

**MISSION STATEMENT**

*“Our City is built on relationships – between citizens and their government, businesses and public institutions, city and region – all interconnected, mutually supportive, and focused on the brightest future we can create together”*

<b>REPORT #: S 145/2017</b>	<b>Report Date: 8/3/2017</b>
<b>Author’s Contact:</b> Tracy Tang Planning Policy Assistant 519 255-6543 ext. 6438 ttang@citywindsor.ca	<b>Date to Council: 8/23/2017</b>
<b>Michael Cooke</b> Manager of Planning Policy 519 255-6543 ext. 6102 mcooke@citywindsor.ca	<b>Clerk’s File #: APR/10711</b>

**To: Mayor and Members of City Council**

**Subject: Response to CQ12-2017: Implementing a Policy for Complete Streets**

**RECOMMENDATION:**

- I. THAT this Council Report responding to CQ12-2017 – Implementing a Policy for Complete Streets **BE RECEIVED FOR INFORMATION**;
- II. THAT the research findings and sample policies contained in this report **BE FORWARDED** to the City Engineer for consideration as part of the upcoming study regarding the Active Transportation Master Plan;

**EXECUTIVE SUMMARY:**

N/A

**BACKGROUND:**

At the February 21, 2017 meeting of Council, Councillor Holt asked the following Council Question:

***CQ12-2017:** Asks that administration report back to the Environment, Transportation and Public Safety Standing Committee on implementing a “Complete Streets” policy for the City of Windsor, highlighting how such a policy would satisfy Council’s 20 Year Strategic Plan as well as any other relevant plans and studies.*

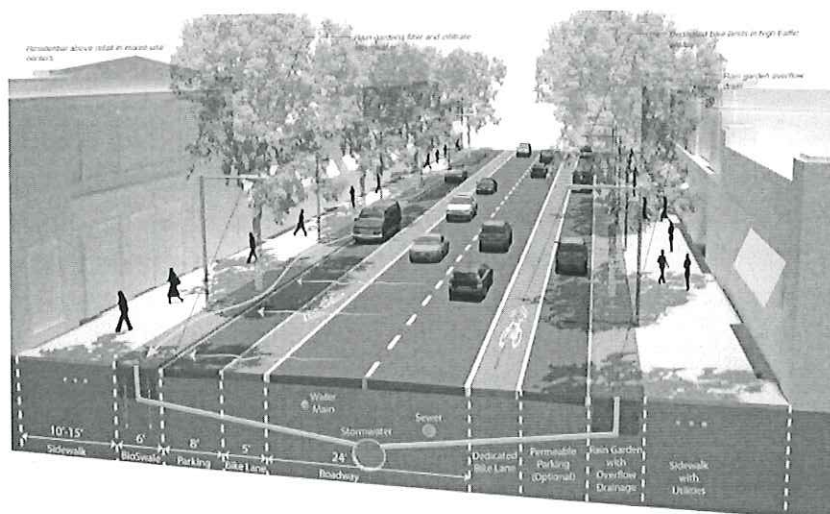
This report will begin to address CQ12-2017 with a number of definitions and identify the linkages between Council's 20 Year Strategic Plan, current policy and complete streets.

### What are Complete Streets?

Complete streets are *multi-modal* streets that are designed, operated and maintained in order to allow for the safe, convenient and comfortable travel of all users. This includes anyone who may be using the street, including (but not limited to) pedestrians, cyclists, transit riders, and motor vehicle users, regardless of their age, ability, or income level. Street users must be able to move along a complete street *right-of-way* and across complete street designated locations at ease and barrier-free.

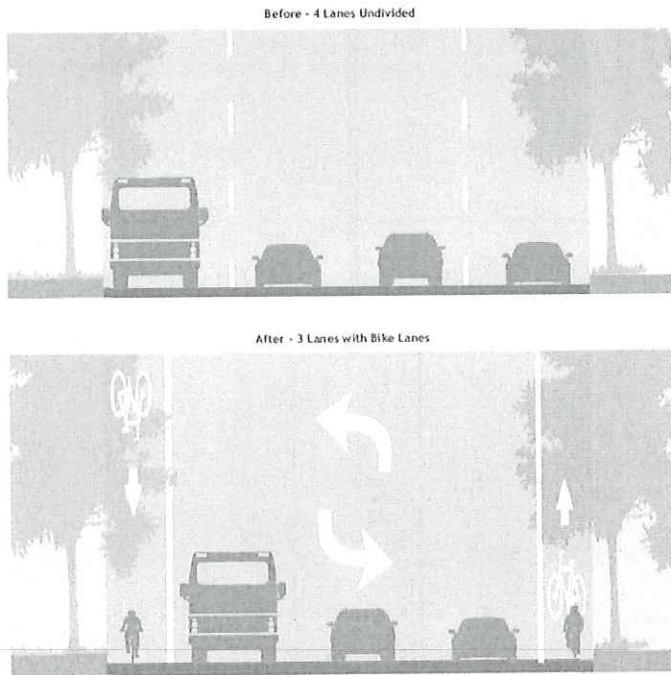
The concept of a complete street reinforces that the travel to and from a destination should be accessible and safe for everyone. The needs of all persons should be adequately addressed in the design of a complete street. There is no one-size-fits-all design for complete streets; complete streets are designed to suit their context. Furthermore, the concept highlights how streets can become vibrant and attractive spaces within the transportation network and support the local neighbourhood's sense of place. Complete streets may incorporate aspects of urban landscaping, comfortable street furnishing, public art, and stormwater management features to enhance the user's experience. Additional definitions of terms that support complete streets are found in "Appendix A".

Below are some diagrams illustrating complete street elements and typical compositions.



Typical cross section of a complete street (West Baton Rouge Parish, Louisiana, 2011)





Roadway conversion applying complete street principles (City of Edmonton, Alberta, 2013)



Redesign of Dearborn Street to incorporate complete streets principles (City of Chicago, Illinois, 2012)

### **Why Complete Streets?**

Although the term has only been used since approximately 2005, the principles of “complete streets” have been discussed, implemented and evaluated for decades. With the increase in health concerns such as obesity and diabetes, and environmental concerns such as climate change and natural resource depletion, municipalities are looking at creative methods to promote healthy and sustainable communities. In realization of the impact of transportation infrastructure on human and environmental health, governments and organizations are turning more commonly to the idea of complete streets.

The redesign of streets as complete streets has been growing in popularity and momentum internationally, and has been adopted in numerous cities worldwide. Several major cities within Canada have recently adopted strategies, policies, or guidelines, or incorporated complete streets principles and language into their existing policies. The benefits of complete streets and their impacts on communities have been studied and are well documented. The complete streets movement is an important consideration for cities that seek to ensure their community is environmentally sustainable while also providing healthy alternatives for its residents.

