

COMPLETE STREETS: POLICY AND PRACTICE IN CANADA

1. Introduction

“Complete streets” policies and practices integrate the needs of all road users in right-of-way planning, design, construction, operation and maintenance. They are typically intended to ensure the appropriate consideration and accommodation of walking, bicycling and public transit, as well as the community context.

The concept of complete streets (see Section 2 for detail) is rapidly gaining technical, political and public importance in Canadian communities, but to date it has received little attention at a national level. The purpose of this briefing is to report on the status of complete streets in provincial and municipal transportation agencies across Canada, and to accelerate the transfer of information and lessons learned from more-experienced TAC members.

Complete streets have not been meaningfully addressed in previous TAC publications. However, TAC’s Urban Transportation Council includes “sustainable and complete streets” among the technical topics that it considers to be strategic research and development priorities, and it has coordinated development of the supportive *Canadian Guide for Greener Roads* (nearing publication). The concept of complete streets will also be introduced in a new edition of the *Geometric Design Guide for Canadian Roads*, expected in 2017.

This briefing is largely based on the findings of a scan of TAC members conducted through a voluntary questionnaire in June 2014. About 50 invitations were sent to provincial, regional and local transportation authorities, and 21 responses were received (see Figure 1 for a list of respondents by organization type and region). The scan was intended to provide a snapshot of current conditions, rather than to be statistically representative, and the response is adequate for that purpose.

Figure 1. Scan Respondents by Type, Size and Region

	Western Canada	Ontario	Quebec	Atlantic	Total
Provinces or regional transportation authorities	Alberta Transportation British Columbia Ministry of Transportation and Infrastructure Manitoba Department of Infrastructure and Transportation	Ontario Ministry of Transportation	Agence métropolitaine de transport (Greater Montréal) Quebec Ministry of Transportation	New Brunswick Department of Transportation and Infrastructure Nova Scotia Department of Transportation and Infrastructure Renewal	8
Larger municipalities (more than 200,000 people)	City of Edmonton, AB	City of London City of Ottawa City of Toronto Region of Waterloo	City of Gatineau City of Montreal	Halifax Regional Municipality, NS	8
Smaller municipalities (fewer than 200,000 people)	City of Grande Prairie, AB	City of Burlington City of Greater Sudbury City of Guelph City of Thunder Bay			5
Total	5	9	4	3	21

2. Key Concepts

The concept of complete streets has evolved over the last few years. It has been championed largely by interest and advocacy groups, and no single clear definition has emerged (see inset box at the end of this section). These circumstances have led to mixed degrees of both literacy and comfort on the subject of complete streets among transportation and planning practitioners.

Simply put, complete streets are those that can be used safely and comfortably by all road users without regard to mode of travel, age, physical ability, or time of day; this concept is applicable to many types of streets and physical contexts. Importantly, the phrase “complete streets” is not applicable only to physical design solutions, and communities are increasingly using the idea as the basis for more inclusive, integrated, healthy and sustainable processes around street planning, design, construction, operation and maintenance. Related policies and guidelines generally emphasize the need to provide comprehensive safety measures that protect vulnerable users, effective mobility for all road users, progressive walking and cycling infrastructure, transit-supportive features, design linkages between the right-of-way and adjacent land uses, and sensitivity to the needs of both residents and businesses.

The complete streets movement emerged around 2005 in the United States. Championed by the National Complete Streets Coalition of Smart Growth America, it has even led to state legislation (in California, for example) requiring municipalities to adopt related planning policies. In Canada, a leading voice for complete streets has been the Toronto Centre for Active Transportation, which provides case studies, policy guidance and design resources through its Complete Streets for Canada website. Both of these North American resources are well respected, and many municipal governments make use of their materials and services.

Complete Streets Defined

There are many different definitions of complete streets, including the following four representative examples:

- “Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.” (U.S. National Complete Streets Coalition¹)
- “A Complete Street is designed for all ages, abilities, and modes of travel. On Complete Streets, safe and comfortable access for pedestrians, bicycles, transit users and the mobility-impaired is not an afterthought, but an integral planning feature.” (Complete Streets for Canada²)
- “A ‘Complete Streets’ approach focuses on moving people around a city, rather than moving cars. It involves designing and operating our roads to provide safe and convenient access for all users – whether they happen to be walking, riding the bus, driving, cycling or delivering goods on a given trip. It recognizes the need to plan for the most vulnerable road users – children/youth, seniors, and persons with disabilities – which results in a design that fits all users.” (Green Action Centre, Winnipeg³)
- “Complete Streets is the planning, scoping, design, implementation, operation, and maintenance of roads in order to reasonably address the safety and accessibility needs of users of all ages and abilities. Complete streets considers the needs of motorists, pedestrians, transit users and vehicles, bicyclists, and commercial and emergency vehicles moving along and across roads, intersections, and crossings in a manner that is sensitive to the local context and recognizes that the needs vary in urban, suburban, and rural settings.” (Minnesota Department of Transportation⁴)

3. Status in Canada

The scan of Canadian provinces and municipalities conducted for this briefing revealed a wide disparity in the frequency and degree to which those organizations have considered, integrated and implemented the concept of complete streets.

