalities in Ontario below 100,000 residents;
  - All municipalities in the Greater Toronto Hamilton Area (GTHA);
  - Municipalities in provinces/territories across Canada above and below 100,000 people.
- Expand the analysis to include other official planning documents outside of the Official Plan including, but not necessarily limited to, the Transportation Master plan, the Urban Design Guidelines, and the Cycling Master Plan and/or the Active Transportation Master Plan.
- Research the role of the province and federal government in providing standards and guidelines by focusing on what guidelines currently exist, and could exist, to help municipalities with Complete Streets.
- Tools to measure the implementation of Complete Streets.

### 4.2 Policy and Implementation Analysis

Of the 17 Official Plans reviewed, eight of the ten elements of a comprehensive Complete Streets policy were found in the majority of policies. The two elements that were missing most often were 1) the use of strong, direct language (ie. “must” or “will”) for implementing cycling, pedestrian and transit networks, and 2) clear process for defining and granting any exceptions to accommodating all road users.

The six elements that were the most strongly represented were 1) that all modes (including pedestrians, bicyclists and transit users) are part of the transportation system, 2) the need for connectivity in the pedestrian, cyclist, and transit networks, 3) a willingness to work with other jurisdictions, 4) reference to the need for design guidelines, 5) reference to performance measures, and 6) reference to an implementation plan. Overall, however, no single municipality included all ten of the elements in their Official Plan leaving room for all municipalities to adopt a more comprehensive Complete Streets approach.

While over 80% of the municipalities reviewed support the adoption of a Complete Streets policy there are gaps preventing adoption and implementation. The three most

significant barriers were 1) gaining support from a diverse set of stakeholders, 2) departmental training, and 3) financing. Furthermore, political support was identified as a key factor in pushing forward a Complete Streets policy. The most important documents identified to do so include the Official Plan, the Transportation Master Plan, and Urban Design Guidelines.

### **4.3 The Popularity of Complete Streets is Growing**

The adoption of Complete Streets policies are becoming increasingly popular in Ontario with over 40% of the 17 largest municipalities currently using the term in their Official Plan or another official policy document as found in through the implementation survey (e.g., Transportation Master Plan, Strategic Plan, Downtown Master Plan, etc.). Furthermore, popularity for Complete Streets is growing across Canada with interest brewing at both the policy and conference level. The bulk of this activity to date has been in Ontario, Alberta, Manitoba, and New Brunswick.

The results of this research show that many of the ten elements of a comprehensive Complete Streets policy already exist in the Official Plans of 17 of Ontario's largest municipalities. However, while a strong policy tradition exists in Ontario, there is growing support for the inclusion of these Complete Streets policy elements to further structure and enhance both existing and new transportation policies and to facilitate implementation of streets that are safer and welcoming for all.

Beyond policy, practitioners need tools to implement Complete Streets on every type of right-of-way including training for city staff and design standards. Fortunately, Canadian municipalities are recognizing that Complete Streets must go above and beyond policy. Calgary is in the middle of a three-year process to create Complete Streets Guidelines that will give practitioners concrete guidance on how the City's Complete Streets policy, adopted into both Calgary's Transportation Plan and Municipal Development Plan in 2009, will be implemented on every right-of-way throughout the City (City of Calgary, 2011). Edmonton has started a similar process (City of Edmonton, 2012).

With the gears well in motion, the future looks bright for Complete Streets in Ontario and across Canada.

## 5 Case Studies

The following three case studies profile the achievements of three Canadian communities en route to adopting a Complete Streets policy or a similar approach.

### 5.1 Thunder Bay



“When the rubber hits the road and when we design, we fall short; but, we’re getting better”.

- Anne Ostrom , Take Heart Coordinator at the Thunder Bay district Health Unit

Figure 3

Court Street South, City of Thunder Bay (Photo Credit: Ryan Anders Whitney)

Thunder Bay is indeed getting better!

Up until 2008, active transportation was not on the urban agenda in Thunder Bay. City streets were still planned in a business-as-usual approach, prioritizing automobiles at the expense of other more sustainable modes of transportation. Recent changes, however, suggest that priorities are shifting, redefining what mid-sized, geographically-isolated Canadian cities can achieve with Complete Streets.

