

## **Improving Safety for Bicycle Commuters in Toronto**

<b>Date:</b>	June 21, 2013
<b>To:</b>	Board of Health
<b>From:</b>	Medical Officer of Health
<b>Wards:</b>	All
<b>Reference Number:</b>	

### **SUMMARY**

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In September 2012, the Board of Health (BOH) considered a letter from Councillor Mihevc that raised concerns about the safety of commuter cyclists in Toronto. The BOH asked the Medical Officer of Health to identify priority actions the City could take to improve bicycle commuter safety in the city, with particular attention to actions that could be implemented quickly and easily.

Commuting by bicycle supports individual health and reduces the risk of many chronic diseases. While injuries and fatalities among bike commuters are a serious concern, research evidence indicates that the health benefits of cycling outweigh the risks. Appropriate infrastructure, policy, enforcement, and education are all important for providing a safe cycling environment. Changes to the built environment such as adding bike lanes or traffic calming can improve safety for cyclists and should be implemented in a way that supports continued improvement of a co-ordinated, connected cycling network. A policy for accommodating cyclists in construction areas and enforcement of existing provincial and municipal regulations designed to keep cyclists safe can also reduce unnecessary risk of injury. Finally, education for all road users including motorists will enhance safety by improving skills, confidence, knowledge of the "rules of the road" and mutual respect.

### **RECOMMENDATIONS**

**The Medical Officer of Health recommends that:**

1. The Board of Health forward this report to the General Manager of Transportation Services and the Chief Planner and Executive Director, City Planning, and request their collaboration with the Medical Officer of Health to ensure that up to date health evidence on the safety of specific cycling infrastructure and road design

- features be considered in the development of Complete Streets Guidelines for the City of Toronto;
2. The Board of Health forward this report to the General Manager of Transportation Services and request he collaborate with the Medical Office of Health when developing recommendations related to implementing a 1-metre passing rule between vehicles and cyclists;
  3. The General Manager of Transportation Services be requested to
    - a. review the City's current policies and practices for ensuring the protection of cyclists in construction areas and to develop a new comprehensive policy/guideline for ensuring the protection of cyclists in such areas, including: giving notice, advisory signage, temporary pavement marking, storage of construction materials and detour routes, where appropriate, to ensure clear communication to all road users about construction-related cycling hazards and how to reduce them;
    - b. review the “Watch for Bikes” bylaw and program with a view to assessing effectiveness and indentifying potential improvements;
  4. The Board of Health urge the Ministry of Education in collaboration with the Ministry of Transportation and the Ministry of Health and Long-Term Care to develop and include bike safety courses as part of the provincial elementary and high school curriculum;
  5. The Board of Health urge the Ministry of Transportation in collaboration with the Ministry of Education and Ministry of Health and Long-Term Care to ensure cycling safety and information are included in driver training materials and provide information about sharing the road safely to existing drivers when renewal notices are sent out for driver’s licences;
  6. The Board of Health forward this report to Toronto Police Services for their consideration in enforcement of existing regulations to protect cyclists;
  7. The Board of Health forward this report to the Toronto Centre for Active Transportation, Cycle Toronto, Canadian Automobile Association (South Central Ontario), Ontario Trucking Association, the Toronto Area Safety Coalition, the Share the Road Cycling Coalition, and the Cities Centre at the University of Toronto.

### **Financial Impact**

There are no financial implications arising from the adoption of this report

### **DECISION HISTORY**

In April 2012, Toronto Public Health released the Road to Health

(<http://www.toronto.ca/health/hphe/pdf/roadtohealth.pdf>), which outlined the risks and

benefits associated with walking and cycling in Toronto. In June 2012, the Office of the Coroner released a review of all cycling deaths that occurred in Ontario from 2006-2010 ([http://www.mcscs.jus.gov.on.ca/english/DeathInvestigations/office\\_coroner/PublicationsandReports/CyclingDeathReview/DI\\_Cycling\\_Death\\_Review.html](http://www.mcscs.jus.gov.on.ca/english/DeathInvestigations/office_coroner/PublicationsandReports/CyclingDeathReview/DI_Cycling_Death_Review.html)). Both made a series of recommendations about policy, infrastructure, and education changes that should be implemented to improve safety for cyclists and encourage cycling.