### **Alignment with Council's 20 Year Strategic Vision - Vision Statements**

The 20 Year Strategic Vision adopted by City Council focuses on three areas: jobs, reputation, and quality of life. Implementing a complete streets policy would align with Council's 20 Year Strategic Vision by improving the reputation and quality of life in Windsor. Complete streets are designed to be environmentally sustainable and provide long-term solutions, which meets the vision to improve Windsor's reputation. Additionally, complete streets can help to improve the quality of life for Windsorites as they promote transportation options and neighbourhood activity.

The following statements have been taken from Council's 20 Year Strategic Vision. Potential linkages between the vision statements and complete streets have also been identified:

*Reputation: Windsor will be a dynamic place of civic pride and a hub for innovation, culture and creativity and attractive for people of all ages.*

A Complete Streets policy can support the following "Reputation" vision statement:

- Making infrastructure decisions to ensure long-term sustainability

*Quality of Life: Windsor will provide a high quality of life for all, supported by sustainable growth and a vibrant, caring community.*

A Complete Streets policy can support the following "Quality of Life" vision statements:

- Planning for development to connect the city together – both green spaces and built form
- Strengthen neighbourhoods to ensure that they are safe, caring and meet the needs of residents
- Continuing to support citizens with diverse needs in all stages of life and create an accessible environment
- Promoting (transportation) choices that support a healthy environment
- Planning for integrated transit and transportation options with consideration for regional opportunities
- Promoting walking and cycling as healthy and environmentally-friendly modes of transportation



## DISCUSSION:

This section of the report will provide an outline of the benefits and opportunities associated with complete streets, existing policies that support them, and examples of complete streets best practices from around North America.

### Benefits and Opportunities

Complete streets offer numerous benefits, which can be classified into the following categories: people (social), placemaking (environmental), and prosperity (economic).

Complete streets help people by improving safety and perception of safety for all street users, enhancing social equity, providing options and promoting healthy living. Complete streets also facilitate placemaking by creating lively and attractive spaces, complementing the surrounding context and improving environmental sustainability. Under the category of prosperity, complete streets can support local economic vitality by attracting customers and influencing the real estate market. Additional benefits are listed in the table below:

Summary Table of Benefits:

People (Social)	Placemaking (Environmental)	Prosperity (Economic)
<ul style="list-style-type: none"> <li>• Reduce injuries/fatalities</li> <li>• Reduce traffic congestion</li> <li>• Make all users feel safe, comfortable, and included</li> <li>• Provide opportunities for those who do not drive</li> <li>• Offer variety of choices (non-limiting)</li> <li>• Promote active lifestyles</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage social interaction</li> <li>• Improve urban atmosphere</li> <li>• Enhance community sense of place</li> <li>• Reduce air pollution and Greenhouse Gas emissions</li> <li>• Reduce energy and resource consumption</li> <li>• Mitigate urban heat island effect</li> <li>• Reduce urban runoff</li> </ul>	<ul style="list-style-type: none"> <li>• Attract customers and revenue</li> <li>• Influence real estate market</li> </ul>

Complete street documents from municipalities in Canada and United States were reviewed in order to compose the Summary Table of Benefits. These include guidelines, policies, and by-laws from cities such as Calgary, Alberta, Toronto, Ontario, and Reading, Pennsylvania, for example. A detailed list of the potential benefits complete streets may have is included in "Appendix B".

## **Safety and the Vision Zero Approach**

Complete streets also complement “Vision Zero”. This concept is a Swedish approach to road safety that aims to reduce all traffic fatalities and serious injuries to zero. It is based on a core ideal that no loss of life or injury is acceptable and that roads should be designed to protect all users. Since its inception in 1994, the Vision Zero approach has been adopted in numerous cities internationally, including Edmonton in 2016 and Toronto in 2017. The City of Windsor made great strides toward the Vision Zero objective when it was awarded the Safe Community Designation in 2016. Providing safe streets for everyone is a fundamental part of implementing complete streets and so the Vision Zero long-term goal could also be a consideration when looking into active transportation goals and strategies.

## **Alignment with Other Policy/Plan Documents**

As mentioned earlier, prior to the term Complete Streets being used its principles have been applied in many policies, strategies and guidelines around the world. The City has made considerable efforts to incorporate ideals similar to those found in the Complete Streets approach in its policy documents. Numerous existing policies support the creation and implementation of a complete streets document. For example, the Traffic Calming Policy, School Neighbourhood Policy, the Pedestrian Generator Policy, Engineering Best Practices, ADOA Standards, the 2014 Provincial Policy Statement (PPS) and City’s Official Plan. Primarily, the 2014 PPS and City’s Official Plan both contain policies that align with the principles of complete streets without specifically referencing the term “complete streets”. Listed below are the key policies from these two policy documents relating to complete streets.

### *Provincial Policy Statement 2014*

The PPS sets out the province’s land-use and development vision and aims to enhance the quality of life for all Ontarians. A Complete Streets policy would support the provincial interest in Public Spaces, Recreation, Parks, Trails and Open Space (Section 1.5), Infrastructure and Public Service Facilities (Section 1.6), Long-Term Economic Prosperity (Section 1.7), and Energy Conservation, Air Quality and Climate Change (Section 1.8).

Policies in the PPS emphasize how public streets should be safe, meet needs of pedestrians, foster social interaction, and facilitate active transportation and community connectivity. Furthermore, the PPS contains a number of goals and policies that align with the benefits of complete streets, such as:

- Promote green infrastructure;
- Encourage cross-jurisdictional multimodal transportation systems that are safe and connect various modes of transportation;
- Support long-term economic prosperity through providing an efficient, cost-effective, reliable multimodal transportation system;



- Support energy conservation by promoting active transportation and transit use.

#### *Official Plan*

A complete streets policy initiative would support Sections: 4 Healthy Community; 7 Infrastructure; and 8 Urban Design, in the City of Windsor Official Plan.

Section 4 Healthy Community policy objectives emphasize creating a healthy physical and social environment for Windsorites. By integrating complete street designs in the transportation network, the following Official Plan objectives can be achieved:

- Create a healthy and liveable city by considering community health in neighbourhood design;
- Encourage environmental sustainability through sustainable development;
- Establish a sense of community by encouraging development that integrates all residents and fosters social interaction.