#### What’s New in Thunder Bay?

Complete Streets have been identified in the City’s 2011-2014 Strategic Plan to help develop city-wide Urban Design Guidelines (UDG) over the next five years to provide developers with guidance on the built environment (City of Thunder Bay, 2011). When completed, the UDG will provide a tool to guide the implementation of Complete Streets.

Other milestones include:

- the development and approval of an Active Transportation Plan in 2008;

- the installation of 24 kilometres of active transportation routes across the City between 2010 and 2011;
- a cycling increase of 40% and a 23% increase in lawful riding on newly installed bike lanes from July 2009 to July 2010;
- the installation of bike racks on every City Transit bus in 2009;
- a 100 percent low-floor accessible Transit Fleet in 2007 (the first medium-sized municipality to achieve this in Canada).

Not bad for a City that is famous for its cold and long winters!

The Planning Division is also discussing creating a streamlined Complete Streets process for every road that is up for repaving or redesign based on the upcoming UDG (approximately 15 to 20 roads a year). This will help the City retrofit the existing network of streets, an especially important consideration in Thunder Bay where stagnant population growth provides few opportunities for new road development. In conjunction with this process, the City hopes to initiate a 'best practice' pilot project on a main corridor to build public support for the movement by showcasing the transformative powers of a Complete Streets approach.

Keeping with recent changes, Thunder Bay aims to adopt more progressive Complete Streets language into the Official Plan during the 2012 review.

### **Catalyst for Change**

Three key changes in Thunder Bay put Complete Streets on the agenda.

<b>People</b>	Hiring new talent while having buy-in from upper level management and the Mayor to support active transportation initiatives. This fostered an understanding that a business-as-usual approach to street design will create little long-term social, environmental, and economic benefits for the community and make it difficult to attract and retain young professionals.
<b>Policy</b>	The development of a series of new policy documents (e.g., Community Environmental Action Plan, Active Transportation Plan, the Transportation Demand Management Plan, the 2011-2014 Strategic Plan, the upcoming Urban Design Guidelines and Streetscape Design Guidelines) set the framework to change streets from both a policy and implementation perspective.



**Partnerships** Cross-sectoral partnerships broadened support for Complete Streets and allowed the City to reach new local audiences. Ongoing relationships with the Thunder Bay District Health Unit (TBDHU), EcoSuperior Environmental Programs as well as research initiatives with Lakehead University created a 'cross pollination' effect needed to support change.

### **Current Barriers**

Thunder Bay faces many key challenges when working towards Complete Streets long-term. Specifically, stronger policy and financial support from the Provincial and Federal Governments would make it easier to implement Complete Streets. For example, under current provincial law it is impossible to gain approval for a bike lane to cross a provincial road. This bureaucratic loophole impedes the development of continuous, complete, and comprehensive networks.

Furthermore, Thunder Bay is finding it difficult to leverage economic arguments to convince developers to design for Complete Streets (e.g., comprehensive sidewalks, bike lanes, transit infrastructure, the style and layout of new subdivisions, commercial, and institutional developments). More public, provincial, and federal backing is required so the City can make a strong economic case for Complete Streets in an urban environment that has few opportunities for major residential growth.

## 5.2 The City of Waterloo



**“Our roads need to be built for people not just motorized vehicles”.**

**- Graham Roe, Blogger at Waterloo Bikes**

Figure 4

Davenport Road, City of Waterloo (Photo Credit: Chris Hodgson, City of Waterloo)

Luckily, Waterloo is aiming to do just that!

The City of Waterloo is a pioneering municipality for Complete Streets in Canada. In 2011 it became one of the first municipalities in Canada to adopt a Complete Streets policy and the City is now moving forward with putting this policy into practice. Over the next few years Waterloo is poised to provide some of the best policy-to-practice examples of what well-written and well-implemented Complete Streets policy can do to transform a community.

### **What's New in Waterloo?**

Since 2010, staff at the City of Waterloo have been capturing some of the key elements of Complete Streets when working on individual projects. For example, Caroline Street, Bearinger Road, and Davenport Road have all received a Complete Streets makeover in some shape or form at varying degrees of cost. Changes on these roads include, but are not limited to, the addition of pedestrian islands, new and improved striping for cyclists, boulevard landscaping, traffic signal adjustments, lighting improvements, and new multi-use trails.