In September 2012, the Board of Health (BOH) considered a letter from Councillor Mihevc that raised concerns about the safety of commuter cyclists in Toronto. The BOH asked the Medical Officer of Health to identify, from a health perspective, specific priority actions that the City should undertake to improve commuter cycling safety in Toronto, with particular attention on relatively low cost measures that can be implemented in a timely manner (<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.HL16.10>).

In April 2013, City Council directed the General Manager of Transportation Services to provide recommendations for municipal by-laws necessary to ensure the safe and equitable use of Toronto's roadways by cyclists and other road users, as part of the by-law review process recommended by the Ontario Chief Coroner's report on Cycling Deaths (<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW21.11>).

In May 2013, City Council requested the Deputy City Manager, Cluster B, in consultation with the General Manager, Transportation Services and the Chief Planner and Executive Director, City Planning, to develop Complete Streets Guidelines for the City of Toronto. Later the same month, Executive Committee requested that the General Manager of Transportation Services report back to the Executive Committee on the possibility of amending the Municipal Code to include the safe passing guidelines of 1 metre between cyclists and vehicles. This report will be completed once the Province has made a decision on this issue.

(<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.PW22.10>)

(<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.EX32.24>)

## **ISSUE BACKGROUND**

Bicycle commuters include children and adults who use bicycles for transportation to destinations such as school or work. For people who live within a few kilometres of their destinations, commuting by bicycle is an easy way of integrating physical activity into their daily life. Regular physical activity helps prevent and control chronic disease risk factors such as high blood pressure, high cholesterol, type 2 diabetes, osteoporosis, certain types of cancer and obesity. When people add more activity, they are less stressed, have higher energy levels and are more likely to make healthy lifestyle choices.

People who use cycling as transportation also have lower transportation costs, limit their contribution to transportation-related air pollution, and ease the congestion burden on roads and transit in Toronto.

However, cyclists account for more than their share of fatalities and injuries in Toronto (City of Toronto Traffic Safety Unit 2011):

- they represent 4% of all fatalities and 6% of all injuries from collisions, despite a cycling mode share of less than 2%;
- This translates to over 1,000 cyclists injured in collisions with motor vehicles in an average year in Toronto;
- In 2010, 39% of collisions involving cyclists led to visits to hospital and 3.3% led to hospitalization for injuries.

## COMMENTS

Appropriate infrastructure to support cycling, complemented by thoughtful policy, enforcement, and comprehensive education is the best way to increase mode share and improve cyclist safety.

### Safety in Numbers

Although it may not be intuitive, one way of improving cycling safety is to increase the number of people riding. The “safety in numbers” effect reflects evidence that as the numbers of cyclists increase, there are fewer collisions and injuries per rider. This is attributed to a greater awareness of cyclists on the part of drivers (Toronto Public Health, 2011). As a result, all actions to improve or encourage cycling are part of a positive feedback loop: more people are likely to ride when there is safe infrastructure to support them. At the same time, when more people ride bicycles, safety improves for all riders – and soon more people feel comfortable riding.

This feedback loop may already be in motion in Toronto. Between 1999 and 2009, the number of Torontonians who reported cycling for transportation increased by 20% (City of Toronto, 2010). Over a similar time period, 2000-2009, rates of collisions and fatalities involving cyclists decreased in Toronto (See Table 1).

**Table 1: Reductions in collisions, collision rates, and fatalities for cyclists<sup>1</sup>**

	Percent reduction 2000-2009
Total number of collisions	10%
Collisions / 100,000 population	12%
Collisions / 1,000 commuters <sup>2</sup>	33%
Number of cyclist fatalities (5-yr average)	43%

<sup>1</sup> Extracted from Toronto Public Health, 2012; Based on Data from City of Toronto Traffic Safety Unit (2011a, 2011b) and City of Toronto (2003).