Larger municipalities – All the large municipal respondents have considered the concept of complete streets. Furthermore, all have either integrated it more fully into their plans, policies and processes, or consider it likely that they will. Half of these respondents (four of eight) have adopted a complete streets definition or policy. While only one has adopted complete streets design guidelines, another four plan to do so. Slightly less than half (three of eight) have implemented projects that applied complete streets principles, although two of the three did not label them as such. The prevalence of project implementation compared to guideline development may reflect an interest in testing performance and acceptability before developing and adopting formal guidelines. Several respondents also reported having street design guidelines that are supportive of complete streets principles, but are not labeled as such.

Smaller municipalities – All the smaller municipal respondents have considered the concept of complete streets. Only one of five has adopted a completed streets definition or policy, although two more plan to do so. None has adopted design guidelines, although one respondent indicated an intention to do so. Two of five respondents have implemented complete streets projects, which were considered to be pilot projects similar to the larger municipalities.

Provinces and regional transportation authorities – Several respondent provinces or regional transportation authorities have considered the concept of complete streets, but none has formally adopted a definition, policies or guidelines. This is largely because these organizations deal principally with rural roads, regional highways, urban freeways and in some cases transit operations. Some have integrated related ideas, including context-sensitive road design and the provision of facilities for active modes, but without applying the term “complete streets.”

“Demand for a complete streets approach is growing, and as we move forward with work on highway sections within urban municipalities we anticipate that there will be a shift towards a complete streets approach.”

– Provincial agency respondent

Figure 2. Prevalence Among Scan Respondents of the Application of Complete Streets Concepts (reported as yes/no/planned)

All
 Most
 Some
 Very few
 None

	Consideration or discussion	Adoption of definition or policy	Adoption of design guidelines	Projects implemented
Larger municipalities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Smaller municipalities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provinces and regional transportation authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Example Plans, Policies and Guidelines

Several scan respondents identified documents that contain more detail on their integration of complete streets:

- City of Edmonton, AB** – A web page on complete streets⁵ contains links to the city’s detailed *Complete Streets Guidelines* (May 2013), *Complete Streets Example Greenfield Cross Sections* (June 2014), and a number of complete streets pilot projects. The comprehensive guidelines contain governing principles, a

process for projects to follow, a toolkit of design elements, and an implementation strategy that incorporates new construction and rehabilitation, policy regulatory tools, education and outreach, and a cost efficiency analysis.

- **City of Ottawa, ON** – The new *Transportation Master Plan*⁶ (November 2013) initiates the chapter on roads with a commitment to apply complete streets concepts to road projects in a way that respects both physical context and user needs. The plan notes that complete streets approaches are not new to Ottawa, but that they represent an evolution of best practices and previous guidelines.
- **City of Thunder Bay, ON** – The *Image Route Guidelines and Detailed Streetscape Designs*⁷ (December 2012) includes a section that describes the importance of the complete streets concept in achieving a new balance in right-of-way form and function.

Several other Canadian municipalities have produced materials that can serve as guidance or examples to readers on the subject of complete streets:

- **Town of Ajax, ON** – The *Transportation Master Plan*⁸ (February 2013) includes complete streets as a core concept of its future vision. A concise complete streets policy sets direction for enhancing travel options for users of all ages, abilities and modes through planning, design and implementation.
- **City of Calgary, AB** – The *2014 Complete Streets Guide*⁹ (2014) provides detailed and comprehensive guidance for city staff, developers and utility companies on how to incorporate complete streets approaches into the planning, design and implementation of new and reconstructed streets.
- **Niagara Region, ON** – The *Complete Streets for Niagara* project¹⁰ produced a discussion paper that identified the need for a regional complete streets policy; reviewed the context for local action including issues, obstacles and the roles of various stakeholders; and discussed the benefits of complete streets for the economy, social capital, accessibility, culture, public health and the environment. It also led to creation of the *Complete Streets Model Policy Handbook* that helps local municipalities develop complete streets by providing model definitions and Official Plan policies, performance indicators, suggestions for public engagement, and more.
- **City of Saskatoon, SK** – The guiding document¹¹ for its Integrated Growth Plan (under development) cites complete streets as a guiding principle for future street design standards.
- **City of Waterloo, ON** – The *Transportation Master Plan*¹² (April 2011) included a comprehensive complete streets policy that directs the integration of related concepts into the City's various functions including planning, design, operation, maintenance, communications and asset management. The policy called for implementation tasks including restructuring procedures, rewriting standards and guidelines, retraining staff, and creating a working group to steer efforts.