Figure 5  
Before and After photo of the Davenport Road redesign in Waterloo  
(Photo Credit: City of Waterloo)

Waterloo's Transportation Master Plan (TMP) was officially approved by Council in April 2011 and uses Complete Streets as the overarching policy direction for transportation in the City. Building upon this major policy achievement, the second draft of the Official Plan review contains Complete Streets language to support the TMP and will head to Council for approval later in 2012.

Waterloo's Complete Streets approach includes many of the necessary elements of a strong Complete Streets policy including planning, design, operations, implementation, and maintenance prioritizing the needs of pedestrians, cyclists, and transit users in all seasons. A key recommendation of the TMP was the hiring of a staff resource to manage various aspects of the Complete Streets policy and associated programs, such as data collection, monitoring, and reporting to determine what successes are being achieved, where, and by how much.

The 2011 Transportation for Tomorrow Survey results will be published later in 2012 which will help Waterloo identify what changes have occurred in active transportation over the past 5 years, including Complete Streets, by helping to measure the actual impacts of street changes.

## Catalyst for Change

### Coordination

Coordination between the Region of Waterloo and the City of Waterloo as well as integrated policy documents at the municipal level created a strong environment to enact Complete Streets in Waterloo. For example, without adopting the actual term 'Complete Streets', the Region of Waterloo (which includes, among other municipalities, Waterloo, Kitchener, and Cambridge)

has clear language supporting the adoption of a Complete Street-approach. Furthermore, Waterloo has put emphasis on aligning its major policy documents towards a Complete Streets approach to encourage uniform adoption across the City (e.g., aligned language and goals between the Transportation Master Plan, Cycling Master Plan, Official Plan).

**Communication** Communication with the public through information and roundtable sessions as well as establishing productive dialogue between City Departments and key stakeholders, such as the City's Advisory Committee to Council, were critical in delivering a Complete Streets policy to Waterloo. The ability to present its policy at conferences and forums, such as Share the Road Cycling Coalition's 2010 Ontario Bike Summit and TCATs 2011 Complete Streets Forum, and the opportunity to work with the Complete Streets Advisory Committee, set up by the City of Waterloo, have been important factors in elevating the level of interest shown in Waterloo's Complete Streets policy.

**Champion** Having key staff and Council members 'champion' Complete Streets has created a strong voice for the movement internally.

### **Current Barriers**

Despite all of this impressive progress, Waterloo still faces barriers when trying to turn Complete Streets policy into common practice. For example, insufficient resources and limited capital and operating budgets restrict opportunities to develop and implement much needed programs and sub policies the city needs to support the wider adoption of Complete Streets.

Waterloo's successful road diet retrofits ranged between \$100,000 and \$3 million (e.g., Caroline Street, Bearinger Road, and Davenport Road), but were principally opportunities taken through recent stimulus funded programs. City capital funding sources remain limited, therefore a focus on securing more funding whilst enacting other measures to reduce costs, such as lane width reductions to create more space for bike lanes, must be explored to keep costs down. An example would be reducing standard lane width to include bike lanes and reduce cost.

## 5.3 Calgary

Calgary has achieved many milestones en route to making Complete Streets part of the City's planning and engineering culture. Specifically, Calgary's approach has focused on Complete Streets design guidance first, followed by implementation, to set the framework necessary to guide future on-the-ground change.

### What's New in Calgary?

In 2005, Calgary began the Plan-It-Calgary process designed to gather detailed qualitative and quantitative information to inform the development of high-level policy documents. During this process, Complete Streets were identified as a key policy direction and were subsequently integrated into the Calgary Transportation Plan and the Municipal Development Plan, both officially adopted by Council in September 2009. Together these plans won the Award of Merit at the 2011 Alberta Professional Planners Institute (APPI) Conference for their bold and progressive language.

Since then, Calgary has focused on developing detailed design guidance to create consensus around how to actually implement Complete Streets on-the-ground. The City completed its first Interim Complete Streets Guide in 2010 to facilitate the planning, design, and construction of Complete Streets on new and existing streets. The City released its second Interim Guide in February and will publish a Final Guide at the end of 2012 or early 2013.