<sup>2</sup> Number of commuters for 2000 and 2009 are based on the 2001 and 2006 census, respectively

### Perception Affects Behaviour

Despite these reductions in collisions involving cyclists, concerns about the risk of cycling in Toronto remain high. A 2009 survey of cycling attitudes and behaviours, ranked cycling safety as the highest cycling-related concern in Toronto (City of Toronto, 2010).

When people do not feel safe, they may not be willing to ride a bicycle in the City. Research shows that both real and perceived safety concerns about vehicle traffic and

road conditions are important factors when people make a choice to ride a bike instead of using other less active modes of transportation such as a car (Winters et al., 2012; Stantec and Vandermark in Road to Health, 2011). A recent poll found that 81% of Torontonians believe that more people would ride bikes if there was more and better cycling infrastructure such as protected bike lanes and paved shoulders (STRCC, 2013). Often, perceptions of risk correlate well with observed risks, but sometimes perceptions about risk may persist even in cases where the level of danger is relatively low (Preston, 1990).

If real and perceived barriers can be overcome, there is a high potential for mode shift towards cycling. It is feasible that many more people in Toronto could ride bicycles to their destinations. An estimated 55% of trips made in Toronto are 7 km or less (Toronto Public Health 2012). While such distances are easily bikeable (or even walkable for the shorter distances), only 7.1% of trips for all purposes are made by walking (Toronto Public Health, 2012), and 7% are made by cycling (STRCC, 2013). The choice to use a less active mode persists even in areas such as the downtown, where the high density of destinations makes it very common to use active transportation. In 2012, Toronto's Smart Commute program found that while 30% of people working for downtown employers targeted by Smart Commute live within walking/cycling distance to work, only 10% walk or cycle. These choices are made despite a desire to ride in the City: recent data indicates that 69% of Torontonians would prefer to cycle more often (STRCC, 2013).

Actions to overcome safety issues and address concerns that cycling is unsafe should result in significant health benefits. Even when the risks from injury and exposure to air pollution are considered, the health benefits of shifting to active transportation are 15 times greater than the risks. For example, individuals who shift from cars to bicycles gain an estimated 3-14 months of life due to the beneficial effects of increased physical activity (de Hartog, 2010).

### **Safer Infrastructure for Cycling in Toronto**

Toronto cyclists need a continuous, connected set of routes that feel safe and enable them to reach their destinations. In general, safer routes can be achieved by creating protected spaces for cyclists and reducing vehicle speeds. For example, recent research conducted in Toronto and Vancouver suggests that the safest environments for a cyclist include separated cycle tracks alongside major streets, residential street bike routes with traffic diversion, bike lanes on major streets where there are no parked cars, off-street bike paths, intersections with motor vehicle speeds below 30 km/h, and residential street intersections. Factors that increase the risk of injury to cyclists include streetcar or train tracks, downhill grades, construction, and parked cars (Teschke et al 2012, Harris et al 2013).

There is also evidence that slowing traffic can reduce the severity of collisions that do occur (Toronto Public Health, 2011). Traffic calming uses physical treatments such as traffic islands, road narrowing, speed bumps, and even innovative uses of landscaping and pavement markings to reduce vehicle speeds. Such treatments are effective in reducing collision rates but must be designed with cyclists in mind, as some options such as "bump-outs" can bring cyclists into the line of traffic, increasing risk (NCCHPP,

2011). Creating slow streets or slow zones can sometimes be achieved at relatively low cost by changing signage and implementing simple visual cues to slow vehicles.

Some of the options for improving cycling infrastructure are outlined in Table 2, along with their costs. Selecting an approach to use should be done in a way that identifies the safest infrastructure possible given the local context and conditions. Information to be considered may include road width, traffic volume and speed, history of collisions, potential to improve network connectivity, alternative routes available, and cost. As well, improvements must be considered with a view to improving the connectivity and appeal of the overall network. For example, cycle tracks represent an “ideal” cycling environment because they achieve maximum separation between cyclists and vehicles and make cyclists feel safe. However, they are very expensive to build and it is not always feasible to implement them in Toronto's narrow downtown streets.

