

Bike counts on Bloor



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Cover photograph

Eastbound Bloor bike lane from counting vantage point, May 17, 2017

Executive summary

Installation of the 2.4 km Bloor St. pilot bike lane was completed by the City of Toronto before the end of August 2016. The pilot runs from Shaw St. at its western terminus to Avenue Rd. at its eastern end. Subsequent to installation, we have taken three 'snapshots' in time that document the level of usage of the bike lane. This report focuses on the results of our May 17, 2017 weekday bike count and provides comparative data for our wintertime (January 16-30, 2017) count and our weekday count on September 12, 2016, as well as related counts.

Four data collection points were used on May 17, 2017 including Bloor at Spadina Rd., Harbord at Spadina, Bloor at Shaw St., and a neighbourhood location at Barton St. and Albany Ave.

Our count in the bike lane at Spadina recorded a total of 5,515 cyclists --- travelling either eastbound or westbound --- over a 24-hour period beginning at 4am on May 17. The count result was similar not only to the count for September 12, 2016 (also a warm, sunny weekday) but in the distribution of cyclists throughout the day. The May 17 count documented:

- 5,515 bicycles travelling in the bike lane at Spadina Rd. over a 24-hour period;
- bicycles comprising 38% of the total vehicle traffic; and
- 80% of passenger automobiles on Bloor St. in the 6-9am period as single-occupant.

The bike lane on Harbord St. is often proposed as a substitute for the Bloor bike lane, however, a morning 7-10am bike count documented a high number of cyclists on both the Harbord and Bloor bike lanes at their intersection with Spadina. Our count of bikes on the Harbord lane showed:

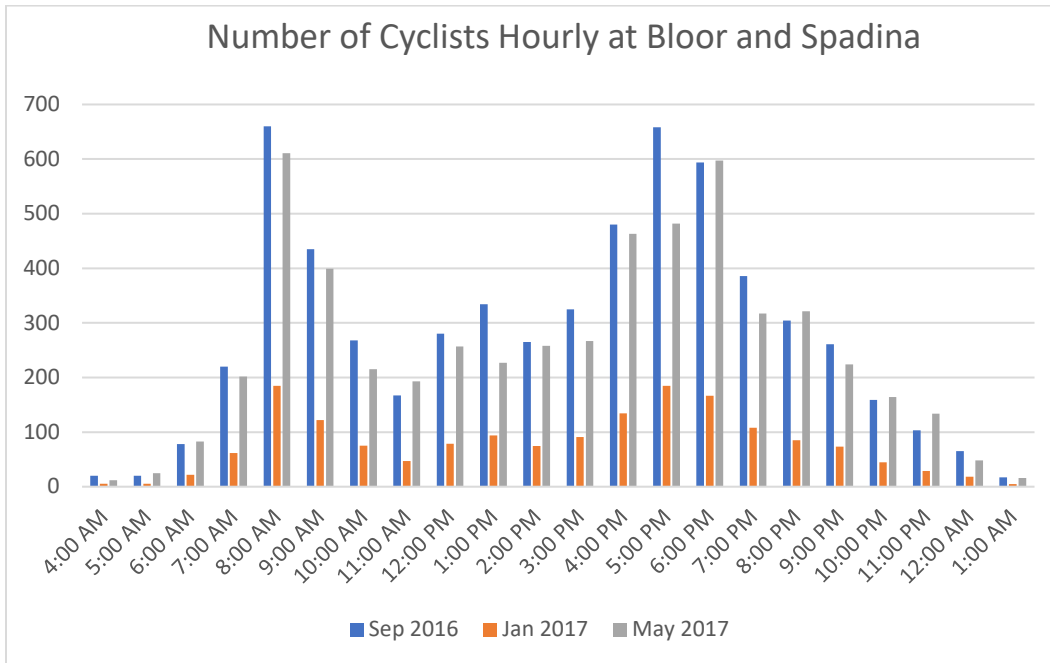
- the number of cyclists in the 7-10am period ranging from a low of 172 per hour to a high of 513;
- bicycles comprising 39% of all vehicles on the street in the 8-9am period; and
- a combined total of 2,318 cyclists in the Bloor and Harbord bike lanes between 7-10am.

Shaw and Bloor Streets are one of a small number of locations in Toronto where bike lanes intersect, as would be the case in far more locations if the city had a proper cycling network. Our count at this intersection documented:

- a total of 1,487 cyclists passing through the Shaw-Bloor intersection between 7-10am.

Finally, we took one measurement about whether Bloor motorists are diverting to neighbourhood streets. Barton St. runs east-west parallel to Bloor, running from Shaw St. in the east to Brunswick Ave. and then to Huron St. via Lowther Rd. Although we have no baseline data, these figures can be compared by the city to its data to measure relevant changes since bike lane installation, and whether remedial measures are required to prevent infiltration onto local streets.