To facilitate this process, the City has appointed a Complete Streets Project Lead in the Transportation Planning Department to coordinate the development of the Guides and ensure that the City's established Complete Streets vision moves towards implementation.

Other milestones include:

- Mode shift changes for downtown travel between 1996-2011: 33 to 50 percent for transit, 5 to 9 percent for walking, and a reduction in driving from 49 to 33 percent;
- Establishing a comprehensive list of cycling indicators to achieve by 2020 including: increasing on-street bikeways from 355 km to 600 km, increasing the perceived safety of cycling in traffic from 21 to 40 percent, and increasing the percentage of female cyclists from 21-40 percent;
- Building the West LRT to connect west Calgary to Downtown with 8 km of track and 6 stations by March 2013.

## Catalyst for Change

Key changes in Calgary that put Complete Streets on the agenda include:

**Education** Educating and learning from planners, engineers, designers, and the development industry has helped Calgary gain more universal support for Complete Streets. Listening to concerns, discussing solutions to these concerns, and using this experience to produce guidelines will allow for more seamless progress in the future.

**Engineering** Calgary is ensuring that engineers and designers have the guidance necessary to implement Complete Streets on any new or existing roadway by developing Interim Complete Streets Guides. This approach ensures that policy can be turned into practice.

**Envisioning** Calgary has encouraged consensus on City's development practices through an extensive and participatory envisioning process (e.g., Plan-It-Calgary and Imagine Calgary). This has helped foster an approach where all stakeholders (e.g., planners, engineers, members of the public) are included up front in the beginning of a new project to help avoid future roadblocks.

## Current Barriers

Despite an impressive engagement process, Calgary is facing some barriers with Complete Streets. For example, developers are concerned about the potential costs associated with Complete Streets and the City is currently working towards coming up with potential solutions (e.g., a levy). On the other hand, some developers have requested to build Complete Streets into their projects, yet the Complete Streets Guidelines outlining the design and approval process have yet to be completed and approved.

Other barriers involve updating bylaws, revising policy documents, and creating new guidelines to align with the goals of the upcoming Complete Streets Guidelines. For instance:

- Several municipal and provincial bylaws currently create barriers for incorporating Complete Streets features into designs (e.g., cycle tracks) need to be revised;

- Calgary's Environmental Capacity Guideline Policy and the Residential Streets Policy require Complete Streets supportive updates to ensure uniform implementation;
- A Calgary Bikeway Design Guide needs to be developed in parallel with the Complete Streets Guidelines to facilitate the uniform implementation of bike infrastructure in accordance with Complete Streets.

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## Appendix A

### The National Complete Streets Coalition's Original Complete Streets Policy Analysis Tool (used with permission)

#### Language and Intent

Total WT

	Indirect Language such as 'shall implement' or will at a later date	1	1.2
OR	Direct statement of intent, but includes somewhat weak language (e.g., 'may')	3	3.6
OR	Strong, direct statement using language such as 'must', 'shall', 'will'	5	6
		___/5	___/6

#### Users and Modes

Total WT

	Includes: bicyclists and pedestrians (required)	n/a	n/a
OR	Includes: bicyclists, pedestrians, and transit users	1	4
OR	Includes: bicyclists and pedestrians, transits users, and one of: motorists or freight or emergency	2	8
OR	Includes: Bicyclists and pedestrians, transit users, and two of: motorists or freight or emergency	3	12
PLUS	Mentions people of all ages	1	4
PLUS	Mentions people of all abilities	1	4
		___/5	___/20

#### Projects (Road Itself)

Total WT

	Only covers new construction	0	0
OR	Covers new and retrofit/reconstruction projects	3	7.2
PLUS	Clearly applies to all projects, or specifically including repair, maintenance, and/or operations	2	4.8
		___/5	___/12

#### Exceptions

Total WT

	Does not include specific exceptions	0	0
OR	Lists exceptions, but at least one is unclear/unspecific/too subjective	1	3.2
OR	Lists exceptions and none are subjective/inappropriate	2	6.4
PLUS	Specifies an approval process for one or more of the exceptions	3	9.6

\_\_\_/5 \_\_\_/16

### Connectivity

Total WT

	Does not mention need to create integrated, comprehensive networks	1	1.2
OR	Acknowledges need to create integrated, comprehensive networks	5	2