Some infrastructure changes can be low cost but make a big difference in the potential for commuting. The lower-cost options in Table 2 include pavement markings such as bike boxes and intersection markings which define a safe space for cyclists and provide clarity for all road users about who belongs where on the road.

Maintenance of existing facilities through improving pavement quality is another low cost tactic to increase cycling (Dill, 2013) and improve safety. Similarly, in Toronto, cycling advocates indicate that the standard of service for snowplowing of city roads does not meet the needs of cyclists using on-street bicycle lanes. Given that bike lanes account for only about 113 km of the City's 5,300 km road network, it may be reasonable to ensure standards of service are met to ensure the lanes are free and clear from snow.

Medium-cost options include those which make some change to the roadway without requiring major reconstruction or retrofit. This includes implementing bicycle lanes by reconfiguring a 4-lane road to three lanes which provides dedicated space for cyclists. Options such as revision curb radii and building raised intersections are designed to slow vehicles, to reduce the frequency and severity of collisions.

The highest-cost options are those which require significant road reconstruction or reconfiguration. Because reconstruction is so expensive, it is logical to incorporate considerations of cyclist needs into any road construction or reconstruction projects that are already being planned for the City. In this way, the cycling infrastructure becomes relatively less expensive compared to the overall road improvement.

In May 2013, City Council asked that Transportation Services develop Complete Streets Guidelines for the City of Toronto. A Complete Street is designed and operated to enable safe access for all users including pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities. Implementing such guidelines would ensure that cyclist safety is considered during any construction or reconstruction of Toronto's transportation network. It is important that the guidelines consider the wealth of recent health evidence that has been published about the benefits and risks of alternative road designs. This includes information about how to encourage active transportation including how to improve perceptions of safety, as well as how to reduce risks of injury.

At the same time, it is important that ongoing efforts to actively expand the bikeway network where appropriate are continued even when new construction is not being considered. Recent additions include facilities such as bike boxes and Toronto's first cycle track along Sherbourne Street.

Despite the costs associated with implementing cycling infrastructure, even the most expensive cycling infrastructure is far less costly than maintaining some highways or building new transit. For example, renewing the Gardiner expressway is projected to cost an average of \$33 million per kilometre (<http://www.toronto.ca/legdocs/mmis/2013/pw/bgrd/backgroundfile-57200.pdf>). In 2008, Metrolinx estimated the cost of building new bus rapid transit at \$25-50 million per kilometre, light rapid transit at \$35-150 million per kilometre depending whether it is above or below ground, and subways at \$250-\$300 million per kilometre, not including the costs of the bus, LRT, or subway cars (Metrolinx, 2008).

Furthermore, there may be a new source of funding in sight to support expansion of safer cycling infrastructure in Toronto. Metrolinx has proposed that 25% of the \$2 billion to be raised each year to fund regional transit expansion would be allocated to local municipal transportation priorities, and outlined a preliminary allocation that would dedicate 5% of this – or \$25 million - to active transportation and transportation demand management.

**Table 2: Sample Approximate Costs for Cycling Infrastructure<sup>i</sup>**

Item	Description	Approximate Cost	Source
<i>Lower Cost</i>			
Signed bike route on quiet residential street	Provides quiet route, possibly as alternative to busy arterial	\$2,000/km	ii
Bike box	A right-angle extension to a bike lane allowing cyclists to get ahead of traffic on a red traffic signal and proceed first when it changes to green. Eliminates conflicts between right-turning vehicles and a right-side bike lane.	\$2500 ea.	iii
Intersection markings	Reduces crashes at intersections by creating separated space for bicyclists and increasing awareness and safe behaviours by cyclists and motorists.	\$1500 - \$2500 per lane/right-hand turn combination	iii
Conventional bicycle lanes by adding bike lane markings and signs	Creates a preferential or exclusive space for bicycle travel along a street	\$7,500/km	iii
<i>Medium Cost</i>			
Revisions to curb radii	Slows right-turning vehicles to reduce chances of collisions with cyclists	\$5,000 to \$40,000	iii
Contraflow bike lane	A bicycle lane counter to the normal flow of traffic to improve connectivity and reduce wrong-way riding	\$3,100 - \$31,000/km	iii
Specialized intersection signals	May include enabling activation by cyclists, specialized signals, or to optimize timing and phases for cyclists	\$30,000 to \$140,000 per intersection	iii
Raised intersections	Reducing speed to reduce the severity of any collisions that may occur	\$25,000 - \$75,000 per intersection	iii
Lane conversion from 4 lanes to 3 to add conventional bicycle lanes	Reduces traffic volume and creates designated space for bicycle travel along a street	\$35,000 / km	ii
<i>Higher Cost</i>			
Conventional bicycle lanes in conjunction with a new road or road reconstruction	A preferential or exclusive space for bicycle travel along a street, usually designated by striping and/or signs.	\$300,000/km	ii
Conventional bicycle lanes by retrofitting or widening existing road		\$700,000/km	ii
Uni-directional cycle track - retrofit existing roadway	Paved path separated from major or minor streets by a physical barrier such as a curb or barrier. Creates a preferential space for bicycle travel that is physically separated from traffic.	\$500,000 - \$1,200,000/km	ii
Two way cycle track - retrofit existing roadway		\$500,000 - \$1,000,000/km	ii

<sup>i</sup> Actual costs need to be based on location specific designs, scale of modifications to existing road and boulevard features and should reflect current market prices based on actual tenders (which fluctuate from year to year).

<sup>ii</sup> Marshall Macklin Monaghan Ltd. Costs are “blended unit prices” and are intended for budgeting purposes only. Data provided to City of Toronto staff and used with permission.

<sup>iii</sup> U.S. Dept of Transportation, 2006. Bike Safe: Bicycle Countermeasure Selection System. Available from <http://www.bicyclinginfo.org/bikesafe/downloads.cfm#content>



Sometimes, the barriers to obtaining active transportation infrastructure improvements extend beyond funding challenges. Toronto Public Health and Transportation Services are currently collaborating on “Active Transportation Demonstration Projects”. These projects explore improved access to safe infrastructure to support walking and cycling in several Toronto neighbourhoods. In addition, they will investigate the feasibility of implementing area-wide changes (such as slow zones) within Transportation Services’ existing budgets and processes. The project will identify barriers to implementing new infrastructure and will examine strategies to make access easier and more efficient for under-served communities.

In addition to considering the extensive evidence that bicycle infrastructure improves safety, it is important to recognize that the public believes that bicycle infrastructure offers protection from traffic. This belief is likely to affect their choice to ride a bicycle. The 2009 Toronto Cycling Survey reported that improvements in safety-related infrastructure such as more bike lanes, paths and safer road conditions are the most likely to influence peoples' choice to use cycling as their primary mode of transportation (City of Toronto 2010). Thus, improved infrastructure is likely to encourage more people to ride, which indirectly improves safety by contributing to the safety in numbers phenomenon.

## **Regulations and Enforcement to Support Safe Cycling**

A number of actions that create safety risks for cyclists are illegal. For example, motorists who stop in bicycle lanes create risks for cyclists who are forced to merge into moving traffic to get around the stopped vehicle. When drivers open car doors without first checking for cyclists, approaching riders may not have time to react, and collide with the door (often referred to as "getting doored").

Toronto’s Municipal Code prohibits stopping in bike lanes and Section 165 of the Ontario *Highway Traffic Act* requires motorists to check for traffic (including cyclists) before opening their car door. As well, a 2005 City bylaw mandates that every taxicab owner must equip his or her cab with three "Watch for Bikes" stickers - one on the driver’s side mirror and one on each rear passenger window.

In response to the recommendations in the Chief Coroner’s 2012 *Coroner’s Cycling Death Review*, the Province is exploring possible amendments to the *Highway Traffic Act* to protect cyclists, including implementing a 1 metre passing rule between cyclists and vehicles. Once the province makes its decision, Transportation Services will report to Executive Committee on the possibility of amending the Municipal Code to include safe passing guidelines to protect cyclists.

Some cyclist groups indicate that enforcement of regulations should be improved. A past challenge for enforcement was that there were different bylaws in place across the Toronto, depending on what regulations were in place among the former municipalities of Toronto. A process to consolidate various pre-amalgamation By-laws from the former City of Toronto, Etobicoke, North York, Scarborough, East York, York, and Metropolitan Toronto was recently completed, and the new bylaw will be implemented once the set fines are determined. Having a set of harmonized bylaws across the City may

facilitate enforcement. Additionally, Transportation Services was recently requested by City Council to provide recommendations for municipal by-laws necessary to ensure the safe and equitable use of Toronto's roadways by cyclists and other road users.

Such safe and equitable use of the roadways requires a balance in enforcement, as illegal cycling actions can also create safety risks for cyclists. Cyclist actions such as running red lights, stop signs, passing right on a right turning vehicle, or riding on the sidewalk are also illegal. These actions put other riders at risk by escalating road rage with other drivers or increasing the likelihood of a potential collision.

## **Improving Cyclist Safety Around Construction Zones**

Some issues are best dealt with through improved policy and process. Construction on city streets can create hazards for cyclists as a result of limited space, rough surfaces, and obstacles. On occasion, bike lanes are closed for long periods of time due to construction, and holes or ridges create hazards for cyclists who may be unable to see them unless they are clearly marked. In the past year TTC streetcar tracks have been stored in the College Street and Queens Quay East bicycle lanes, two of the City's busiest bicycle lanes, obstructing them for several months.

Much of the City's construction is carried out by contractors. City of Toronto specifications for maintaining traffic during construction require that safe and convenient facilities for bicycle traffic be provided and maintained through the area under construction.

([http://www.toronto.ca/techservices/pdf/conspecs/Standards\\_for\\_Roads\\_2010/List\\_T1\\_Standard\\_Specifications/TS\\_1.00.pdf](http://www.toronto.ca/techservices/pdf/conspecs/Standards_for_Roads_2010/List_T1_Standard_Specifications/TS_1.00.pdf)). Contractors are required to develop a Traffic Control Plan for construction sites, as stipulated in the Ontario Traffic Manual Book 7 – Temporary Conditions. These traffic control plans take are reviewed by staff and worksites are inspected to ensure they comply with the traffic control plans. However, a bicycle-specific guideline that complemented Ontario Traffic Manual Book 7 would assist both contractors and staff in developing more effective traffic control plans to meet the needs of cyclists.

Toronto Public Health could collaborate with Transportation Services conduct a best practice review of other leading bicycle friendly North American cities and develop a new guideline for ensuring the protection of cyclists in Toronto construction areas. This guideline would include a comprehensive set of issues including; giving notice, advisory signage, temporary pavement markings, storage of construction materials, detour routes, staff training, requirements for contractors, and safety messages for drivers and cyclists. The new guideline would ensure clear communication to all road users about construction-related hazards and how to behave in a way that is protective for cyclists.

## **Improving Bicycle Commuter Safety through Education**

Education for all road users including motorists and cyclists can improve safety for riders by improving skills, confidence, knowledge of the "rules of the road" and mutual respect.

Education targeted to vehicle passengers includes Toronto's *The Door Prize - "Watch for Bikes"* Campaign, which was launched in 2005 in partnership with the CAA and the

Toronto Parking Authority. Since then, the campaign has been copied and improved upon by other jurisdictions such as Chicago, which launched its new "*LOOK!*" campaign in March. It would be useful to review the approaches taken elsewhere and consider the effectiveness of Toronto's current approach and whether improvements could be made.

The City also provides information to support safe riding. Planning is underway for a new campaign on safely sharing the road with large trucks. As well, online resources describe the various types of bike infrastructure present in Toronto and how to use them, and the back side of the City's cycling map highlights information about safe cycling and the rules of the road. As well, Toronto Public Health provides resources to parents and children about how to walk and ride safely and launched a complementary media campaign in June 2013 (<http://www.toronto.ca/cycling/network/bikeway-design.htm> and <http://www.toronto.ca/health/injuryprevention/wheelsafety/biketips.htm>).

Education can also be targeted to specific groups such as motorists. The Ontario Medical Association identifies specific education gaps in the current Ontario Drivers' manual. This includes lack of information about intersection rules, lane sharing, pavement markings such as bike lanes or sharrows, and information about how to safely cross a bike lane. The manual does not address road-use etiquette for cars and bikes together (OMA 2011).

The provincial government indicated in their draft provincial cycling strategy that they will be updating the Ontario Driver's Manual. However, the Driver's Manual only reaches new drivers, who make up a fraction of road users in Toronto. It would be useful to target existing drivers who may not have been exposed to information about how to share the road safely with cyclists. Ontario could provide information about sharing the road safely when it sends out driver's licence renewal notices.

Schools are an ideal setting for introducing cycling skills and safety education as well as promoting the benefits of riding. A safe cycling program for grades up to 8 would provide students with an introduction to the roles and responsibilities of road users and the skills to ride to school safely. Such a curriculum could potentially be designed to prepare teenagers for parts of their driver's licence test.

Internally, the City of Toronto is making efforts to protect cyclist safety. The City recently adopted a Bicycle Safety Policy to protect the safety of employees who are expected or encouraged to use bicycles in the performance of their work. As part of the training and testing required to obtain a City driver's permit, Fleet Services promotes safe driving and sharing the road with cyclists to all staff who use a City-owned vehicle. The training covers topics such as rules and responsibilities under the *Highway Traffic Act*, tips for sharing the road with cyclists, safe passing, and the serious consequences of errors for cyclists and drivers. Fleet Services also issues Safety Bulletins on sharing the road with cyclists.

TTC bus operator training materials also make specific references to cyclists such as safe driving tips and information on how to share the road. TTC operators are also required to report collisions and near misses. However, City staff who use their own vehicles to carry

out City business are not required to complete any driver training related to safe driving with cyclists. City divisions whose employees use personal vehicles should encourage and support employees in obtaining such training.

The City of Toronto also co-ordinates the Smart Commute program, whose goal is to reduce the numbers of single-occupancy cars on the road. This program encourages cycling by working with over 35 downtown employers to improve end-of-trip facilities such as showers and secure bicycle parking and increase knowledge about cycling safety and bike maintenance and repair through offering almost 50 workshops, reaching almost 500 individual commuters. As of 2013, the Smart Commute program is being offered across the City of Toronto.

## **Planning for the Future**

Over time, new construction and development is completed in the city and new evidence and designs for cycling infrastructure continue to emerge. Important documents that guide the design and implementation of cycling infrastructure in the City include the Official Plan and the Bike Plan. Updates to these documents represent opportunities to strengthen supports for implementing safer bicycle infrastructure. The development of the Complete Streets Guidelines offers another avenue to integrate consideration of cyclists' safety into decisions about the City's transportation network. More importantly, these documents offer opportunities to articulate a path forward for creating safer cycling environments. This would encourage more people to ride in a city where surveys suggest that more people want to ride and that many trips are bikeable, but that many people currently do not feel safe reaching their destination on a bicycle.

Continuous improvement of the cycling environment can be achieved through better infrastructure, enforcement, policy, and education. These approaches can reduce the rates of bicycle collisions and injuries by encouraging more people to cycle and by addressing features of the City's transportation environment that are hazardous to cyclists.

## **CONTACT**

Monica Campbell  
Director,  
Healthy Public Policy  
Toronto Public Health  
Phone: 416-392-7463  
Email: [mcampbe2@toronto.ca](mailto:mcampbe2@toronto.ca)

Stephanie Gower  
Research Consultant,  
Healthy Public Policy  
Toronto Public Health  
Phone: 416-338-8101  
Email: [sgower@toronto.ca](mailto:sgower@toronto.ca)

## **SIGNATURE**

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Dr. David McKeown  
Medical Officer of Health

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