It is worth observing that other municipalities have developed street design policies, guidelines and practices that are generally consistent with the concept of complete streets, but that are not labeled as such.

On a more general note, *Complete Streets for Canada* promotes ten recommended elements of effective municipal complete streets policies¹³. These include clear language and intent, a reference to all road users, applicability to all road projects, clarity around exceptions, design criteria, sensitivity to community context, performance measurement, and next steps for implementation.

5. Successes

Across the country, there is momentum favouring complete streets within local, regional and provincial governments. Organizations participating in the scan cited a number of successes arising from complete streets projects:

- **Impacts on behaviour** – Respondents noted some pilot projects that have increased sustainable travel activity and improved safety. For example, Ottawa reported that its segregated bike lane has led to increased cycling along the corridor, and the City of Guelph reported that its road diets have increased cycling access and reduced rear-end collisions. The City of Thunder Bay reported that its downtown pilot project slowed vehicular traffic, improved the environment for walking and cycling, and improved neighbourhood appearance.
- **Enhanced collaboration** – Several respondents noted that complete streets initiatives have succeeded in bringing together staff of various groups to address common interests and shared objectives. In doing so, they have streamlined debate over policies, plans and specific design elements. They have also brought practitioners and elected officials together in a more constructive fashion. Halifax Regional Municipality reported that it has worked closely with the local health authority and Dalhousie University to advance its own complete streets initiative. Thunder Bay reported that its complete streets pilot projects have demonstrated the unusual potential to efficiently integrate numerous municipal strategic initiatives in a single capital project.
- **Better service to the public** – Complete streets concepts and projects were acknowledged to serve the mobility needs of a wider cross-section of the travelling public, and to contribute to a stronger role of streets as elements of the public realm through aesthetics and public art.
- **Consideration of roadway context** – Complete streets processes have challenged stakeholders to give greater consideration to how roads relate to surrounding land uses, compared to more conventional one-size-fits-all design approaches.
- **Customization to meet local needs** – The delivery of complete streets concepts can vary from one jurisdiction to another. Policies, guidelines and projects may have greater odds of succeeding because, in part, they can be customized to adhere to or depart from (as desired) existing objectives, principles and practices. In this way, they can best meet emerging local needs.

6. Challenges

Organizations that responded to the scan noted a wide range of challenges specific to complete streets approaches:

- **Need for collaboration** – Complete streets approaches require shared understanding and buy-in, as well as new forms of collaboration, among government departments (e.g. engineering, land use planning, traffic operations). Mechanisms are needed to guide integrated approaches to planning and operating the right-of-way and (as reported by Halifax Regional Municipality) to optimizing the relationship between complete streets and adjacent development.
- **Public resistance** – The public can oppose complete streets approaches if they do not understand them, or if they perceive that their interests are being sacrificed (e.g. drivers concerned about added delay or loss of parking, as reported by the cities of Edmonton, Burlington and Guelph among others). Overcoming public resistance requires effective engagement tools, an acknowledgment of potential trade-offs, and education around how to use unfamiliar street features.
- **Resource requirements** – Innovative approaches such as complete streets need more staff time and effort, particularly when they are first introduced. This learning curve can be a barrier to new ways of planning and operating streets. Commitment and active support from management and elected officials can foster innovation, and help ease the transition from traditional practices. Planning, designing, building and maintaining complete streets can also be more expensive than traditional approaches, and budget increments can be difficult to secure. Changes to operational approaches can be required, such as for snow clearing of active transportation facilities (e.g. segregated bicycle lanes) that may require new equipment.

- **Competition for right-of-way** – There are competing needs for street space among users who travel with different modes, speeds and abilities. The need to make trade-offs is inevitable, and the gains and losses of different interests (whether real or perceived) need to be understood and carefully managed. The City of Gatineau noted that the intersection of distinct facility types for different modes in the right-of-way (e.g. bicycle lanes and bus stops) can also create conflicts, and demands careful resolution.
- **Lack of technical assistance** – Progress in professional education and technical guidelines for complete streets has been slow and uneven.

