



STAFF REPORT ACTION REQUIRED

Waterfront Trail - Proposed Contra-flow Bicycle Lanes on Waterfront Drive and Feasibility of Closing Gap on Lake Shore Boulevard West, between Norris Crescent and First Street

Date:	January 25, 2016
To:	Public Works and Infrastructure Committee
From:	General Manager, Transportation Services
Wards:	Etobicoke-Lake Shore, Ward 6
Reference Number:	P:\2016\Cluster B\TRA\TIM\pw16001tim.docx

SUMMARY

The Waterfront Trail stretches over 1,400 km along the shores of Lake Ontario, Lake Erie, Lake St. Clair, the Niagara, Detroit, and St. Lawrence Rivers. In Toronto, the Waterfront Trail exists mostly through a network of multi-use trails and residential streets. In a few areas, the trail runs along major arterial roads. The long-term goal is to relocate the Waterfront Trail from these arterial roads where possible, and provide a continuous route along dedicated cycling lanes, multi-use trails, and quiet streets.

This report seeks Council approval to install two cycling facilities along the Waterfront Trail in Ward 6 – a contra-flow bicycle lane on Waterfront Drive, from Marine Parade Drive to Palace Pier Court as well as a bi-directional cycle track on the south side of Lake Shore Boulevard West between Norris Crescent and First Street.

The proposed Waterfront Drive contra-flow bicycle lane responds to the Council request to consider provision of a parallel on-street route option for cyclists in tandem with trail improvements as a means of accommodating the increasing numbers of pedestrians and cyclists along the Waterfront Trail at Humber Bay Shores Park.

Second, a gap in the Waterfront Trail exists in Etobicoke between Norris Crescent and First Street where trail users must travel along busy Lake Shore Boulevard West. To close the gap and enhance the safety of the Waterfront Trail in Etobicoke, Council requested staff to study and report back on the implementation of cycling infrastructure along this stretch. The preferred alternative is a 1.4 km bi-directional cycle track on the south side of Lake Shore Boulevard West.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council approve the installation of an eastbound contra-flow bicycle lane on Waterfront Drive, from Marine Parade Drive to Palace Pier Court, as described in Appendix 1 – Amendments to Bicycle Lane and Cycle Track Designations, attached to this report;
2. City Council approve the installation of a bi-directional cycle track on the south side of Lake Shore Boulevard West, from Norris Crescent to First Street, as described in Appendix 1 – Amendments to Bicycle Lane and Cycle Track Designations, attached to this report;
3. City Council enact the traffic and parking regulation amendments associated with the above Recommendations 1 and 2 as described in Appendices 2 and 3 attached to this report;
4. City Council authorize and direct the appropriate City officials to take the necessary action to give effect to the amendments in Recommendations 1, 2, and 3 above, including the introduction of all necessary bills.

Financial Impact

The estimated cost to implement the cycling facilities included in this report is \$555,000 with the cost of the contra-flow bicycle lane being approximately \$5,000 and the cost to implement the cycle track being approximately \$550,000. Funds to implement both projects are available in the 2016 Capital Budget and 2017-2025 Capital Plan for Transportation Services (Cycling Infrastructure project).

The cycle track would require ongoing maintenance once installed. This maintenance service would include winter snow clearing to a level similar to the adjacent roadway and in line with the existing Waterfront Trail standards. During the spring, summer and fall periods sweeping would be required. A traditional sweeper cannot sweep a cycle track and therefore a smaller sweeper similar to one used by Solid Waste such as a "Hako" would be required to sweep at least once per week. Based on Transportation Services experience with similar facilities, annual winter maintenance costs are estimated at \$7,000 per lane-kilometer while annual sweeping costs are estimated at \$12,000 per lane-kilometer. The proposed 2.8 lane-kilometers of bicycle facilities contained in this report would result in an additional total annual maintenance cost of approximately \$46,000. Operating funds would be subject to the 2017 Budget process.

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

Decision History

City Council, at its meeting on June 6, 7 and 8, 2012, adopted Public Works and Infrastructure Committee (PWIC) Item 15.2 entitled "Bikeway Trails Implementation Plan", and in so doing requested the General Manager, Parks, Forestry and Recreation, in consultation with the General Manager, Transportation Services, to review the feasibility of improving the multi-use trail through Humber Bay Park to accommodate the increasing numbers of pedestrians and cyclists, including consideration of widening the existing multi-use pathway, constructing separate pedestrian and cyclist pathways and providing an on-street route option for cyclists. The proposed contra-flow bicycle lane on Waterfront Drive would serve as an on-street route option for cyclists.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.PW15.2>

PWIC, at its meeting on March 4, 2014, referred Item PW29.10 entitled "Feasibility of Closing Gap on Waterfront Trail - Etobicoke Section, Lake Shore Boulevard West, between Norris Crescent and First Street" to staff requesting a report considering the feasibility of implementing a bikeway facility along Lake Shore Boulevard West, between Norris Crescent and First Street, to connect the Etobicoke sections of the Waterfront Trail.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PW29.10>

Transportation Services provided a status report to the June 18, 2014 PWIC with an update on the ongoing investigation of filling the gap in the Waterfront Trail at Lake Shore Boulevard West and the consultation to date. A final report on a proposed solution was to be submitted to PWIC in the first quarter of 2015.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.PW32.6>

Issue Background

Waterfront Drive

The Waterfront Trail in Humber Bay Shores Park is located south of and parallel to Marine Parade Drive and Waterfront Drive. Redevelopment in southern Etobicoke along Lake Shore Boulevard West has created a vibrant Humber Bay Shores community which has led to a significant increase in usage along this section of the Waterfront Trail. As the trail is very popular with cyclists and pedestrians, there can often be crowding and there have been reports of user safety issues on this section of the trail.

Parks, Forestry & Recreation and Transportation Services have been working together to develop a strategy for improving walking and cycling opportunities in and along Humber Bay Park to mitigate conflicts that have resulted from increased activity along the trail. To complement the trail upgrades that are proposed for the Humber Bay Shores Waterfront Trail, Transportation Services is proposing to create alternate opportunities for cyclists to use routes parallel to the Waterfront Trail.

Transportation Services is proposing to install a contra-flow bicycle lane on Waterfront Drive, from Marine Parade Drive to Palace Pier Court (Appendix 4). The proposed

Waterfront Drive contra-flow bicycle lane responds to the Council request to consider provision of a parallel on-street route option for cyclists in tandem with trail improvements as a means of accommodating the increasing numbers of pedestrians and cyclists along the Waterfront Trail at Humber Bay Shores Park.

Providing a contra-flow bicycle lane on Waterfront Drive would enable both eastbound and westbound cyclists to legally bypass this congested section of trail on a parallel route, from Palace Pier Court to Park Lawn Avenue along Waterfront Drive and Marine Parade Drive.

Lake Shore Boulevard West

The Waterfront Trail between Norris Crescent and First Street currently requires cyclists to travel on Lake Shore Boulevard West in mixed traffic with high vehicle volumes, TTC buses and streetcars. This section of Lake Shore Boulevard West is primarily residential comprised of both single and low-rise multi-unit dwellings.

To close this gap and enhance the safety of the Waterfront Trail in Etobicoke, Council requested staff to study and report back on the implementation of improved cycling infrastructure along this section of Lake Shore Boulevard West.

Several design options were considered including uni-directional cycle tracks on either side of Lake Shore Boulevard West. Uni-directional designs would result in significantly more parking removals and challenges in providing for safe crossings of Lake Shore Boulevard West to continue along the Waterfront Trail.

The preferred design includes a bi-directional separated cycle track along the south side of the Lake Shore Boulevard West between Norris Crescent and First Street (Appendix 4). This design provides a safer connection for Waterfront Trail users and is the option preferred by residents. This design supports both eastbound and westbound cyclists on the same side of the road and will remove the requirement for westbound cyclists to cross Lake Shore Boulevard West to continue along the Waterfront Trail.

COMMENTS

Waterfront Drive

Waterfront Drive is a one-way local road operating in the westbound direction, connecting Marine Parade Drive and Palace Pier Court. Stopping is prohibited at all times along both sides of the street.

An eastbound contra-flow bicycle lane on Waterfront Drive, from Marine Parade Drive to Palace Pier Court, would enable cyclists to safely and legally travel in both directions. There would be no impact on parking or traffic operations as a result of the installation of this proposed contra-flow bicycle lane. The existing one-way operation of Waterfront Drive would be maintained for general traffic.

The proposed cross-section is included in Appendix 5.

Public consultation meetings have been conducted with involvement from the local ward Councillor. At consultation events, the community participants were generally supportive of the proposed contra-flow bicycle lane on Waterfront Drive.

Lake Shore Boulevard West

On Lake Shore Boulevard West, a physically separated bidirectional cycle track is proposed on south side of the roadway between Norris Crescent and First Street.

The width of the existing eastbound curb lane varies between 6.7 and 7.0 m and can accommodate a 3.5 m bidirectional separated cycle track including a buffer varying between 0.7 and 1.1 m wide while still maintaining the full 3.3 m eastbound vehicle travel lane. This project would not have any impact on traffic operations as no travel lanes will be impacted. The installation of the cycle track would require the elimination of approximately 80 on-street parking spaces on the south side of Lake Shore Boulevard West. Parking studies done in 2014 and 2015 demonstrated very low demand for these parking spaces.

A variety of barrier types would be installed in order to physically separate the cycle track from the eastbound vehicular lanes. Barrier types include a low concrete wall, concrete curbs, bollards, planters, and painted buffer zones to be installed where best suited for specific locations along the cycle track. Gaps in the barriers would maintain access to residential and commercial driveways as well as provide a means for cyclists to enter and leave the cycle track where necessary. Further details on barrier types are outlined in Appendix 6.

The three TTC bus and streetcar stops along this section of Lake Shore Boulevard West would be modified with the installation of accessible ramp platforms to allow safe boarding of passengers. The project and design elements have been presented to the TTC Accessibility Committee and their feedback has been incorporated into the design. Further details on the proposed transit platform design are included in Appendix 6.

This project is proposed to be completed in conjunction with other local infrastructure improvements in order to leverage capital coordination efficiencies including cost savings. Toronto Water is currently occupying the curb lane along this stretch of Lake Shore Boulevard West in order to complete infrastructure replacements prior to summer 2016. During the Toronto Water work underway, the curb lane will be excavated and street parking will not be available on south side of Lake Shore Boulevard West within the project's limits. Toronto Water will need to re-surface the curb lane following their work and will leave an ideal surface on which to install a cycle track.

Consultation has taken place with the local ward Councillor, area residents and key stakeholders. Public consultation meetings were conducted on April 17, 2014 and December 8, 2015. Community participants at both meetings showed strong support for improvements in cyclist safety in the form of a protected cycling facility along this stretch of Lake Shore

Boulevard West. Public consultation materials and reports are available online at toronto.ca/lakeshorecycle

The Lakeshore Village BIA and Mimico-by-the-Lake BIA have also been generally supportive of the proposed bidirectional cycle track design. Other key stakeholders on this project include TTC, Transportation Services (Road Operations, Traffic Operations, Public Realm), Solid Waste and Emergency Services who have all been consulted and provided comments on the preferred design.

CONTACT

Kanchan Maharaj
Senior Engineer (Acting)
Cycling Infrastructure & Programs
Transportation Services
Tel: 416-338-5500
Email: kmaharaj@toronto.ca

Jacquelyn Hayward Gulati
Manager
Cycling Infrastructure & Programs
Transportation Services
Telephone: 416-392-9065
Email: jgulati@toronto.ca

SIGNATURE

Stephen M. Buckley
General Manager
Transportation Services Division

ATTACHMENTS

- Appendix 1 – Amendments to Bicycle Lanes and Cycle Track Designations
- Appendix 2 - Amendments to Traffic and Parking Regulations – Waterfront Drive
- Appendix 3 – Amendments to Traffic and Parking Regulations – Lake Shore Boulevard West
- Appendix 4 – Waterfront Drive and Lake Shore Boulevard West Proposed Bicycle Lane Context Plans
- Appendix 5 – Waterfront Drive Proposed Bicycle Lane Cross-section
- Appendix 6 – Lake Shore Boulevard West Proposed Cycle Track Cross-sections and separation types

APPENDIX 1

AMENDMENTS TO BICYCLE LANE AND CYCLE TRACK DESIGNATIONS

TO BE ENACTED

Designated Lanes for Bicycles

Highway	Between	Lane Direction	Times and/or Days
Waterfront Drive	Marine Parade Drive and Palace Pier Court	Southerly, Eastbound	Anytime

Cycle Tracks

Highway	Between	Lane	Times and/or Days
Lake Shore Boulevard West	First Street and Norris Crescent	Southerly, Eastbound lane adjacent to the curb	Anytime
Lake Shore Boulevard West	First Street and Norris Crescent	Southerly, Westbound lane adjacent to the Southerly Eastbound cycle track	Anytime

APPENDIX 2

**AMENDMENTS TO TRAFFIC AND PARKING REGULATIONS
– WATERFRONT DRIVE**

TO BE RESCINDED

One Way Highways

Highway	Between	Times and/or Days	Direction
Waterfront Drive	Palace Pier Court and Marine Parade Drive	Anytime	Southwestbound

TO BE ENACTED

One-Way Traffic Lanes

Highway	Between	Lanes	Times and/or Day	Direction
Waterfront Drive	Palace Pier Court and Marine Parade Drive	Northerly curb lane	Anytime	Westbound
Waterfront Drive	Palace Pier Court and Marine Parade Drive	Southerly curb lane	Anytime	Eastbound (bicycles only)

Stop Controls for Contra-flow Bicycle Traffic

Intersection	Stop Street or Highway
Waterfront Drive and Palace Pier Court	Waterfront Drive (eastbound bicycle traffic)

APPENDIX 3

**AMENDMENTS TO TRAFFIC AND PARKING REGULATIONS
– LAKE SHORE BOULEVARD WEST**

TO BE RESCINDED

No Parking

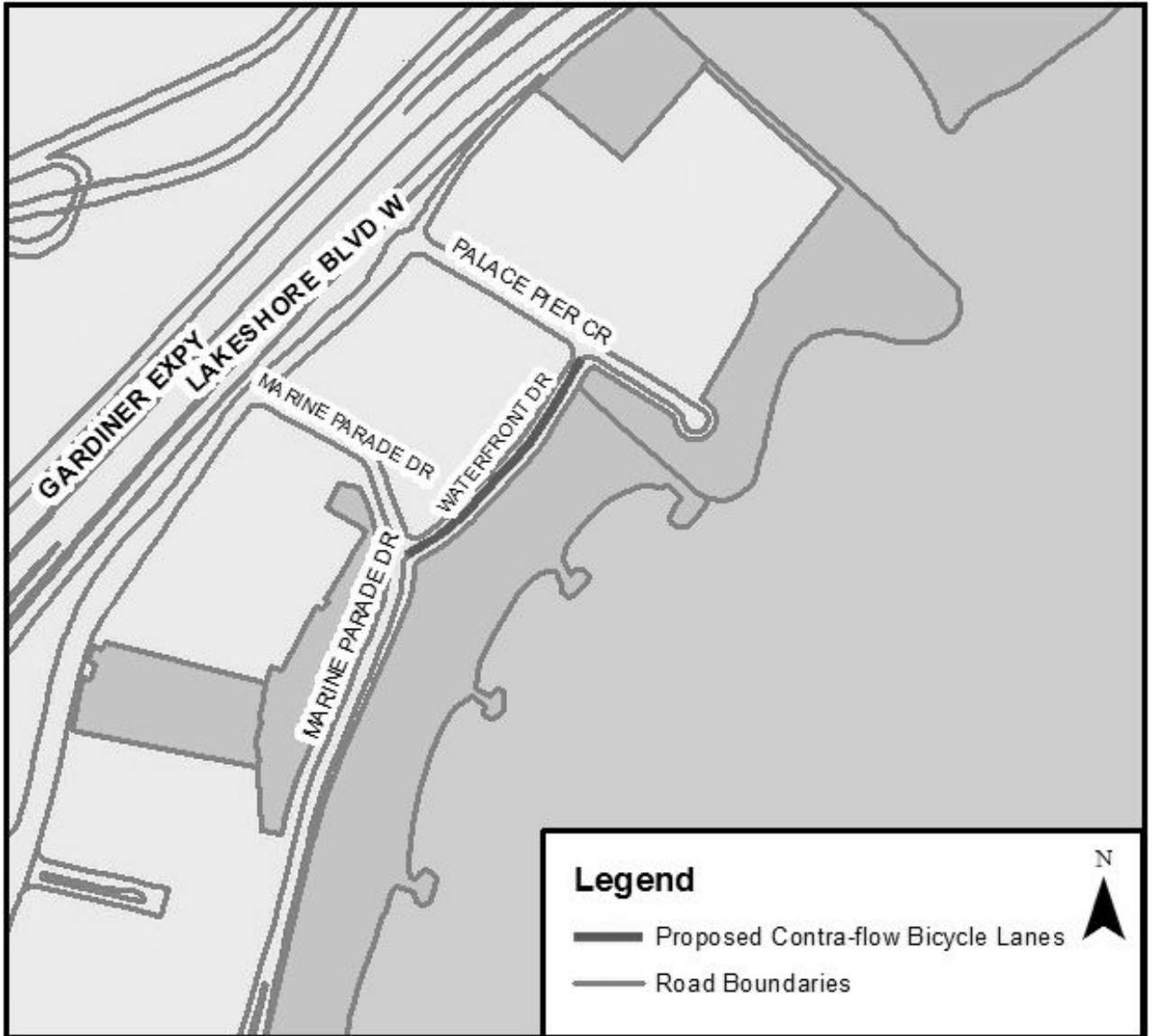
Highway	Side	Between	Prohibited Times and/or Days
Lake Shore Boulevard West	South	A point 79 metres east of Sand Beach Road and a point 42.5 metres west of Sand Beach Road	Anytime
Lake Shore Boulevard West	South	A point 30.5 metres west of Royal York Road and a point 51.5 metres further west	Anytime
Lake Shore Boulevard West	South	A point 80 metres west of Lake Crescent and a point 12 metres east	Anytime

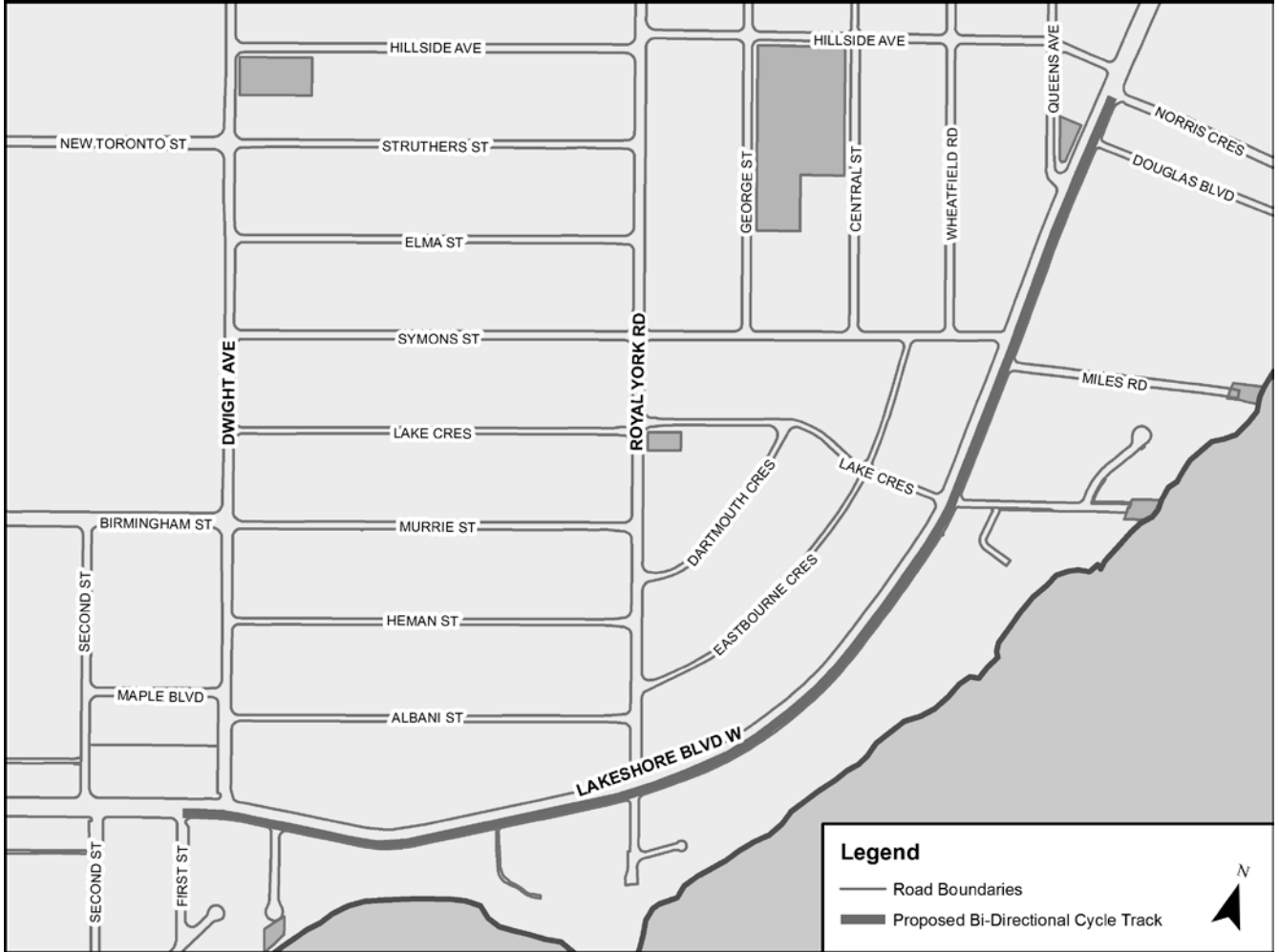
TO BE ENACTED

No Stopping

Highway	Side	Between	Prohibited Times and/or Days
Lake Shore Boulevard West	South	Norris Crescent and First Street	Anytime

APPENDIX 4
WATERFRONT DRIVE AND LAKE SHORE BOULEVARD WEST PROPOSED
BICYCLE LANE CONTEXT PLANS



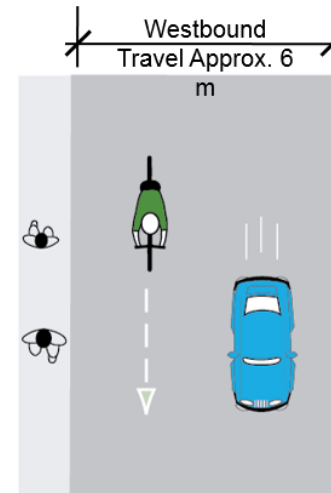


**APPENDIX 5
WATERFRONT DRIVE PROPOSED BICYCLE LANE CROSS-SECTION**

**Waterfront Drive – Contra-flow bike lane
EXISTING + PROPOSED CONDITIONS**



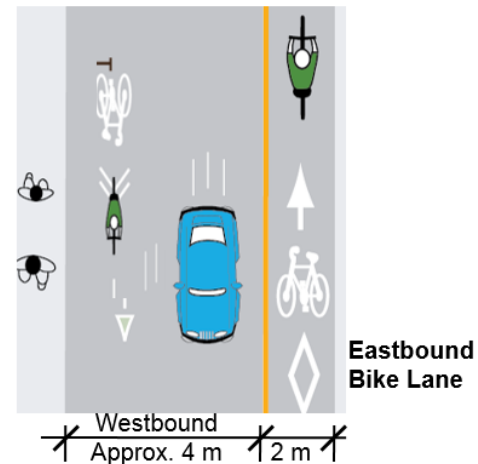
EXISTING



EASTBOUND CONTRA-FLOW BIKE LANE

- Approximate 2m Contra-flow on the south side (Eastbound)
- Approximate 4m Travel lane on the north side (Westbound)

PROPOSED

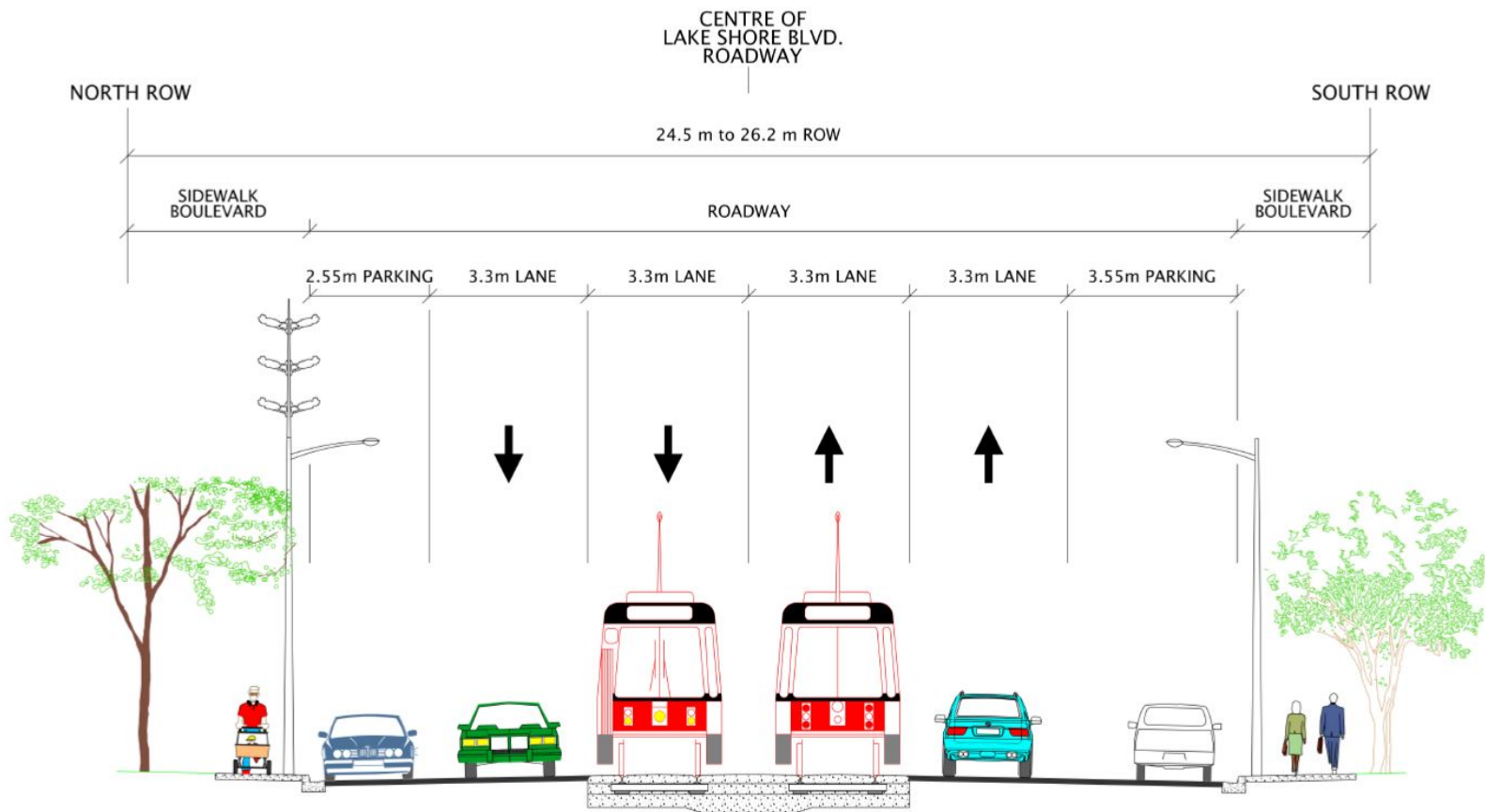


Public Meeting April 16th 2014

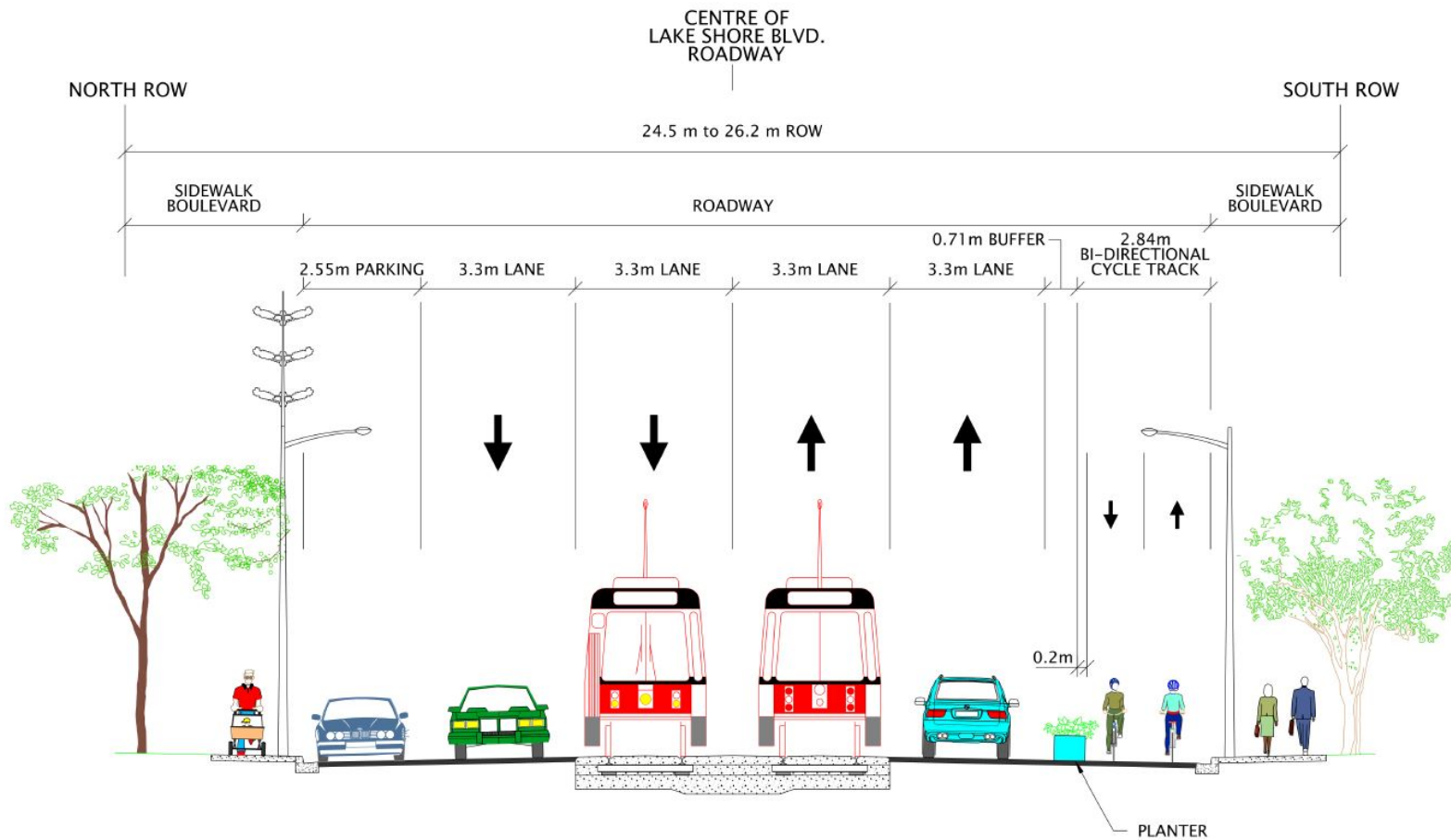
**Humber Bay Shores Park
CYCLING INFRASTRUCTURE IMPROVEMENTS**

APPENDIX 6
LAKE SHORE BOULEVARD WEST PROPOSED CROSS-SECTIONS AND SEPARATION TYPES

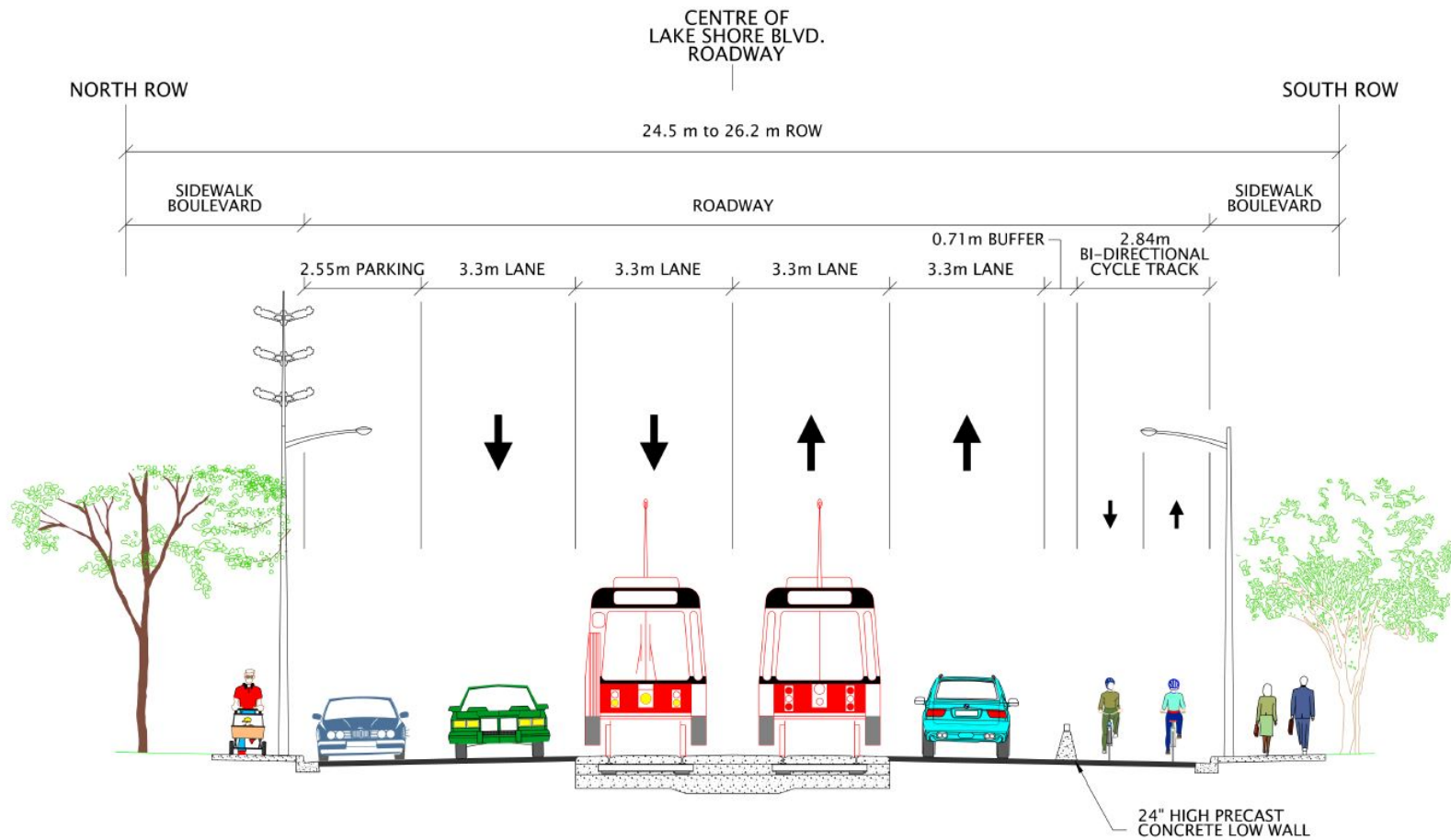
Existing Roadway



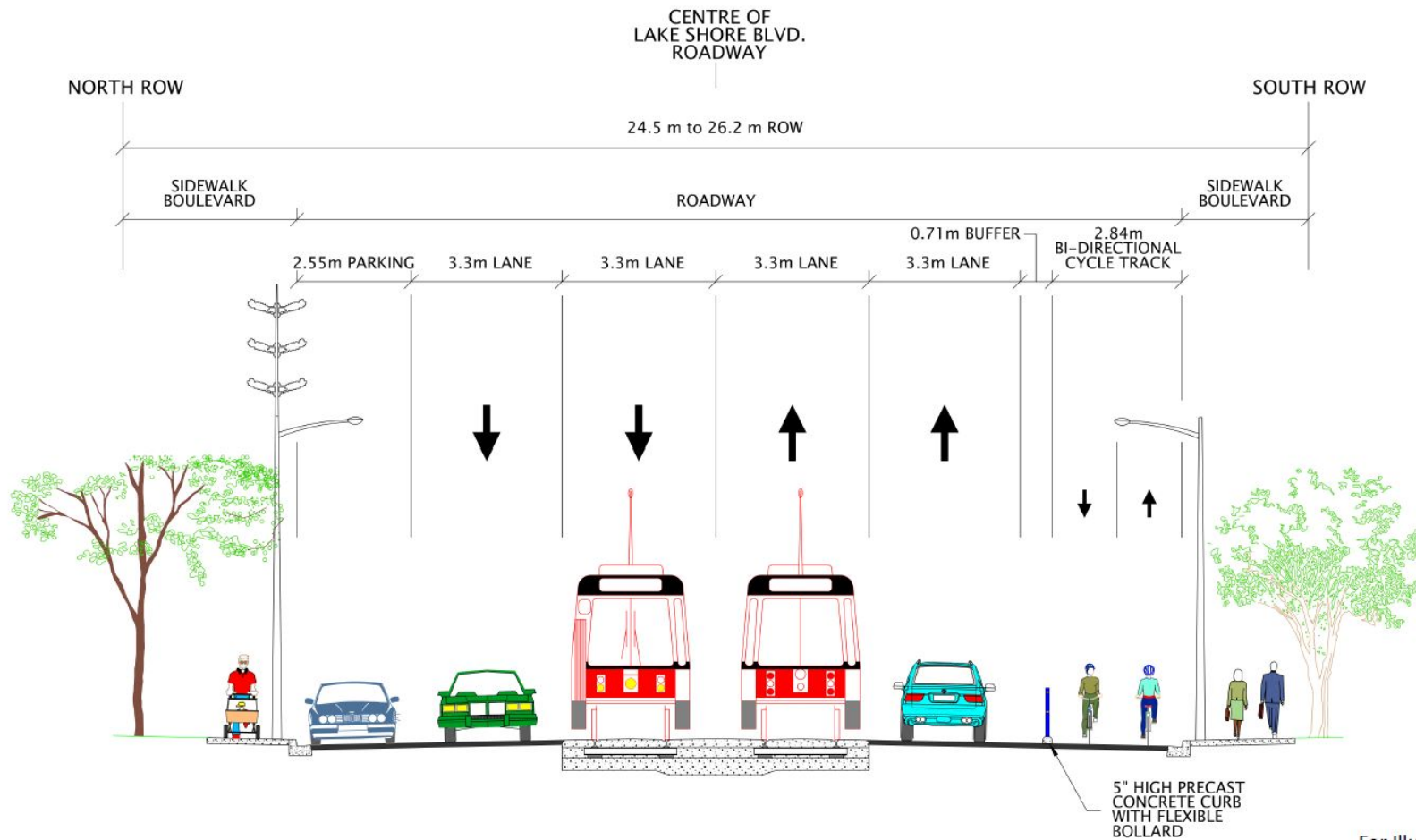
East of Sand Beach Road



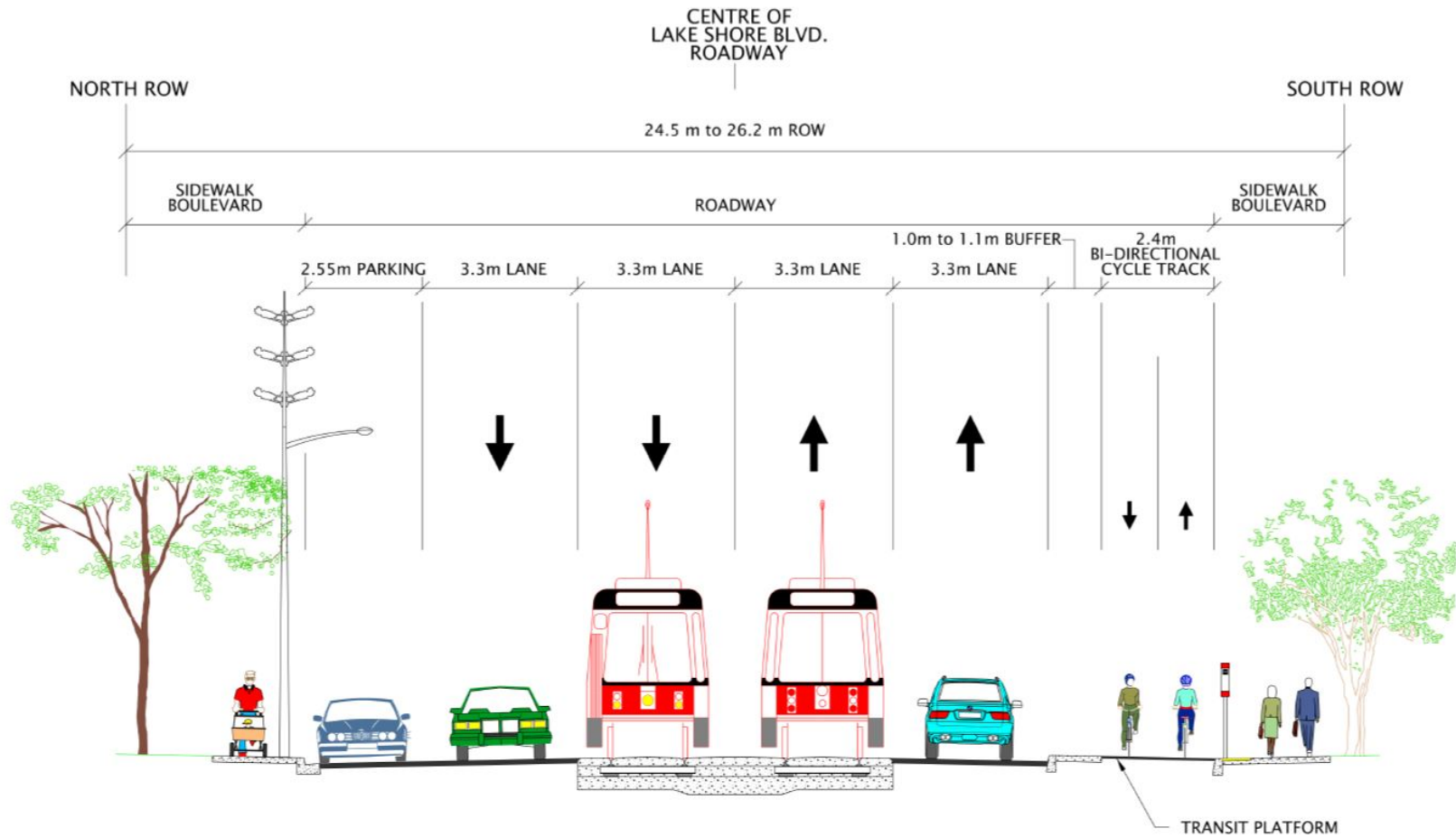
Midblock between Sand Beach Rd & Royal York Rd



Midblock between Royal York Rd & Lake Cres



West of Miles Road



Proposed Cycle Track Design at Royal York Road



For Illustration Only

Proposed Separation Types

The most appropriate barrier type will be selected for each section of roadway.

24" Low Precast Concrete Barrier Wall



Typical 24" precast concrete low wall



Vancouver, BC

Planter Boxes



Hamilton, ON



Vancouver, BC

Precast concrete curb with flexible bollards on top.