Section 7 Infrastructure policy objectives emphasize the importance of managing Windsor's infrastructure to be safe, sustainable, effective, and efficient for the needs of all. Incorporation of the principles of complete streets into transportation network design can achieve the following Official Plan goals, objectives, and policies:

- Establish a safe, accessible, and efficient transportation network;
- Promote development that supports active transportation modes, such as walking, cycling, and public transportation;
- Develop infrastructure that allows for ease of pedestrian movement, meaning safe for all ages and abilities and suitable for both utilitarian and recreational purposes;
- Encourage cycling safety by separating cyclists and pedestrians wherever most appropriate.

Section 8 Urban Design policy objectives emphasize creating an attractive, livable, and sustainable city for present and future generations. By integrating complete street designs in the transportation network, the following Official Plan goals and policies can be achieved:

- Design roads, streetscapes, and right-of-ways to be comfortable, functional, safe, and attractive;
- Ensure the needs of persons of all ages and abilities are integrated into design;
- Provide integrated design in urban spaces for barrier-free pedestrian access;
- Ensure ease of orientation along streetscapes for pedestrian, cyclist, and vehicle needs (such as the provision of signs, route maps, and key views).

A comprehensive list of all Provincial Policy Statement and Official Plan policies relevant to complete streets can be found in "Appendix C" and "Appendix D".

## Community Energy Plan, 2017

In Windsor, the transportation sector accounts for 26 percent of the energy used, 36 percent of the greenhouse gas emissions and 46 percent of the energy costs in 2014. The Community Energy Plan outlines four strategies for the transportation sector in Windsor:

1. Encourage a Modal Shift towards Public Transit;
2. Develop and Implement an Active Transportation Master Plan;
3. Foster the Adoption of Electric Vehicles; and
4. Continue to Advance Smart Energy Systems by integrating into the Land Use Planning process.

The Community Energy Plan supports the creation of linked networks of “complete streets” creating a comprehensive and attractive pedestrian, transit, bicycle and e-bike network. The objective is to maximize the connectivity of roads for pedestrians and cyclists, and ensure dedicated bike lanes, bike parking and charging infrastructure are made available in the City.

Complete communities and complete street elements encourage energy conservation in Windsor. A relatively modest estimation of 2 percent of average vehicle journeys can result in emissions reductions of about 8,000 tonnes of CO<sub>2</sub>, or about 1 percent, of the total transportation emissions in 2041. Reduction potential may be refined through the development of the Active Transportation Master Plan and Complete Streets policies.

### Best Practices and Examples

As part of the in-depth research conducted for this report, various examples of complete streets policies have been reviewed. The following examples highlight some of the successful outcomes and provide notes on what physical improvements were made. These summary notes also highlight some of the complete streets principles and municipal policies that supported their implementation. Additional details and images of each example can be found in “Appendix E”.

#### *Churchill Avenue, Ottawa, ON*

As part of the “Ottawa on the Move” project, the City of Ottawa implemented complete streets designs when making improvements to Churchill Avenue, a major collector road linking the Westboro and Carlington neighbourhoods. Prior to reconstruction, there was a lack of safe sidewalks and the road was designed primarily for automobiles. After it reopened in 2014, Churchill Avenue had separated raised bike lanes, concrete curbs and sidewalks, street lighting, traffic calming measures, and traffic control signals. These improvements have helped promote cyclist and pedestrian safety. They encourage the community to use active modes of transportation now that there is proper infrastructure in place to separate the more vulnerable users (cyclists and pedestrians) from automobiles.



### *King Street Downtown, Kitchener, ON*

King Street is a city arterial street that acts as the main downtown street in Kitchener. As a part of the downtown revitalization strategy, the City of Kitchener transformed King Street from being vacant and crime-ridden to lively and attractive. Completed in 2010, the project included low sloped curbs, flexible parking through use of bollards, vegetation strips that act as storm water management features, and widened sidewalks furnished with modern lighting and seating. This pedestrian oriented design improved the perception of safety along the street at different hours of the day, while allowing for activities and programming such as street festivals and patios.

### *Richmond and Adelaide Streets, Toronto, ON*

Due to directions in the City of Toronto Bike Plan (2001) which identified Richmond and Adelaide, both one-way major arterial streets, as potential bike routes, the two streets underwent transformations to accommodate for increased cyclist volumes. In 2014 as the first phase of a pilot project, a road diet was applied to reduce the number of traffic lanes from four to three, install 1.5km segments of bicycle lanes, and introduce on-street parking. The results of this renovation were increases in cyclist volumes, improved safety and comfort, and reduced travel times for drivers.

Below is an example of a current, comprehensive complete streets policy from the City of Toronto's Official Plan. This policy was adopted in 2014, and is the most detailed compared to policies from the other municipalities reviewed in this section. Included for informative purposes, this policy provides guidance as to how a successful complete streets policy may be written.

From the City of Toronto Official Plan, Chapter 3 Building a Successful City:

*3.1.1 (5). City streets are significant public open spaces which connect people and places and support the development of sustainable, economically vibrant and complete communities. New and existing City streets will incorporate a Complete Streets approach and be designed to perform their diverse roles by:*

*a) balancing the needs and priorities of the various users and uses within the right-of-way, including provisions for:*

*i) the safe and efficient movement of pedestrians of all ages and abilities, cyclists, transit vehicles and users, goods and services vehicles, emergency vehicles, and motorists across the network;*

*ii) space for other street elements, such as utilities and services, trees and landscaping, green infrastructure, snow and stormwater management, wayfinding,*

*boulevard cafes, marketing and vending, and street furniture; and*

*iii) ensuring the safety of vulnerable groups such as women, children, seniors and people with disabilities by implementing the Toronto Safer City Guidelines, or an updated version thereof;*

*b) improving the quality and convenience of active transportation options within all communities by giving full consideration to the needs of pedestrians, cyclists and public transit users;*

*c) reflecting differences in local context and character;*

*d) providing building access and address, as well as amenities such as view corridors, sky view and sunlight; and*

*e) serving as community destinations and public gathering places.*

#### *Hillsborough Street, Raleigh, NC*

Hillsborough Street is a major arterial road in Raleigh, North Carolina which serves as a key connection to historic neighbourhoods. It was identified as the highest priority roadway requiring bicycling improvement, as it contained the highest number of recorded bicycle collisions in the city. Phase 1 of the renewal project was completed in 2010, and included a road diet to reduce four travel lanes to two, roundabouts, raised medians, bicycle lanes, brick paver sidewalks, pedestrian crossings with median refuge islands and on-street parking. These improvements resulted in increased customer traffic to the businesses, reduced pedestrian-related car collisions, reduced motorist speeds and increased sense of security and beauty along the corridor.