\_\_\_/5 \_\_\_/2

### Jurisdiction

Total WT

	Applies to agency-owned roadways (assumed for all policies)	0	0
	Province/Region/County/District: applies to agency funded road	3	4.8
	Cities/Municipality: applies to all roads (including privately-built)	3	4.8
PLUS	Specifies an approval process for one or more of the exceptions	2	3.2

\_\_\_/5 \_\_\_/8

### Design

Total WT

	No mention of design criteria or the need for flexibility in balancing user needs or if the policy is only a design manual	0	0
PLUS	Specific design criteria are referenced	3	2.4
PLUS	Design flexibility in balancing needs of all users is referenced	2	1.6

\_\_\_/5 \_\_\_/4

### Context Sensitivity

Total WT

	Not mentioned or discussed	0	0
OR	Acknowledges need to create streets according to community and transportation context	5	8

\_\_\_/5 \_\_\_/8

**Performance Measures****Total WT**

	No mention of such measures and they are not identified as a next step	0	0
OR	Establishes, Recommends, or directs use of new or specific measures	5	4

\_\_\_/5 \_\_\_/4

**Implementation Plan****Total WT**

	No implantation plan	0	0
OR	Mentions general implementation plan	1	4
OR	Addresses two of four implementation steps from the CS Coalition	3	12
PLUS	Assigns oversight of implementation (person or advisory committee) OR establishes a reporting requirement	1	4
PLUS	Names implementation in project selection criteria	2	1.6

\_\_\_/5 \_\_\_/20

**TOTAL SCORE**

Total \_\_\_/50

Weighted Total \_\_\_/100

## Revised Policy Analysis Tool (designed as a checklist)

### Language and Intent

Commitment to CS (ped, bike, transit) of all users and abilities (mentions all in transportation section)

90% of existing language around CS elements strong (must, shall, will)

### Users and Modes

Mentions pedestrians (P)

Mentions bicyclists (B)

Mentions transit users (T)

Mentions motorists

Mentions people of all ages

Mentions people of all abilities

### Projects (Road Itself)

Covers new construction (P/B/T)

Covers retrofit/reconstruction (P/B/T)

Covers repair, maintenance, and other operations (for any of P/B/T)

### Exceptions

Lists at least one exception in any CS element (specify which one)

Specifies an approval process for said exception

### Connectivity

States need to create integrated, comprehensive networks (P/B/T)

### Jurisdiction

Will work on municipal roads (applied)

Will work with the Province (P/B/T)

Will work with the Region (P/B/T)

Mentions somewhere that they will work with private developers (P/B/T)

Will work with other municipalities (P/B/T)

Specifies exceptions when they will not work with province

Specifies exceptions when they will not work with private developers

### Design

Mentions design guidelines somewhere in a CS element (which one)

**Context Sensitivity**

Acknowledges need to create streets according to community/transportation context (P/B/T)

**Performance Measures**

Establishes, recommends, or directs use of new or specific measures (P/B/T)

**Implementation Plan**

Mentions implementation plan (P/B/T)

Assigns oversight of implementation plan (committee etc.)

Names implementation project in selection criteria



**The four Implementation Steps developed by the National Complete Streets Coalition used to measure a jurisdictions commitment to Element Ten: Implementation Plan (excluded from this research).**

1. Restructure or revise related procedures, plans, regulations, and other processes to accommodate all users on every project.
2. Develop new design policies and guides or revise existing to reflect the current state of best practices in transportation design. Communities may also elect to adopt national or state-level design guidance.
3. Offer workshops and other training opportunities to planners and engineers so that everyone working on the transportation network understands the importance of the Complete Streets vision and how they can implement in their work everyday.
4. Develop and institute better ways to measure performance and collect data on how well the streets are serving all users (National Complete Streets Coalition, 2011).

## Appendix B

**Outreach Questions to measure the barriers and opportunities for developing and implementing a Complete Streets policy in Ontario's 17 largest municipalities.**

**Questions? Would you prefer to answer the questions over the phone?**

**Please Contact:**

*Ryan Anders Whitney, Complete Streets Researcher and Project Manager, TCAT, CAP*  
[ryan.whitney@tcat.ca](mailto:ryan.whitney@tcat.ca) | (416) 392-0260

### Background

A Complete Streets policy helps ensure that our planners and engineers consider all road users when designing our roads, including pedestrians, cyclists, and transit users of all ages and abilities. Such policies are gaining popularity across North America, with over 300 adopted in municipalities across the U.S. through resolutions, legislation, executive orders, design manuals, etc. at various levels of government.

