



REPORT FOR ACTION

Review of Temporary Conditions for Cyclists and Improvements to Safety

Date: February 13, 2017
To: Public Works and Infrastructure Committee
From: General Manager, Transportation Services
Wards: All

SUMMARY

The City of Toronto adopted a 10-year cycling plan in 2016 that proposed a citywide expansion of the cycling network by 525 centerline lane-kilometres and established three clear objectives:

- Connect the gaps in our existing Cycling Network;
- Grow the Cycling Network into new parts of the City; and
- Renew the existing Cycling Network routes, where there are opportunities to improve their quality.

Consistent with these goals and with national and international best practices, Toronto has added 23 lane kilometres of designated cycle tracks that comprise approximately 10% of the current cycling network. Cycle tracks are physically separated from the adjacent travel lanes and provide a more protected cycling facility that encourages riding by people of all ages and abilities.

Integrating the cycle track network into the existing street system not only requires physical retrofits of the street, but also updates to the bylaws and standards that direct access and management, including temporary conditions. These guidelines are intended to reduce unnecessary bicycle lane/cycle track closures, and ensure that conditions are maintained in a manner as safe as possible for all road users during temporary closures related to construction or filming work.

This report also clarifies the responsibilities of applicants submitting temporary closure permit requests to Transportation Services or the Film and Television Office within Economic Development, and provides guidance for permittees to avoid unnecessary bicycle lane/cycle track closures while maintaining safe conditions around construction and filming sites. The report:

- highlights the cycling-related guidance provided by the Ontario Traffic Manual (OTM) Book 7 -Temporary Conditions
- clarifies how the provincial guidance may be applied in a the context of Toronto's urban street network, fast-paced development cycle and high demand placed on curbspace use, and includes advisory regulatory signs and temporary pavement markings; and
- summarizes a review of seasonal cycle tracks as a temporary condition for cyclists.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. The Public Works and Infrastructure Committee receive this report for information.

FINANCIAL IMPACT

The recommendations in this report have no financial impact.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

On October 8, 2013, City Council adopted a staff report from the Medical Officer of Health HL23 "Improving Safety for Bicycle Commuters in Toronto" which requested the General Manager, Transportation Services to 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 the protection of cyclists in such areas.
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.HL23.7>

On August 25, 2014, City Council adopted a staff report PW 33.1 "Status Update: Improving Safety for Bicycle Commuters" which included a recommendation that the Ontario Minister of Transportation liaise with the staff working group on the Ontario Traffic Manual Book 7 to improve safety for cyclists in construction zones. On August 13, 2014, the Public Works and Infrastructure Committee requested that the General Manager, Transportation Services, in consultation with the Commissioner, Toronto Film, Television and Digital Media, examine the current practices with respect to film permit parking in bike lanes.
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PW33.1>

On May 28, 2015, the Public Works and Infrastructure Committee adopted PW5.10 and directed the General Manager, Transportation Services, to liaise with the General Manager, Economic Development, and the Executive Director, Engineering and Construction Services to develop a protocol to better address cycling infrastructure during road construction, road closures and bike lane closures. The Public Works and Infrastructure Committee further requested to include in this protocol the development of new construction condition practices as a supplement to the Ontario Traffic Manual Book 7 – Temporary Conditions, to better address urban cycling conditions and ensure safer conditions for cyclists during major construction and/or closures.
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.PW5.10>

At its meeting on June 9, 2016, City Council adopted in principle the Ten Year Cycling Network Plan and directed the General Manager, Transportation Services to report to the Public Works and Infrastructure Committee on the possibility of the use of seasonal cycle tracks in fourth quarter of 2016.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PW13.11>

COMMENTS

Temporary Work Zones for Construction and Filming

To inform the recommendations within this report on work zone protocol, internal stakeholders from Traffic Operations, Engineering and Construction Services and Economic Development - Film and Television Office were consulted. No major concerns were noted.

The cycling network provides a necessary network to transport the increasing number of commuters and recreational cyclists--both in the temperate and winter months. Cycling represents a significant and growing portion of Toronto's roadway network, encompassing approximately 2.2% of all trips city-wide.

At the same time as the City's cycling network expands, the overall demands on temporary use of curb space are also increasing. This is largely due to more intensive construction activity, the increasing success of Toronto's film industry, and an overall increase in employment and housing growth in downtown neighbourhoods that results in increased loading and drop off demands.

Temporary occupancy of the public right of way including roadways, boulevards, sidewalks, bicycle lanes and public laneways generally requires a street occupation permit. On a citywide basis, staff issue approximately 55,000 street occupancy permits annually that establish conditions for use of the right of way during new construction, ongoing state of good repair projects, and filming activities. Improvements to the review and management of these permits processes can be made to better maintain safe cyclist travel in and around temporary work zones.

Existing City Processes for Temporary Work Zones for Construction and Filming

Filming Permits

Permits for the use of the right-of-way for filming are issued by the Film and Television Office within Economic Development. Transportation Services is consulted on the proposed film permits, and processes were updated in 2016 to ensure that impacts to cycling facilities are considered and avoided or minimized as a result of film permits.

Construction-Related Permits

For construction related permits, the applicant applies to Transportation Services for a permit for the intended construction related to the delivery of City road works projects, utility works or private developments including some or all of the following:

- Site plan drawings

- If closures are required as part of the project, a detailed letter must be provided with the application that addresses how the public right of way will be used and a proposed work schedule must be provided for the duration of the closure.
- Specifications of these plans need to include all physical details of the site, including: trees, utility poles, sidewalks, parking meters, street vendor locations and street furniture.

The existing guidance does not highlight the need to indicate bicycle lanes, cycle tracks or bike parking.

Toronto Municipal Code Guidance

Applicants with a street work or temporary occupancy permit issued by Transportation Services are required to comply with the conditions as specified in the City of Toronto Municipal Code - Appendix A of Chapter 743 (Use of Streets and Sidewalks) as well as any other conditions that are specified by the General Manager, Transportation Services or the City Solicitor.

Elements of Appendix A of Chapter 743 (Use of Streets and Sidewalks) that are relevant to temporary conditions and cyclist safety through construction or work zones includes but is not limited to:

- All street work shall be performed in a manner that safeguards and protects all other equipment, facilities and improvements of any kind present in, on, over, under, across, or along the street and the environment (item 5);
- The applicant will take whatever steps are necessary to ensure the protection of the public (item 6);
- The applicant shall not unduly interfere with the use of the street for free passage by the public (item 7);
- The applicant shall make all necessary arrangements with traffic, police and fire authorities for the placing of barricades, notices, warning lights and signs and that all such barricades, notices, warning lights and signs shall conform with applicable law (item 8); and
- After completing any street work, the applicant shall restore and/or leave the street in substantially the same condition in which it was before such street work was undertaken by the applicant (item 13).

Public Information about Planned Closures

The Road Disruption Activity Reporting System (RoDARS) informs the public of planned roadway closures throughout the city. RoDARS Notification Forms are submitted by applicants following the acquisition of a Street Closure Permit and temporary road closures are approved by the appropriate City staff. Roadway restrictions and specific considerations are included in the application. However, information on bicycle lane/cycle track closures and impacts on these facilities are not identified.

Pre-construction or construction notices are generated for Major Capital Works in the City of Toronto and are another useful tool to provide information about temporary roadway conditions to the public. For these works, on-site signage may be a

requirement of the work zone in order to provide all road users with advanced information on conditions of the road ahead and any requirements for detour.

Provincial Guidance for Temporary Work or Construction Zones

The OTM Book 7 - Temporary Conditions provides basic uniform requirements for traffic control in work zones required for roadway or utility construction and maintenance operations on or adjacent to public highways including municipal streets.

When a temporary work or construction zone is planned, contractors are required to develop a Traffic Control Plan for construction sites which are reviewed by staff and once works are underway worksites are inspected to ensure their compliance with the approved plan.

In January 2014, the OTM Book 7-Temporary Conditions was updated to include "Cycling Safety Considerations". This recognized that specific traffic control and accommodation is required within work zones for cyclists and that under the Highway Traffic Act, cyclists have the same rights to safe passage as motor vehicles and should only be required to dismount and travel as pedestrians where absolutely necessary. When dedicated cycling facilities are affected or road conditions necessitate, special direction can be required for cyclists around the construction zone. These provincial guidelines provide the cornerstone for City of Toronto guiding principles for cyclist safety in work zones.

Section 2.6.3 of OTM Book 7 includes the following key points:

- Cyclists should be directed through the work zone where practicable.
- When a cyclist is directed through the work zone, consideration must be given to the surface conditions.
- Vertical discontinuities should be minimized.
- Where cyclists approach a work zone in a bicycle lane, it is preferable to maintain those facilities within the work zone, especially if cyclist volumes are high.
- Where cyclists approach the work zone in a shared curb lane, care should be taken to preserve an acceptable shared lane width through the work zone.
- In work zones where an alternating one-way traffic flow is controlled by a traffic control person or temporary signals, lower speeds should be considered to enable the cyclists to safely clear the work zone
- Detours do not require special signage for cyclists unless it is a bicycle specific detour.
- In some circumstances it may be the only option to require cyclists who are diverted onto a sidewalk to dismount and travel through the work zone as pedestrians, walking beside their bicycles.

Framework for Improving City of Toronto Guidance for Cycling Safety in Work Zones

Following review of existing standards, guidelines and processes, Transportation Services is proposing modifications that build on the provincial guidelines and provide a set of principles for application in the City of Toronto. This proposal is included as Appendix A - Guiding Principles for Cycling Safety in Work Zones.

Adapted to the urban context, these guidelines provide direction on how to treat cycling facilities with higher cyclist volumes as are common in Toronto's downtown core. It also takes into consideration features that are unique to Toronto streets including streetcar tracks.

To complement these guiding principles, several changes to existing City process will be made to improve accommodation of cyclists in work zones:

- **Details of existing cycling facilities as part of site plan submission** -this will aid in the review of impacts to cycling facilities during the intended construction. Closures that impact streets with designated cycling facilities will include specifics of how cyclists would travel during the proposed closure.
- **Inclusion in RoDARS Communication** - this will help to inform cyclists and appropriate City staff of any planned bicycle lane closures or disruptions and support messaging to the public to communicate about these closures.
- **Staff Education** - Education and training on both the OTM Book 7 - Temporary Conditions guidelines which include new sections on cycling facilities in work zones and the guidelines available in Appendix A of this report are important pieces to ensure that the guidelines are implemented consistently.

Seasonal Cycle Tracks

Transportation Services was asked to review peer city practices related to conversion of cycle track facilities during the winter months to other uses, including vehicle or parking lanes. The results of this review is outlined in the sections to follow.

Best Practice Review

Increasingly the North American trend is to provide for year-round cycling. Most major cities are looking at opportunities to improve winter maintenance practices, prioritizing winter clearing routes for cycling infrastructure, and encouraging residents through educational programs and promotional events to embrace winter riding as a viable means of transportation.

Staff reviewed policies and practices for winter maintenance for nine major North American Cities with winter weather similar to Toronto including New York City, Chicago, Washington DC, and Minneapolis from the USA as well as Montreal, Ottawa, Calgary, Winnipeg, and Hamilton from Canada.

All of these cities maintain year-round cycling facilities, particularly for separated cycling facilities closer to the city core. Some of these cities also maintain multi-use trails in winter. Most of these cities have winter maintenance policies in place or are in the process of developing policies which would establish specific guidelines and prioritization of maintaining the cycling network in winter. They also have existing priority snow clearing practices for a significant portion of their cycling network depending on the usage and connectivity.

Of the cities surveyed, only Montreal has a history of seasonal cycle tracks on some of its older routes which include the 1985 installations of cycle tracks on Boyer and

DeBrebeuf streets. These cycle tracks are operational from April 1 to November 15 and are converted to on-street parking during winter months. Interviews with Velo Quebec representatives noted that issues with Montreal's seasonal cycle tracks included:

- Cost of the removal and re-application;
- Discontinuities in the cycling network; and
- Delays in conversion between cycling facility and parking and confusion and frustration by all users as to whether it is cycle track or parking at particular times of the year.

In response to these concerns, the City of Montreal has had a policy since 2005 where all new cycle tracks are to remain year-round and are increasingly converting existing seasonal cycle tracks to those that are open year-round. Appendix B includes a detailed table with winter maintenance practices and policies for the nine North American cities mentioned above.

Current Winter Cycling Demand in Toronto

Demand for cycling in Toronto remains relatively high during winter months, with some studies showing that approximately 23% of Toronto cyclists continue to cycle in the winter. The Sherbourne Street Cycle Track experiences average usage in fair weather months of approximately 3,500 cyclists daily. The number of cyclists during November 2014 - March 2015 averaged between 590 and 1,088 daily with the highest daily total ranging between 1,147 and 2,052 during the same months.

Sherbourne Street Cycle Tracks - Average Daily Counts, November 2014 - March 2015

| Date | Northbound | Southbound | Total |
|---------------|-------------------|-------------------|--------------|
| November 2014 | 531 | 557 | 1,088 |
| December 2014 | 317 | 329 | 654 |
| January 2015 | 585 | 219 | 804 |
| February 2015 | 465 | 125 | 590 |
| March 2015 | 612 | 348 | 960 |

Sherbourne Street Cycle Tracks - Highest Daily Counts, November 2014 - March 2015

| Date | Northbound | Southbound | Total |
|---------------|-------------------|-------------------|--------------|
| November 2014 | 996 | 1,056 | 2,052 |
| December 2014 | 573 | 574 | 1,147 |
| January 2015 | 1,184 | 179 | 1,363 |
| February 2015 | 1,030 | 46 | 1,076 |
| March 2015 | 1,107 | 447 | 1,554 |

The Bloor Street East bicycle lanes at Castle Frank Road experience average usage in fair weather months of approximately 3,500 cyclists daily. The number of cyclists during November 2013 to March 2014 range from 587 to 1,452 cyclists daily with the highest daily total ranging between 800 and 2,171 cyclists per day during the same months.

Bloor Street East Bicycle Lane - Average Daily Counts, November 2013 - March 2014

| Month | Eastbound | Westbound | Total |
|---------------|-----------|-----------|-------|
| November 2013 | 718 | 734 | 1,452 |
| December 2013 | 292 | 340 | 632 |
| January 2014 | 169 | 296 | 465 |
| February 2014 | 163 | 424 | 587 |
| March 2014 | 191 | 450 | 641 |

Bloor Street East Bicycle Lanes - Highest Daily Counts, November 2013 - March 2014

| Date | Eastbound | Westbound | Total |
|-------------------|-----------|-----------|-------|
| November 4, 2013 | 1,063 | 1,108 | 2,171 |
| December 3, 2013 | 785 | 876 | 1,661 |
| January 14, 2014 | 489 | 535 | 1,024 |
| February 26, 2014 | 269 | 531 | 800 |
| March 11, 2014 | 603 | 592 | 1,195 |

Cost and Other Implications

Toronto is a leader in winter maintenance practices for cycling infrastructure. In June 2014, City Council approved an increased level of service beginning in the 2015/2016 season for winter maintenance of cycling infrastructure, including priority routes with appropriate signage, at a cost of approximately \$650,000.

The more heavily travelled cycling corridors in the downtown are prioritized for snow clearance and salting to a higher level of service than the road they are on or adjacent to. Plowing and salting of these priority routes is programmed to occur within 6-8 hours of a storm. Currently the cost to winter maintain one (1) kilometre of cycle track is approximately \$7,000.

The opportunity for cycle tracks to be converted to seasonal use only would be limited to those with easily removable separators such as paint and flexi-post bollards, including for example, the cycle tracks on Richmond Street and Adelaide Street. Cycle tracks with more permanent separators (such as curbs) like those on Sherbourne Street and Wellesley Street could not be converted to seasonal facilities.

The degree and harshness of winter weather varies significantly during the traditional winter months. Cost implications for removal of cycle tracks and re-instatement of travel lanes seasonally would be roughly \$77,000 per lane-kilometre annually. This includes removal/re-instatement of line markings and removal/replacement of bollards. Bylaw changes and removal or bagging of signage and bike signals would have to be put in place for routes that were no longer designated cycling facilities in winter months.

Conclusions

Cycling Safety in Temporary Conditions

Existing city processes and provincial guidance provide the basis for accommodating cyclists in and around temporary conditions on city streets. Staff have developed Guiding Principles for Cycling Safety in Work Zones along with minor modifications to current city practices to ensure the best conditions for cycling safety are met in these temporary conditions. This includes education on best measures and a collaborative approach among affected City divisions to ensure work zones are designed to meet all user needs.

Seasonal Cycle Tracks

Seasonal cycle tracks are not recommended. Cycling usage during the winter months in Toronto remains high, while analysis of practices at North American peer cities demonstrates provision of year round cycling facilities is the standard.

CONTACT

Jacquelyn Hayward Gulati
Acting Director
Transportation Infrastructure Management
Transportation Services Division
Tel: 416-392-5348
E-mail: jgulati@toronto.ca

SIGNATURE

Barbara Gray
General Manager, Transportation Services

ATTACHMENTS

Appendix A - Guiding Principles for Cycling Safety in Work Zones

Appendix B - Policies and Practices for Maintaining Cycling Facilities in Winter – Major North American Cities