#### **Future Considerations**

Numerous municipalities other than those listed above are developing and implementing complete streets policies. These municipalities are of varying sizes and are located across Canada. For example, complete streets policies were adopted in Kelowna, BC in 2011, Peterborough, ON in 2012, Ajax, ON in 2013, and Airdrie, AB in 2014. Complete streets approaches, guidelines, and policies are very current and relevant responses to addressing roadway safety and community health. They can be incorporated into Official Plans, Transportation Master Plans, design guidelines, and other municipal planning documents. There are numerous of examples from municipalities across Canada that can be used as best practises for the development of a complete streets policy in Windsor. This future research can be integrated into the



upcoming Active Transportation Master Plan, as the principles of complete streets are parallel with those of active modes of transportation.

## **RISK ANALYSIS:**

There is no risk associated with receiving this report for information.

## **FINANCIAL MATTERS:**

Every street is different; opportunities for complete streets projects would need to be considered as streets need to be repaired or rebuilt. The difference in the capital cost (and ongoing maintenance) of putting a street back the way it was versus creating a complete street would depend on the features of the new design. Depending on the location and goals of the changes, some streets could be enhanced at a higher cost to provide for beautification, street trees, storm water management, and placemaking. Some straightforward complete street projects could have low costs, like changing the width of lanes or creating curb extensions with pavement markings, while making streets safer.

There are no financial impacts associated with the recommendations in this report. Should Council direct Administration to pursue any of the options outlined in this report, the matter would be brought back to Council with recommended implementation measures. Further, it is anticipated that any financial matters associated with the implementation of recommendations within the forthcoming Active Transportation Master Plan will be included in that report.

## **CONSULTATIONS:**

Staff from the Planning, Transportation Planning, Engineering, and Parks Departments were consulted in the preparation of this report.

## **CONCLUSION:**

Complete streets contribute to a vibrant community, as they serve the dual function of facilitating safe and convenient travel and being destinations for gatherings and celebration. A complete streets policy can meet the Council's 20 Year Strategic Vision by improving Windsor's reputation and quality of life through infrastructure that animates communities through providing social interactions, connects people of all ages and backgrounds, and strengthens neighbourhoods to be healthy and sustainable. Adoption of a complete streets policy brings social, environmental and economic benefits, and can be supported by the goals, objectives and policies within the Official Plan and Provincial Policy Statement. Complete streets policy can also be incorporated further within other existing corporate plans including the Environmental Master Plan and Bicycle Use Master Plan.

Administration recommends that Council receive this report for informative purposes, and that the research presented be utilized in the upcoming study on active transportation.

**PLANNING ACT MATTERS:**

N/A

**APPROVALS:**

Name	Title
Michael Cooke	Manager of Planning Policy
Thom Hunt	City Planner/Executive Director
Wira Vendrasco	Deputy City Solicitor
Shelby Askin Hager	City Solicitor
Jeff Hagan (on behalf of Josette Eugeni)	Policy Analyst, Transportation Planning
Dwayne Dawson	Deputy City Engineer, Operations
Mark Winterton	City Engineer
Onorio Colucci	Chief Administration Officer

**NOTIFICATIONS:**

Name	Address	Email
Windsor Bicycling Committee		

**APPENDICES:**

- 1 Appendix A: Additional Definitions
- 2 Appendix B: Detailed List of Benefits
- 3 Appendix C: Relevant Provincial Policy Statement (2014) Policies
- 4 Appendix D: Relevant City of Windsor Official Plan Policies
- 5 Appendix E: Best Practices/Case Studies



## **Appendix A: Additional Definitions**

Multi-modal: Multi-modal, in the transportation planning context, refers to the various modes in which users take to travel (such as walking, cycling, public transit, driving, etc.). A multi-modal street is a street that considers these various modes into its design and function.

Right-of-way: A right-of-way is the area of a street that is publicly owned and maintained between properties, typically from property line to property line. It includes aspects of street design, such as the sidewalks, bicycle lanes, roadways, boulevards and planting strips, and street furniture and infrastructure, among others.

**Appendix B:  
Detailed List of Benefits, Categorized as: Social, Environmental, Economic**

**SOCIAL BENEFITS**

Complete streets help people (social) by improving safety and perception of safety for all street users.

- Complete streets help to **reduce injuries/fatalities** by designing for reduced speeds on shared streets, which reduces the severity of vulnerable road user collisions if and when they occur. Clearly separating pedestrians and cyclists from vehicles can promote a sense of safety through buffers and thus also reduces the risk, frequency, and severity of bicycle collisions (Toronto, Ottawa, Calgary, Ocean Shores, West Hartford).
- Complete streets **reduce traffic congestion**, decrease the frequency of vehicular collisions, and result in more effective emergency response and service delivery (Calgary). They influence the reallocation of transportation modal splits by encouraging active transportation instead of dependency on cars.

Complete streets help people (social) by enhancing social equity.

- Complete streets help people of all ages, races, genders, abilities, and incomes and users of all modes of transportation **feel safe, comfortable, and included**. This is achieved through sidewalks that are clear, maintained, unobstructed, and continuous to promote accessibility for all users, including people who use strollers, wheelchairs, walkers, or motorized personal mobility devices (Toronto, Ottawa).
- Complete streets allow those who do not drive or own vehicles **to have opportunities to travel by other means** (Indianapolis, Ocean Shores). In 2015, Statistics Canada reported that 1/7 of Canadian households do not own, lease, or operate a vehicle, which may be due to age, disability, or income.

Complete streets help people (social) by providing options and promoting healthy living.

- Complete streets **offer a variety of safe and attractive choices** in order to travel from point A to point B. This is because the ROW and infrastructure is designed to accommodate for all modes of transportation, instead of being car-oriented (Toronto, Calgary). It becomes more desirable to use active transportation to access local amenities and services if the route is safe and attractive.
- Complete streets **promote active lifestyles and daily physical activity** by making it easier to walk, bike, and use other modes of active transportation. This is notable in improving the wellbeing of adults and children who are overweight or obese (Ottawa, Calgary, West Hartford, Indianapolis).



## ENVIRONMENTAL BENEFITS

Complete streets help with placemaking (environmental) by creating lively and attractive spaces.

- Street improvements (maintenance, landscaping, public art, etc.) **encourage pedestrian activity and social interaction** along the sidewalks. Sidewalks become part of the travel experience instead of just a route. They are public realms where people can meet, linger, and socialize (Toronto, Ottawa).
- Complete streets **improve urban atmospheres** because they are aesthetically pleasing spaces and focus on the sidewalk (material use, landscaping, and furnishing), as opposed to on the paved driving lanes. They beautify the streetscape and surrounding community (Calgary).
- Complete streets increase the quantity and quality of civic space (Ottawa, Calgary).

Complete streets help with placemaking (environmental) by complementing the surrounding context.

- Complete streets **enhance the existing sense of place** of the community. They respect a neighbourhood's scale, character, and function and are designed and constructed in order to be compatible with the area. There is no "one size fits all" for complete streets, and they must be tailored to their surroundings (Toronto, Ottawa).

Complete streets help with placemaking (environmental) to improve environmental sustainability.

- Complete streets **reduce air pollution and greenhouse gasses** while improving air quality, by reducing dependency on cars and promoting the use of active transportation methods (Ottawa, Calgary, Edmonton, West Hartford).
- Complete streets **reduce energy consumption** by encouraging active transportation (does not require fuel) and reduce resource consumption from new roadway construction (Calgary, West Hartford).
- Complete streets can **mitigate urban heat island effect** and microclimate heating because they reduce the amount of lanes dedicated to cars (asphalt) and integrate urban forestry/landscaping/canopy cover (carbon sequestration, albedo) (Toronto, Calgary).
- Complete streets can help **reduce urban runoff** and impervious surfaces by integrating stormwater management features into complete streets (for example, vegetated buffers and bio-swales) (Toronto, Calgary).

## ECONOMIC BENEFITS

Complete streets help with prosperity (economic) by supporting economic vitality.

- Complete streets generate more **customers and revenue** for ground-floor businesses and other land uses adjacent to the street by increasing foot traffic (Toronto, Calgary). They provide easy access to amenities and services such as work, schools, stores, etc. (Ottawa, Ocean Shores).
- Complete streets can **influence the real estate market** by acting as financial investments. The value of adjacent real estate fronting onto complete streets can be increased, as improved walkability is positively correlated with price increases. This can provide long term savings (Edmonton, Indianapolis).

Complete streets help with prosperity (economic) by saving costs numerous ways (list provided by Indianapolis).

- By improving safety, complete streets decrease costs for injuries, fatalities, and emergency services
- By increasing physical activity of users, complete streets decrease healthcare costs
- By improving air quality, complete streets decrease healthcare costs and environmental remediation costs
- By reducing traffic congestion, complete streets increase savings in time and money to allow for more productivity
- By introducing complete streets, complete streets increase profit for local businesses and becomes an economic driver



## **POLICY DOCUMENTS RESEARCHED FOR COMPLETE STREET BENEFITS**

### **Canada**

Calgary, City of. 2014. Calgary Transportation Plan and Complete Streets.  
Edmonton, City of. 2013. Complete Streets Guidelines.  
Ottawa, City of. 2013. Transportation Master Plan.  
Ottawa, City of. N.d. Complete Streets in Ottawa.  
Toronto, City of. 2013. Toronto Complete Streets Guidelines.  
Waterloo, City of. 2011. Transportation Master Plan.

### **United States**

Boulder, City of. (2014). Transportation Master Plan.  
Indianapolis, City of. (2012). City-County General Ordinance, Proposal No. 208, 2012.  
Ocean Shores, City of. (2012). Ordinance No. 916.  
Reading, City of. (2015). Executive Order 2-2015: Complete Streets  
West Hartford, Town of. (2015). Resolution Adopting a Complete Streets Policy for the Town of West Hartford.

## **OTHER SOURCES RESEARCHED FOR COMPLETE STREETS BENEFITS**

Statistics Canada. *Table 203-0027 - Survey of household spending (SHS), dwelling characteristics and household equipment at time of interview, Canada, regions and provinces, annual (number unless otherwise noted), CANSIM* (database). (accessed: August 2, 2017)

**Appendix C:  
Relevant Provincial Policy Statement (2014) Policies**

The following policies from the Provincial Policy Statement (2014) align with potential benefits of implementing complete streets:

**1.5 Public Spaces, Recreation, Parks, Trails and Open Space**

1.5.1 Healthy, active communities should be promoted by:

- a) planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate *active transportation* and community connectivity;

**1.6 Infrastructure and Public Service Facilities**

1.6.2 Planning authorities should promote *green infrastructure* to complement *infrastructure*.

**1.6.7 Transportation Systems**

1.6.7.1 *Transportation systems* should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.

1.6.7.3 As part of a *multimodal transportation system*, connectivity within and among *transportation systems* and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries.

**1.7 Long-Term Economic Prosperity**

1.7.1 Long-term economic prosperity should be supported by:

- c) Maintaining and, where possible, enhancing the vitality and viability of downtowns and mainstreets;
- f) providing for an efficient, cost-effective, reliable *multimodal transportation system* that is integrated with adjacent systems and those of other jurisdictions, and is appropriate to address projected needs to support the movement of goods and people;

**1.8 Energy Conservation, Air Quality and Climate Change**

1.8.1 Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns which:

- a) promote compact form and a structure of nodes and corridors;
- b) promote the use of *active transportation* and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas;



**Appendix D:  
Relevant City of Windsor Official Plan Policies**

**Section 4 Healthy Community**

**4.2.1 Healthy and Liveable City**

*PLANNING & DESIGN*

4.2.1.1 To consider community health in the planning and design of Windsor and its neighbourhoods.

*ACTIVE LIFESTYLE*

4.2.1.2 To provide for activities and facilities which will foster an active lifestyle to improve community health.

*CLIMATE PROTECTION*

4.2.1.4 To protect against climate change and its possible adverse effects on human health, the physical environment, economy and quality of life.

**4.2.2 Environmental Sustainability**

*SUSTAINABLE DEVELOPMENT*

4.2.2.3 To encourage community planning, design and development that is sustainable.

**4.2.4 Sense of Community**

*SOCIAL INTERACTION*

4.2.4.1 To encourage development that fosters social interaction.

*COMMUNITY LIVING*

4.2.4.2 To encourage development that fosters the integration of all residents into the community.

**Section 7 Infrastructure**

**7.1 Goals**

*LAND USE, DENSITY AND MIX*

7.2.1.5 To promote a land use pattern, density and mix of uses that reduces vehicle trips and supports alternative transportation modes including public transit.

*TRANSPORTATION DEMAND MANAGEMENT*

7.2.1.10 To enact transportation demand management actions suited to the needs of Windsor.

*WALKING & CYCLING*

7.2.1.13 To establish and maintain a city-wide walking and cycling network.

*ACCESSIBLE INFRASTRUCTURE*

7.2.1.14 To establish and maintain an accessible transportation infrastructure.

## ROADS

7.2.1.15 To establish and maintain a safe and efficient road network.

## ALTERNATIVE DEVELOPMENT PATTERNS

7.2.2.5 Council shall promote development patterns that support an increase in walking, cycling and public transportation in accordance with the Land Use and Urban Design chapters of this Plan.

## BALANCED TRANSPORTATION SYSTEM

7.2.2.6 Council shall develop a balanced transportation system by:

- (a) Adopting strategies and programs that increase public transportation use, cycling and walking;
- (e) Implementing the urban design policies of this Plan that provide for an improved street environment.

## 7.2.3 Pedestrian Network Policies

### PEDESTRIAN MOVEMENT

7.2.3.1 Council shall require all proposed developments and infrastructure undertakings to provide facilities for pedestrian movements wherever appropriate by:

- (a) Requiring safe, barrier free, convenient and direct walking conditions for persons of all ages and abilities;
- (c) Providing a walking environment within public rights-of-ways that encourages people to walk to work or school, for travel, exercise, recreation and social interaction.

## 7.2.4 Cycling Network Policies

### SAFETY

7.2.4.5 Council shall encourage the separation of cyclists and pedestrians wherever possible to avoid potential conflicts.

## 7.2.5 Public Transportation Policies

### IMPROVE PUBLIC TRANSPORTATION

7.2.5.2 Council shall require that the design of development proposals and infrastructure undertakings facilitate easy access to public transportation. In this regard, Council shall:

- (c) Require that sidewalks and other pedestrian facilities connect major traffic generators to public transportation services;
- (d) Encourage the provision of benches, lighting, rest areas and climate shelters for the safety, comfort and convenience of public transportation users;

## Section 8 Urban Design

### 8.1 Goals

#### PEDESTRIAN

8.1.3 Pedestrian access to all developments.

#### COMFORT

8.1.5 Comfortable conditions along roads and in public spaces.



*STREETSCAPE*

8.1.10 A functional and attractive streetscape.

*SAFETY*

8.1.11 Public safety throughout Windsor.

*DESIGN EXCELLENCE*

8.1.12 Excellence in exterior building design, site design and right-of-ways.

*DESIGN FOR ALL AGES AND ABILITIES*

8.1.14 Integrated design for the needs of persons of all ages and abilities.

**8.4 Pedestrian Access**

**8.4.1 Objective**

*INTEGRATED DESIGN*

8.4.1.1 To integrate barrier-free pedestrian routes in the design of urban spaces.

**8.11 Streetscape**

**8.11.1 Objectives**

*INTEGRATE FUNCTION & AESTHETICS*

8.11.1.1 To achieve an integrated and attractive streetscape through design features which accommodate pedestrian and vehicle needs.

*ORIENTATION*

8.11.2.15 Council will ensure the ease of orientation along the pedestrian and cycle networks through the provision of signs, route maps and key views.

## Appendix E: Best Practices/Case Studies

### Churchill Avenue, Ottawa, ON

Ottawa's council approved of the 2012 budget for *Ottawa on the Move*, a city-wide project to improve the transportation network in Ottawa through road and infrastructure renewals. One of the streets needing cycling paths to connect the cycling network in the city was Churchill Avenue. Churchill Avenue is a major collector road that links the neighbourhoods of Westboro and Carlington. Prior to its reconstruction, Churchill Avenue had four travel lanes, wide shoulders, and lacked safe sidewalks. It was originally designed primarily for automobiles, and thus lacked safe infrastructure for other modes of transportation.

After two years of construction, Churchill Avenue opened November 2014 six months ahead of schedule and within the original budget of \$21.3 million. The project included utilities infrastructure relocation, as well as surface improvements to the streetscape. These major improvements include: separated raised bicycle lanes, concrete curbs and sidewalks, LED street lighting, traffic calming measures, and traffic control signals. The philosophy behind the design of Churchill Avenue was that potential cyclist-motorist conflicts are more severe and difficult to manage than potential cyclist-pedestrian conflicts. Since its implementation, automobile traffic volumes and speeds have been reduced. The reconstruction of the street allows the more vulnerable users (being cyclists and pedestrians) to be separated from automobiles by paved buffers as well as grade separation. The improvements are beneficial for the community, as they provide the safe infrastructure to allow the comfortable use of active transportation modes.

In order to illustrate the wording and direction that City Councils have put out in official documents, examples are provided below of action items that support complete streets. These are taken directly from the City of Ottawa Transportation Master Plan (2013), Section 7.1 Design and Build Complete Streets:

*Action 7-1: Adopt a "complete streets" policy for road design, operation and maintenance*

*Action 7-2: Update road design guidelines, standards and processes to reflect complete street principles*



Churchill Avenue at Irene Crescent intersection, before and after improvements





Churchill Avenue surface markings and signage

### **King Street Downtown, Kitchener, ON**

King Street in downtown Kitchener is a city arterial that has undergone numerous changes. It was once a historical focal point and economic centre, but after the decline of the manufacturing and industrial sectors in the 1980's, businesses moved away from the downtown and left numerous buildings vacant. Throughout the 1990's and early 2000s, the downtown economic activity had slowed significantly and King Street had fallen into disrepair. It became a negatively perceived area with safety and crime issues.

Through the Economic Development and Investment Fund, the City of Kitchener obtained \$3.3 million towards King Street's improvement, one of the major projects in the revitalization of downtown Kitchener. Extensive public consultation processes revealed the desire for a pedestrian oriented streetscape design, which was City approved in 2007. The driving principle of the project was that investing in the public realm will introduce more people and private sector investors back into the downtown. With additional funding from provincial and federal levels of government, King Street was redesigned and opened in 2010. The right-of-way was improved by the introduction of low sloped curbs, flexible on-street parking through the use of removable bollards, storm water management vegetation strips, street trees, and widened sidewalks for increased accessibility. Furthermore, pedestrian amenities were implemented along the sidewalks, such as modern lighting, street furniture, and floral planters. The street was designed for pedestrian-scale activities, and promotes the use of the sidewalk and street as civic space. This in turn improves the sense of safety in the downtown, and it becomes a more desirable place to be. After improvements, the number of people visiting King Street increased from 3,000 to 9,000 in an average workday, and downtown public events have higher attendance.

Below is an example policy that supports complete streets from the City of Kitchener Official Plan (2013), Section 13 Integrated Transportation System:

*13.C.1.2. The City will support the enhancement of pedestrian and cycling environments so that people will have more opportunities to*



walk and cycle for convenient travel, recreational, health, environmental and economic reasons through such means as:

b) integrating pedestrian and cycling facilities into existing, expanded and new development areas;

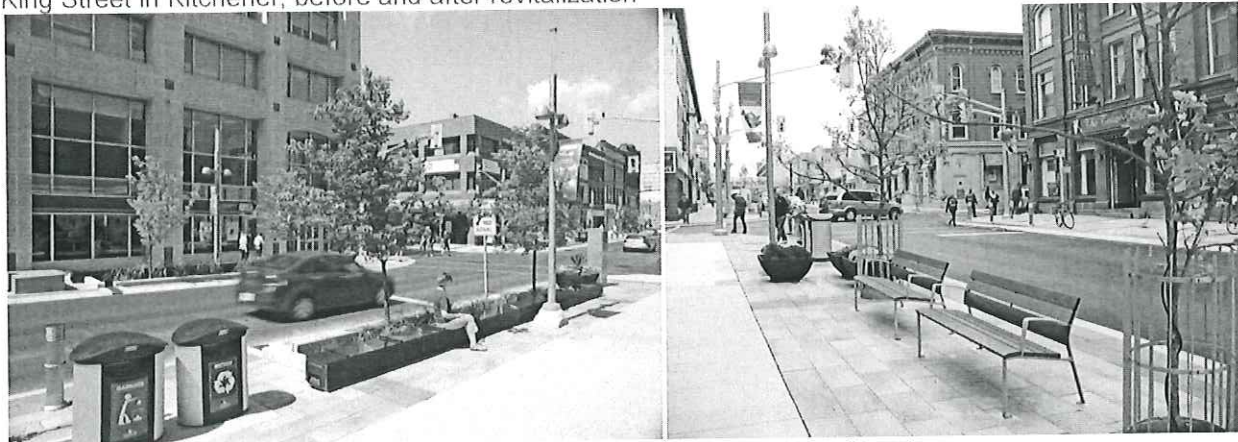
f) providing pedestrian and cyclist connections to transit stops

Below is an example policy that supports complete streets from the City of Kitchener Transportation Master Plan (2013), Section 5.3 Active Transportation:

5.3.2 Develop a new policy for sidewalk infilling in existing urbanized areas and sidewalks in new development areas based on the principle of "Complete Streets".



King Street in Kitchener, before and after revitalization



Photographs demonstrating street furnishing improvements along King Street

### **Richmond and Adelaide Streets, Toronto, ON**

Richmond Street and Adelaide Street are parallel major arterial one-way streets in the core of Toronto. Richmond Street runs west, while Adelaide runs east. They pass through major retail and commercial areas, as well as significant destinations and historical sites. The surrounding development is very dense, ranging from mid rise mixed-use to high rise office towers. Both streets were identified in the *City of Toronto Bike Plan* (2001) as potential bike routes, and as part of the council-initiated Municipal Class Environmental Assessment study, a pilot project was created to assess the impacts of implementing cycle tracks within the corridor.



In 2014, 1.5km segments of bicycle lanes were installed as the first phase of the pilot project. The dimensions of the existing right of way were used, but a road diet was applied in order to reduce the number of traffic lanes from 4 to 3. This provided the necessary space for separated bicycle lanes as well as on-street parking. The uni-directional bicycle lanes were separated using painted buffers, as well as both bollards and planters. Results from the pilot were studied during an 8 month period from 2014 to 2015, and revealed increases in cyclist counts from 529 to 1573 on Adelaide Street and from 504 to 1296 on Richmond Street. The perceptions of safety and comfort were also improved, as cyclists rated the streets 3.6/10 before cycle tracks were implemented and 8.3/10 after, and drivers rated it 5/10 before and 8.2/10 after. Furthermore, travel times decreased up to 30% after the first phase of the pilot.



Adelaide Street before and after cycle tracks were implemented



Along Adelaide Street, bicycle lanes are buffered by bollards and planters

## **Hillsborough Street, Raleigh, NC**

Hillsborough Street, a major arterial road, plays a significant role in the city's identity, being one of the four main streets identified in the 1792 plan for Raleigh. It borders two historic residential neighbourhoods as well as the north side of the North Carolina State University campus, and is home to a lively strip of unique businesses. Prior to its renewal, Hillsborough was subject to high volumes of travel, high speeds, and congestion. Studies had shown that Hillsborough Street had the highest number of repeated bicycling collisions between 2000 and 2006, with 26 recorded collisions. As such, the street was deemed to be the highest priority roadway requiring bicycling improvement. Through a community public consultation process, priority issues along the Hillsborough corridor were identified as high pedestrian crash rates, traffic congestion, lack of on-street parking, and lack of bicycle infrastructure. From these priority issues, the two goals of the reconstruction project were formed: to make the street safe for all users, and to transform it from a thoroughfare into a destination.

Construction for Phase 1 of the renewal project began in 2009 and was completed in 2010. Improvements to the street included a road diet that reduced four vehicle travel lanes to two, roundabouts, on-street parking, bicycle lanes adjacent to the parking to create a buffer, raised medians, 8-14 feet wide brick paver sidewalks with curb extensions at intersections, pedestrian crossings with median refuge islands, pedestrian scale LED street lighting, and streetscape infrastructure such as landscaping, street furnishing, and bicycle racks. After the Phase 1 renewal, there was found to be a 23% reduction in pedestrian-related car collisions, increased pedestrian traffic on the street, increased customer traffic to local businesses, reduced motorist speeds, decreased traffic volumes, increased private business investments in the area, and increased sense of security and beauty along the corridor.

The City of Raleigh's complete streets projects are supported by policies with their Comprehensive Plan for 2030. Included below is a complete streets policy from this Plan as an example of how a similarly phrased policy can be adopted in the City of Windsor in the future:

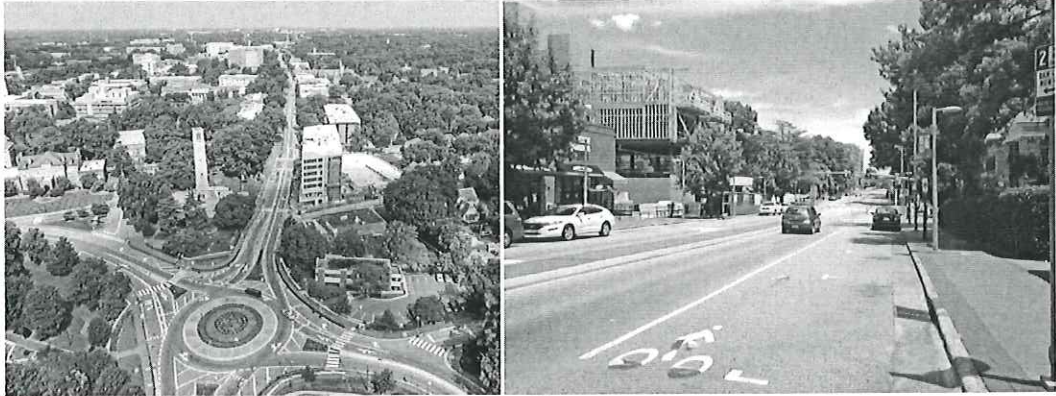
### *Policy T 3.1 Complete Street Implementation*

*For all street projects and improvements affecting the public right-of-way, consider and incorporate Complete Street principles and design standards that provide mobility for all types of transportation modes (pedestrian, bicycle, auto, transit, freight) and support mutually-reinforcing land use and transportation decisions. Work with NCDOT to implement these design standards for state-maintained roads within the City's jurisdiction.*





Hillsborough Street before and after reconstruction



Hillsborough Street after Phase 1 reconstruction



## MISSION

Bike Windsor Essex is a member-based advocacy group representing all bike lovers in Windsor and Essex County, to help make our region safer and more bike friendly.