Over the next year, the Toronto Centre for Active Transportation (TCAT) will work towards centralizing the Complete Streets movement in Ontario and Canada. The first task is a gap analysis report to better understand the current context of Complete Streets in Ontario. The report will review the Official Plan and Transportation Master Plan from select municipalities across Ontario and seek perspectives from planners, engineers, and advocates to understand what barriers and opportunities exist for establishing Complete Streets policies.

The second outcome will be an online resource designed as a 'go to' for community members that are looking for more information on Complete Streets. The online resource (a Complete Streets Canada website) will include, but not be limited to, gap analysis results, best practice examples, fact sheets, and other relevant information to help municipalities incorporate Complete Streets policies across the province and Canada.

### Outreach Questions - Purpose

The questions below are intended to gather an on-the-ground perspective regarding the barriers and opportunities for Complete Streets in your community. We are soliciting responses from an advocate, a planner, and an engineer – all considered to be key players in the Complete Streets adoption and implementation process. If you have

someone who you think would fit this description in your community, please contact Ryan Whitney at [ryan.whitney@tcat.ca](mailto:ryan.whitney@tcat.ca) or (416) 392-0260.

## Notes

Elements of Complete Streets can be represented by other terms including, integrated transport planning, active transportation, living streets, etc. Please answer the following questions based on your community's current approach to planning for **pedestrians, cyclists, transit users, and drivers of all ages and abilities** (i.e., Complete Streets), regardless of if your community is actually using the term Complete Streets. Please contact Ryan Whitney if you require additional information ([ryan.whitney@tcat.ca](mailto:ryan.whitney@tcat.ca) or (416) 392-0260).

## Outreach Questions

1. Would the adoption of a Complete Streets policy be a useful tool to help your municipality ensure that your roads are designed for users of all ages and abilities? If 'yes', please state why; if 'no' please state why not.
2. Please list any policy documents that you are aware of that are currently guiding Complete Streets in your municipality (e.g., Official Plan, Transportation Master Plan, Urban Design Guidelines, etc.) and state which one is the most important
3. Do any of the official planning documents listed in #2 currently use the term 'Complete Streets'?
4. This question aims to gather input about where your municipality is in the Complete Streets process. Please review the four levels below and assign your current status.
  - a) Pre – No Complete Streets policy and no/little awareness
  - b) Beginning – No Complete Streets policy, but awareness around Complete Streets issues
  - c) Beginning – No Complete Streets policy, but some Complete Streets implementation
  - d) Beginning – Underdeveloped Complete Streets policy and no implementation
  - e) Intermediate – Complete Streets policy, but little implementation
  - f) Intermediate – Complete Streets policy with implementation not based on policy
  - g) Integrated – Complete Streets policy informs implementation

Further comments / Please provide any additional information to describe your municipality's status:

5. What are the most important steps to help your municipality achieve and/or implement a Complete Streets policy? If you have achieved Complete Streets policy and implemented this policy, what steps did you take?
6. Is your municipality doing any of the following to transition to an approach that considers Complete Streets? Check all that apply.
  - Changing internal procedures to a Complete Streets approach (e.g., a committee to oversee change)
  - Offering education opportunities to personnel and / or community leaders on Complete Streets (e.g., departmental training, etc.)
  - Updating design guidance to a Complete Streets approach (e.g., Urban Design Guidance)
  - Creating and using measures of success that reflect a Complete Streets approach (e.g., measure the kilometers of bike lanes installed, etc.)

Please provide an example for each of those checked above:

7. What are the main barriers that you have faced, or will face, when trying to work towards Complete Streets?
8. Are there any solutions or activities that you have identified to be useful in addressing the barriers identified above in questions 7?
9. Within the current political context that you operate in, do you feel like there is sufficient political support for Complete Streets? Yes/No/Kind of/Not sure

Other Comments (provide examples):

10. Please state the following:
  - Your city:
  - Your current position:
  - The number of years in your current position:
  - The number of years you have been working on these issues: