BLOOR ST. VIADUCT BIKEWAY: PROBLEMS AND SOLUTIONS

A four point report detailing hazards endangering cyclists in the vicinity of the Bloor St. bikeway, and recommendations for their correction.

ENDORSED BY

Toronto bicycling Network

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Ward 29 Bikes

Luke Siragusa • lucasiragusa@rogers.com • November, 2008

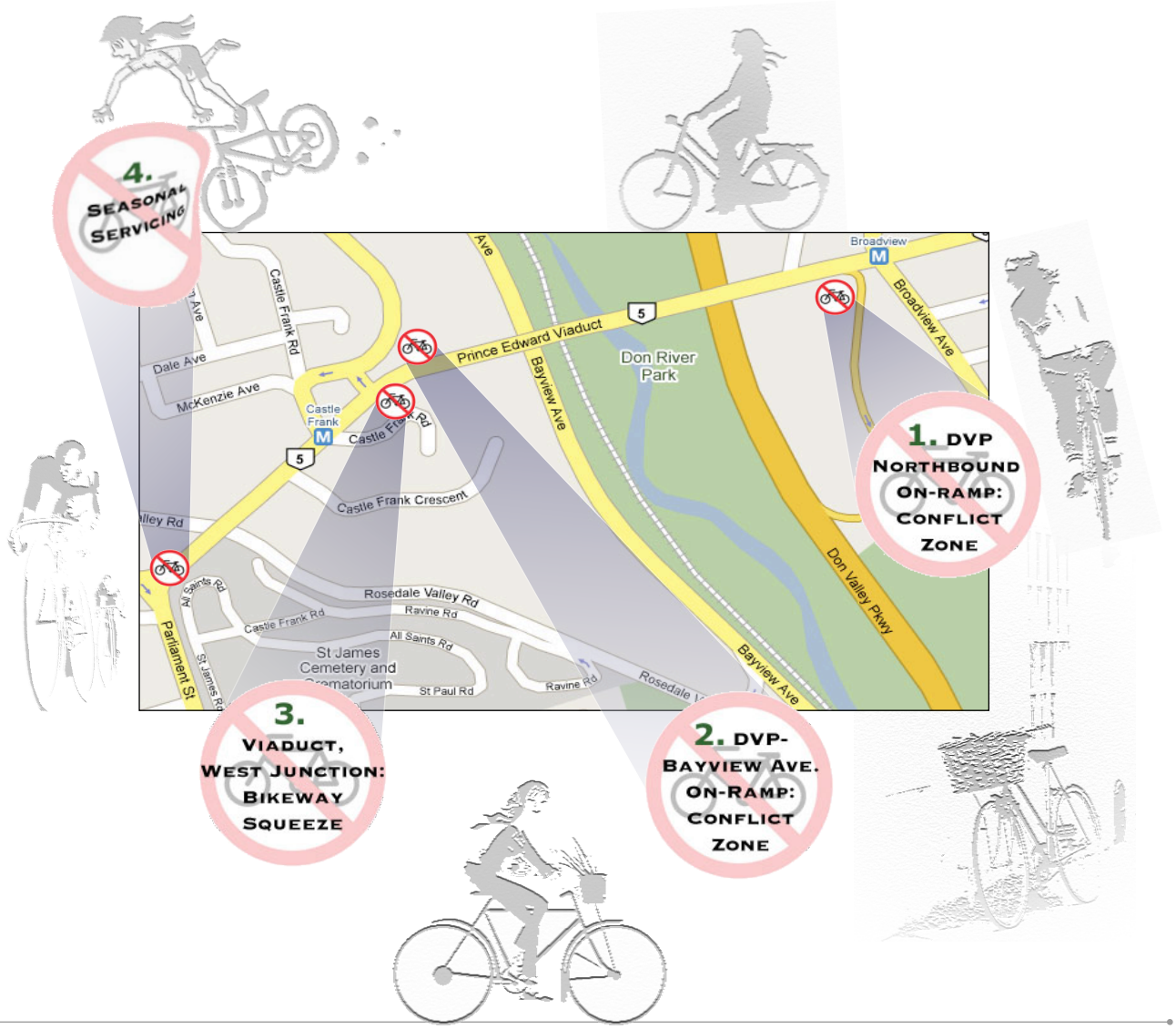
Introduction

The Bloor Viaduct bikeway is a vital eastern gateway to downtown Toronto. Although it is among the most heavily traversed bike corridors in the city, it imperils thousands of cyclists daily by poor controls, infrastructure and maintenance.

This survey documents and suggests solutions to the present deficiencies of the Viaduct bikeway from a cyclist's point of view. Informed by years of experience travelling along this corridor and throughout the city, these observations affirm that cyclists have endured these risks for years even though solutions are inexpensive and easily implemented.

Commuter cycling is booming, and promises to become even more popular in the future. Toronto should emphasize bike safety now and the Viaduct is one place that can and should be safe for cyclists, motorists and everyone.

Problems

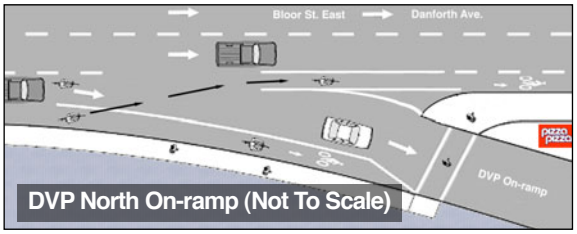


1. DVP Northbound On-ramp


DVP North On-ramp Interchange

Conflict Zone: Eastbound cyclists crossing the DVP northbound on-ramp at the approach to Danforth and Broadview Aves.

Here the eastbound motorists' lane adjacent the bikeway transforms into a right turn lane channeling traffic to the DVP on-ramp. Motorists tend to consider this stretch of the Viaduct a highway; it's a favourite spot for police radar traps.

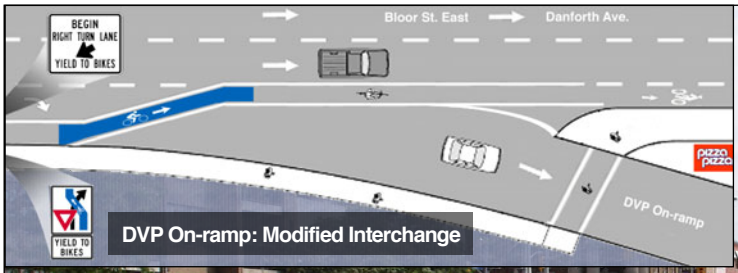


DVP North On-ramp (Not To Scale)

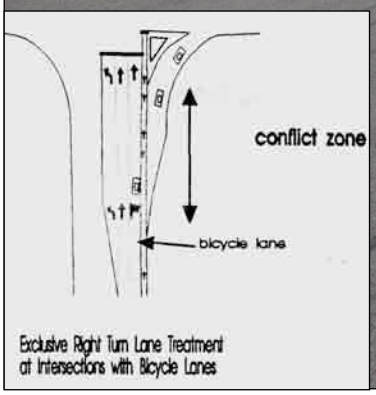
Cyclists are compelled to traverse this fast column of autos and trucks to proceed to the Danforth–it is an intimidating undertaking. Contingent upon riders' skill and strength, as well as the density and speed of traffic, the transition zone is unclear, the results unpredictable.

Deficiencies of the bike lane/on-ramp interchange include the following: a) The bike lane follows the on-ramp, terminating at a pedestrian crossing, depositing cyclists into pedestrian traffic or directing them toward a highway on-ramp; b) there are no road markings denoting a transition zone; and c) no signs warning of impending bicycle cross-overs, nor alerting motorists to yield to bike traffic.

PROPOSALS: The DVP northbound on-ramp interchange would benefit by several modifications: a) signs urging motorists to reduce speed and yield at the bicycle transition zone; b) a reconfiguration of the bike lane so that it's contiguous to Broadview Ave. and; c) road markings, e.g., coloured lanes, to signify a transition zone and provide guidance to both cyclists and motorists.



DVP On-ramp: Modified Interchange



Exclusive Right Turn Lane Treatment at Intersections with Bicycle Lanes

Left Inset: Prescribed Treatment Of Similar Interchanges By Metro Toronto Transportation Department's 1993 Review of Bicycle Facilities, Pg. 117.

2. DVP-Bayview Ave. On-ramp

DVP/Bayview On-ramp
Looking Westward

Conflict Zone: Westbound cyclists are forced to contend with a continuous stream of autos turning right across their lane as they enter the DVP/Bayview Ave. on-ramp interchange.

Though it's the motorist changing direction, it is the cyclist who is often forced to yield by virtue of being the more vulnerable party. And yet the law stipulates that the onus is on the party changing lanes to ensure the way is clear before proceeding.

Proposal: Road markings indicating a danger area, e.g., solid blue bike lanes a la Portland, Oregon, and corresponding signage stating the correct response would do much to alert motorists to this sensitive turn.

Considerations: Coloured bike lanes and conflict zones have been tested in Portland, Oregon and applied widely in Europe. Their role in raising awareness at, and altering both cyclists and motorists behavior in, complicated intersections was been found by a 1999 City of Portland study to be significant.

Our official Bike Plan (2001) references the Portland study and that city's use of coloured lanes on page 5-8, but Toronto has yet to implement the innovation (the trial on Strachan Ave. in 2007 being the only exception). Many interchanges, e.g., the eastbound Parliament Ave. turn-off from Bloor St. E., would benefit by such a scheme.

Whether by coloured lanes or other means, it is very important to create more predictable, safer flow of traffic for cyclists, drivers and pedestrians in this dangerous area by eliminating ambiguities and discontinuities in infrastructure and increasing awareness among users.

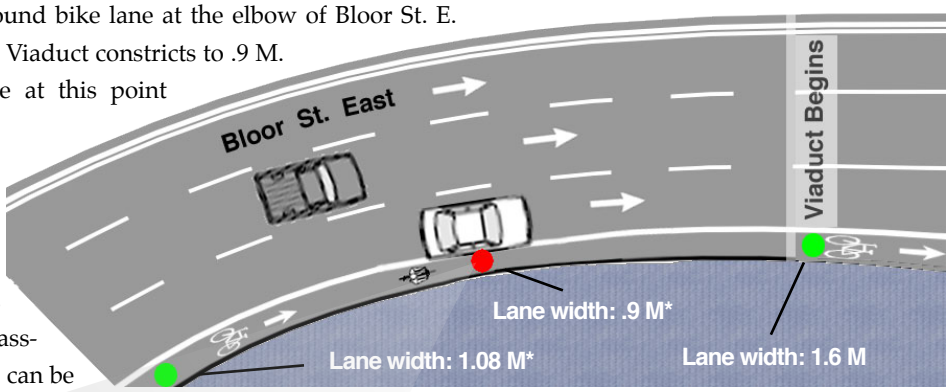
DVP/Bayview On-ramp With Modifications

Toronto Bike Plan (2001), Page 5-8,
Referencing 1999 Portland Study

3. Western Viaduct Approach: Bikeway Squeeze

Problem: The width of the eastbound bike lane at the elbow of Bloor St. E. sweeping right hand approach to the Viaduct constricts to .9 M. The narrow width of the bike lane at this point makes it unsafe for cyclists.

Motorists, typically accelerating to highway speeds as they clear the Castle Frank Rd. intersection, regularly cross into the bike lane in this area as they round the bend. And passing trucks, with greater turning radii, can be downright dangerous. Cyclists are often forced into the curb gutter, to gain a much needed few centimeters of space.



* Measured is the width of asphalt from paint line to edge of concrete gutter pan, which is .32 M in width. The bikeway on the Viaduct proper has no gutter; that width is to the edge of the elevated sidewalk.

Western Approach Of Viaduct: Motorist Encroachment At Pinch Point Of Bikeway

Proposal: The width of Bloor bikeway's western approach to the Viaduct is inadequate and unsafe. Minimum width standards for bike lanes must be applied. The total width (including gutter) of the Bloor St. pinch point is 1.2 meters and the Viaduct bikeway (both ways) volume can exceed over 3000 cyclists per day. [1]

The Transportation Association of Canada (TAC) publishes guidelines for road design that the City of Toronto follows. It recommends that a bike lane should be 2.0 meters wide (for a major urban road) but could be a minimum of 1.5 meters.

In Quebec the minimum and recommended standards for bike lanes with volumes less than 1500 cyclists per day are 1.5 and 1.75 meters respectively; and for lanes ferrying more than 1500 cyclists they are 2.25 and 2.5 meters. [2]

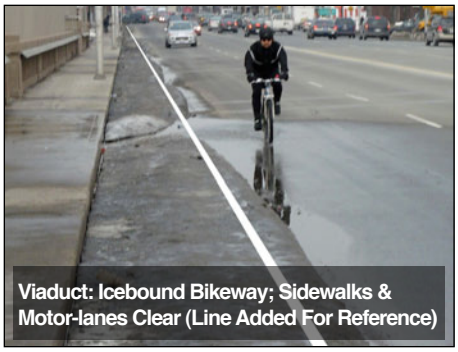
At The Very Least the Bike Lane Should Be Widened to 1.5 Meters.

The bike lane from Castle Frank Rd. to the western junction of the Viaduct must be improved to provide a minimum width of 1.5 meters .

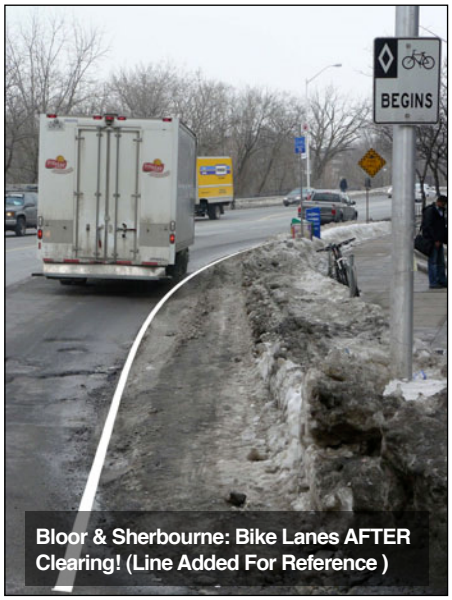
Installation of rumble strips should be considered to prevent speeding motorists from encroaching into the bike lane as they round the western approach to the Viaduct.

1. City Cycling Facts, October 1994, Toronto City Cycling Committee. A 17 hour survey (6:30 AM to 11:30 PM) in May/June counted 3,109 cyclists (both ways). Anecdotal evidence suggests volume has increased. The brochure also ranked the Viaduct bike cordon number one among Toronto bikeways in volume.
2. Metro Toronto Transportation Dept., Review of Bicycle Facilities on Metro Roads, 1993, Page 98. Toronto Public Library, Urban Affairs: 388 41109 R265

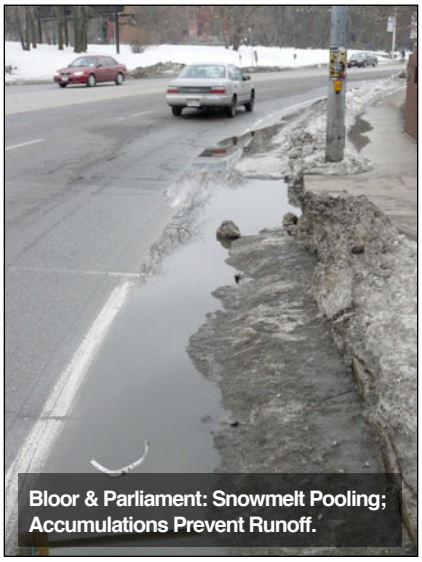
4. Sherbourne St. to Broadview Ave.: Seasonal Servicing


Viaduct: Icebound Bikeway; Sidewalks & Motor-lanes Clear (Line Added For Reference)

Problem: Often the chief deterrent to cyclists riding year round is the quality of road surface. Unlike motorists who benefit by an official policy aimed at improving that quality, we cyclists, taxpayers and voters ourselves, are endangered by a program that deliberately degrades it.



Bloor & Sherbourne: Bike Lanes AFTER Clearing! (Line Added For Reference)


Bloor & Parliament: Snowmelt Pooling; Accumulations Prevent Runoff.

Every winter the City uses bikeways as dumps for snow, slush and ice. As well as imperiling cyclists, the practice hastens road decay by impeding drainage of runoff and contributing to pooling.

Proposal: These photos from the winter of 2008 illustrate clearly that there is no technical reason why bike lanes cannot be serviced: if vehicle lanes and sidewalks can be cleared, bike lanes can and should be as well. In northern European cities year round servicing of bike cordons is typical.


Serviced Bikeways in Gothenburg, Sweden...


...and Copenhagen, Denmark.

Toronto, March 12, 2008.

Conclusion

The Viaduct bikeway is a vital part of Toronto's cycling infrastructure; it funnels a large volume of bicycle and motorized traffic onto the same roadway. The inadequacies and safety hazards of the bike lanes on and around the Bloor Viaduct have persisted for years for no technical reasons and in the full knowledge of municipal politicians and committees. They will only be addressed by galvanizing political will between those working to change the situation, those voters who cycle and those who would if it were safer.

There is nothing mysterious about designing, building, and maintaining good bike lanes; it has been done and continues to be done by forward thinking cities the world over (please see References). So if it's worth doing, it's worth doing right; we should stop accepting mediocrity and start subscribing to best practice. Toronto's cyclists–indeed, all its citizens!–deserve it.

Acknowledgements

This project has benefited from the generous contributions of time of many individuals. Particular thanks are due to **Vincent de Tourdonnet**, **Hamish Wilson**, **Val Dodge** and **Tom Flaherty**. Their feedback and support have served to add insight and depth to this report. Whatever failings remain are mine alone.

Luke Siragusa
November, 2008

Resources

City of Toronto:

The Official Toronto Bike Plan
http://www.toronto.ca/cycling/bikeplan/index.htm

Toronto Cycling Advisory Committee (TCAC)
http://www.toronto.ca/cycling/committee/index.htm

Toronto Coalition for Active Transportation
http://www.torontocat.ca/main/

Public Works and Infrastructure Committee
http://www.toronto.ca/committees/public-works-infrastructure.htm

Local Advocacy and Media:

Toronto Cyclists Union	http://bikeunion.to/
Toronto Bicycling Network	http://www.tbn.ca/
Advocacy for Respect for Cyclists	http://www.respect.to/wiki/
TorontoCranks	http://www.torontocranks.com/
I Bike T.O.	http://www.ibiketo.ca/
Take The Tooker	http://takethetooker.ca/
Bells On Bloor	http://www.bellsonbloor.ca

References:

- Portland's Blue Bike Lanes (PDF)
  http://www.portlandonline.com/shared/cfm/image.cfm?id=58842
- Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany (PDF)
  by John Pucher and Ralph Buehler (Revised version: November 12, 2007)
  http://policy.rutgers.edu/faculty/pucher/irresistible.pdf
- World Transport Policy & Practice: At the Frontiers of Cycling. (PDF)
  http://www.eco-logica.co.uk/pdf/wtpp13.3.pdf
- USDOT Federal HighwayAdministration University Course on Pedestrian and Bicycle Safety
  Lesson 15: Bicycle Lanes (HTML or PDF)
  http://www.tfhrc.gov/safety/pedbike/pubs/05085/chapt15.htm
- Metro Toronto Transportation Dept., Review of Bicycle Facilities on Metro Roads, 1993.
  Toronto Public Library, Urban Affairs: 388 41109 R265
- City Cycling Facts, October 1994, Toronto City Cycling Committee