## GOALS

Bike Windsor Essex's advocacy efforts are grounded in what we hear from our members and the broader community. We are knowledgeable about best practices and share our knowledge and make bike-friendly recommendations to government agencies and related organizations.

## BIKE RIDE & PICNIC

11AM - 1PM

OCTOBER 2017

7<sup>TH</sup>

15<sup>TH</sup>

21<sup>ST</sup>

28<sup>TH</sup>

29<sup>TH</sup>

Watch our website for details!  
[bikewindsor.essex.com](http://bikewindsor.essex.com)



bike windsor essex





**Windsor Bicycling Committee – February 2013**  
**REVISED**  
**Mandate and Terms of Reference**

**Preamble**

The current Windsor Bicycling Committee was originally established in 1987 as the Bikeways Ad Hoc Steering Committee whose main role was to advise City council on matters pertaining to the establishment of a network of recreational and commuter routes for cyclists in the City of Windsor. The group worked closely with all levels of the City's administration to develop an implementation plan. This resulted in the Bicycle Use Development Study, prepared by Victor Ford & Associates. This plan was adopted in principle by City Council in late 1990.

Since the bicycling study was approved by Council a number of the proposed routes have either been constructed or incorporated into plans for future developments. The Bikeways Ad Hoc Steering Committee changed its name to the Windsor Bicycling Committee during 1991 and has expanded its mandate accordingly.

**1. Mandate**

The purpose of the Committee is to enhance the safety and viability of bicycling in the City of Windsor. It acts as an advocate for the growth of bicycling as a form of recreation and transportation that is affordable, energy efficient, non-polluting, quiet, and promotes fitness. The committee acts as an effective advisor to Council and City departments on matters relating to bicycling in Windsor.

**2. Composition**

The Windsor Bicycling Committee shall consist of a maximum of 9 voting members and non-voting resource members.

**3. Appointment and Term**

Windsor City Council shall appoint the members of the Windsor Bicycling Committee.

The term of Committee membership shall be established by Windsor City Council and is currently approved to be the same as the term of Windsor City Council (4 years). A Committee member may be offered and accept consecutive terms subject to the approval of Windsor City Council.

A Chairperson and Vice Chairperson shall be chosen by a majority vote of the Committee members. The position of Chairperson and Vice Chairperson shall be held for the same term as the Committee member term. At the expiration of the term, the outgoing Chairperson and Vice Chairperson may, subject to the approval of Windsor City Council, remain as a Committee member and may be nominated for the position of Chairperson and Vice Chairperson for consecutive terms.

#### **4. Education and Information**

- Increase public awareness of cycling – [www.cyclewindsor.ca](http://www.cyclewindsor.ca) website, events which include Bike the Bridge, Bike to the Fireworks, Ride your Bike to Work
- Promotion of cycling facilities and programs developed by the city, or by groups within the city
- Development and/or promotion of cyclist education courses, in liaison with Windsor Police Services, schools and other groups
- Education/public awareness campaigns for motorists
- Recruitment of those with skills in these areas to volunteer or to train others

#### **5. Fundraising**

***The Committee may coordinate partnership funding by collecting funds from organizations (derived from various events) with any surplus funds that may be collected to be utilized towards cycling infrastructure, supplies and equipment (i.e. bicycle racks).***

#### **6. Vacancy**

The Committee may, but is not required to, recommend persons to fill a vacancy if such recommendation is approved by a majority vote of the members present. A vacancy, and any recommended replacements shall be reported by the Chair of the Windsor Bicycling Committee to Windsor City Council. Windsor City Council shall appoint a replacement for the unexpired term of the vacant position.

#### **7. Absenteeism**

Any member who is absent from three consecutive meetings without the express approval of the Committee given at a scheduled meeting will be deemed to have resigned from the Committee at the end of the third meeting.

Any member who is absent from 30% of the meetings during any one calendar year without the express approval of the Committee given at a scheduled meeting will be deemed to have resigned from the Committee.

Any vacancies resulting from absenteeism will be filled pursuant to Item # 4 of this Terms of Reference.

#### **8. Quorum**

The quorum of the Windsor Bicycling Committee is 5 voting members.

#### **9. Frequency of Meetings**

The Committee shall hold a minimum of 4 (four) meetings in each calendar year.

#### **10. Conduct of the Meeting**

Meetings shall generally be guided by the following:



- (i) The order of business shall ordinarily be as set out in the Agenda, except that the items may be taken up out of order or added to the agenda at the discretion of the Chair by a majority vote of the members present.
- (ii) All decisions of the Committee shall be made by resolution approved by a majority vote of all members present.
- (iii) The Chair shall generally conduct the meeting in accordance with standard Rules of Procedure.
- (iv) In the event of absence of the Chair, the Vice-Chair shall chair the meeting.
- (v) In the event of absence of the Chair and Vice-Chair, a person chosen by a majority vote of the members present shall chair the meeting provided a quorum is present.
- (vi) A person or persons may be invited to one or more Committee meetings as additional resource to discuss and provide guidance, input or information relevant to a specific subject matter under discussion by the Windsor Bicycling Committee provided the invitation is approved by a majority vote of the members present.

## **11. Agenda and Minutes**

An Agenda will be provided prior to each meeting. Committee members may suggest items for the agenda to the Chair who may direct that item to be scheduled.

Minutes shall be taken of all meetings of the Committee and shall be distributed as soon as possible to all Committee members.

All matters related to recording and distributing the Minutes shall comply with the City of Windsor policies governing the recording and distribution of the Minutes of a Committee of City Council.

## **12. Advocacy and Monitoring**

- Monitor City, Provincial and Federal Governments and their committees, departments and agencies, in order to support pro-cycling measures.
- Maintain liaison with other groups such as the Ontario Cycling Association, Bike Windsor, Share the Road Cycling Coalition and Michigan Trails & Greenways Alliance.