7. Lessons Learned

When asked about advice they would give to other organizations based on their own experience with complete streets, scan respondents cited several lessons learned:

- **Engage the community** – Engaging as many stakeholders as possible from a project’s early stages provides an opportunity for public education on the value of new approaches to street design. The City of Montreal noted that it can help to develop a common vision that encourages stakeholders to share their focus on a key positive outcome: the creation of roadways that better serve all users.
- **Integrate capital planning** – It is important to leverage planned investments by building complete streets concepts into road renewal projects, and also to allocate additional funds for elements that are outside the scope of basic street renewal. Complete streets projects are an opportunity to incorporate numerous strategic initiatives into a single capital project by involving areas as diverse as land use, transportation planning, engineering design and maintenance. Creating a multi-disciplinary team to guide the project will encourage greater collaboration and deliver better outcomes.
- **Build partnerships between sectors** – Public health leaders, in particular, have expressed a keen interest in complete streets. Halifax Regional Municipality cited its partnership with the local health authority and the Healthy Canada by Design organization as a supportive factor in the development of a complete streets policy.
- **Embrace change in transportation practices** – The transportation profession has a tremendous opportunity to help build more effective roles for walking and cycling in Canadian cities. Doing so will require practitioners to actively recognize the influence of land use context on successful roadway designs and, as noted by the City of Ottawa, to revisit conventional approaches to managing congestion and evaluating operational effectiveness for all road users.
- **Learn from others** – The concept of complete streets is not one-size-fits-all. Communities need to learn from each other and tailor solutions to meet their unique needs. Openness to innovation can help in finding solutions to challenges, such as the City of Montreal’s example of soil cells that enhance the viability of street trees, and retention basins that provide low-impact drainage while enhancing the landscape. Not all agencies explicitly use “complete streets” to identify relevant projects, so look beyond terminology when seeking similar objectives and approaches.
- **Measure, document and celebrate** – Finally, the City of Thunder Bay suggests measuring the impact of complete streets through before-and-after comparisons, and using photos and personal stories to publicize the community value of projects. Planning launch events and giving public credit to project champions and stakeholders are good ways to celebrate success.

8. Conclusions

The term “complete streets” has been used in North America for just over a decade, even though many governments have worked to implement supportive principles for much longer than that. Complete streets offer a wide range of potential benefits, while also posing challenges due to their broad scope from planning to operation, their rapidly growing public profile, and their requirement for greater collaboration among disciplines.

This briefing is one step in the process of building a broader and deeper Canadian understanding of complete streets as an element of more sustainable transportation systems and behaviours. Other organizations are pursuing similar objectives, and provincial and municipal governments are sharing ideas, tools and results among themselves. Through its diverse activities, TAC aims to continue to participate in the development of complete streets approaches.

References

1. Smart Growth America, “National Complete Streets Coalition” web page, www.smartgrowthamerica.org/complete-streets
2. Complete Streets for Canada, www.completestreetsforcanada.ca
3. Green Action Centre, “Complete Streets” web page, www.greenactioncentre.ca/content/complete-streets
4. Minnesota Department of Transportation, “Complete Streets” web page, www.dot.state.mn.us/policy/operations/op004.html
5. City of Edmonton, “Complete Streets” web page, www.edmonton.ca/city_government/city_vision_and_strategic_plan/complete-streets.aspx
6. City of Ottawa, *Transportation Master Plan* (2013), www.ottawa.ca/en/city-hall/planning-and-development/official-and-master-plans/transportation-master-plan
7. City of Thunder Bay, *Image Route Guidelines and Detailed Streetscape Designs* (2012), www.thunderbay.ca (search on “image route guidelines”)
8. Town of Ajax, *Transportation Master Plan* (2013), www.ajax.ca/en/doingbusinessinajax/tmp.asp
9. City of Calgary, *2014 Complete Streets Guide* (2014), www.calgary.ca/Transportation/TP/Pages/Planning/Calgary-Transportation-Plan/Complete-Streets.aspx
10. Niagara Region, “Complete Streets in Niagara” web page, www.niagararegion.ca/living/icp/complete-streets
11. City of Saskatoon, “Integrated Growth” (2012), www.saskatoon.ca/DEPARTMENTS/City%20Clerks%20Office/Documents/Reports%20and%20Publications/Integrated-Growth-Plan.pdf
12. City of Waterloo, *Transportation Master Plan* (2011), www.waterloo.ca/en/government/transportationmasterplan.asp
13. Complete Streets for Canada, “Policy Elements” web page, www.completestreetsforcanada.ca/policy-elements

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ACT Canada
www.actcanada.com

Canadian Institute of Planners
www.cip-icu.ca

Canadian Institute of Transportation Engineers
www.cite7.org

Canadian Urban Transit Association
www.cutaactu.ca

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Membership Services and Communications

Or visit TAC's website: www.tac-atc.ca
Transportation Association of Canada
2323 St. Laurent Blvd., Ottawa, ON K1G 4J8
Tel: (613) 736-1350 ~ Fax: (613) 736-1395
Email: secretariat@tac-atc.ca