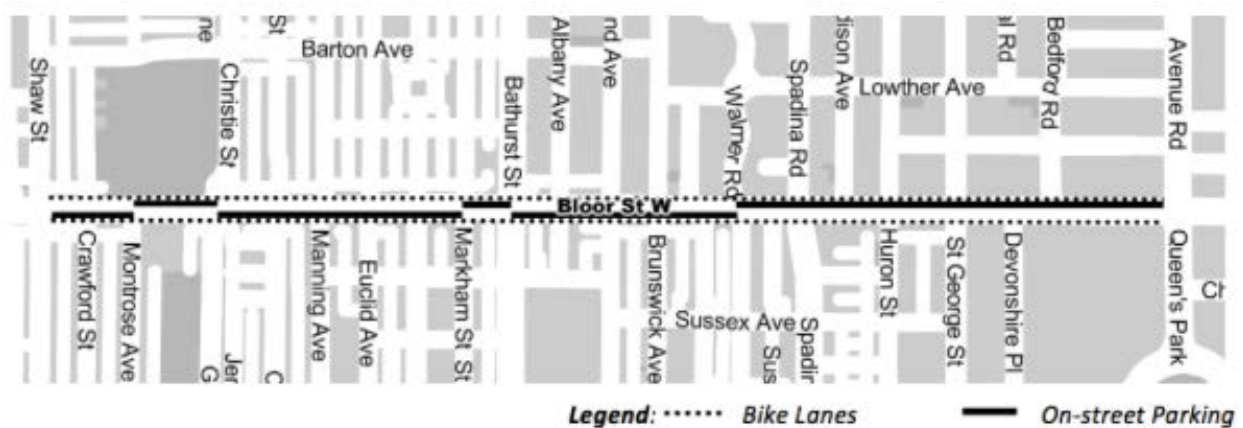
- 232 automobiles travelled east or westbound on Barton through the intersection with Albany in the 7-8am period;
- the number of automobiles more than doubled to 542 in the 8-9am period;
- pedestrian and cyclist traffic (including 160 cyclists) increased in line with the increase in motor traffic from 8-9am; and
- as all forms of traffic in the intersection increased between 7-8am and 8-9am, the percentage of motor vehicles stopping at or near the stop signs in the intersection, dropped from 26% to 14%.



A. Introduction

The Bloor pilot bike lane, and accompanying signage, was installed during the last two weeks of August 2016. The installation followed decades of study, advocacy, and debate. On May 4, 2017, the pilot bike lane was approved by a 38-3 vote at City Council.¹ A final decision on whether to approve the bike lane will be made later in 2017.

The pilot bike lane runs between Shaw St. and Avenue Rd. Beyond the bike lane's eastern terminus at Avenue, there is no bike lane although there are 'sharrows' (with a dubious safety benefit to cyclists).² West of Shaw St. cyclists are simply integrated into heavy motor vehicle traffic and must contend with the danger of doors from parked cars being opened into their path.



Map of Bloor bike lane pilot

Source: City of Toronto³

The Bloor bike lane is intersected by a contra-flow bike lane at Shaw St. and bike lanes on St. George running through the University of Toronto. As well, there is a contra-flow lane on Montrose, which runs into a 'T' intersection on south side of Bloor, and a bike lane on Grace St., running south off of Bloor.

Even cursory observations following installation of the Bloor bike lane showed that it was heavily used by cyclists. Historically, however, there has been limited data collected to show specific cycling numbers on Bloor or other streets in the city. The lack of data tends to result in an underestimation of cyclist numbers since people riding bikes are often easy to ignore.

¹ Toronto Star, "Bloor bike lane pilot approved by City Council", Ben Spurr, May 4, 2016; online at: https://www.thestar.com/news/city_hall/2016/05/04/city-council-debates-bloor-st-bike-lane-plan.html

² The Safe Cycling Coalition intervened in a 2008 court case, *William Ashley China v. City of Toronto* arguing that the failure by the city to install bike lanes on Bloor during the "revitalization" of the street violated the provisions of provincial planning laws. See dandyhorse: "Fur flies when Yorkville weasels out of bike lane", April 26, 2012, online at: <http://dandyhorsemagazine.com/blog/2012/04/26/dandyarchive-fur-flies-when-yorkville-weasels-out-of-a-bike-lane/>

³ City of Toronto, "Bloor Street bike lanes," accessed on May 25, 2017; online at: <http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=18ccded2f6711510VgnVCM10000071d60f89RCRD>

Bike counts are snapshots in time but each such snapshot gives a better idea of a broader context. The city's available data for the bike lane, released in February 2017, shows smaller increases than those documented in this report, however, this is likely the result of varying weather conditions. The city's counts were apparently recorded in late October and early November 2016.

The bicycle count of May 17, 2017 documented cycling numbers at a primary location in the Bloor bike lane just west of its intersection with Spadina. The four additional observation points included Bloor near Robert St. (for the measurement of single-occupant vehicles), Harbord at Spadina, Bloor at Shaw Streets, and at the intersection of a nearby neighbourhood street, Barton St. at Albany Ave.

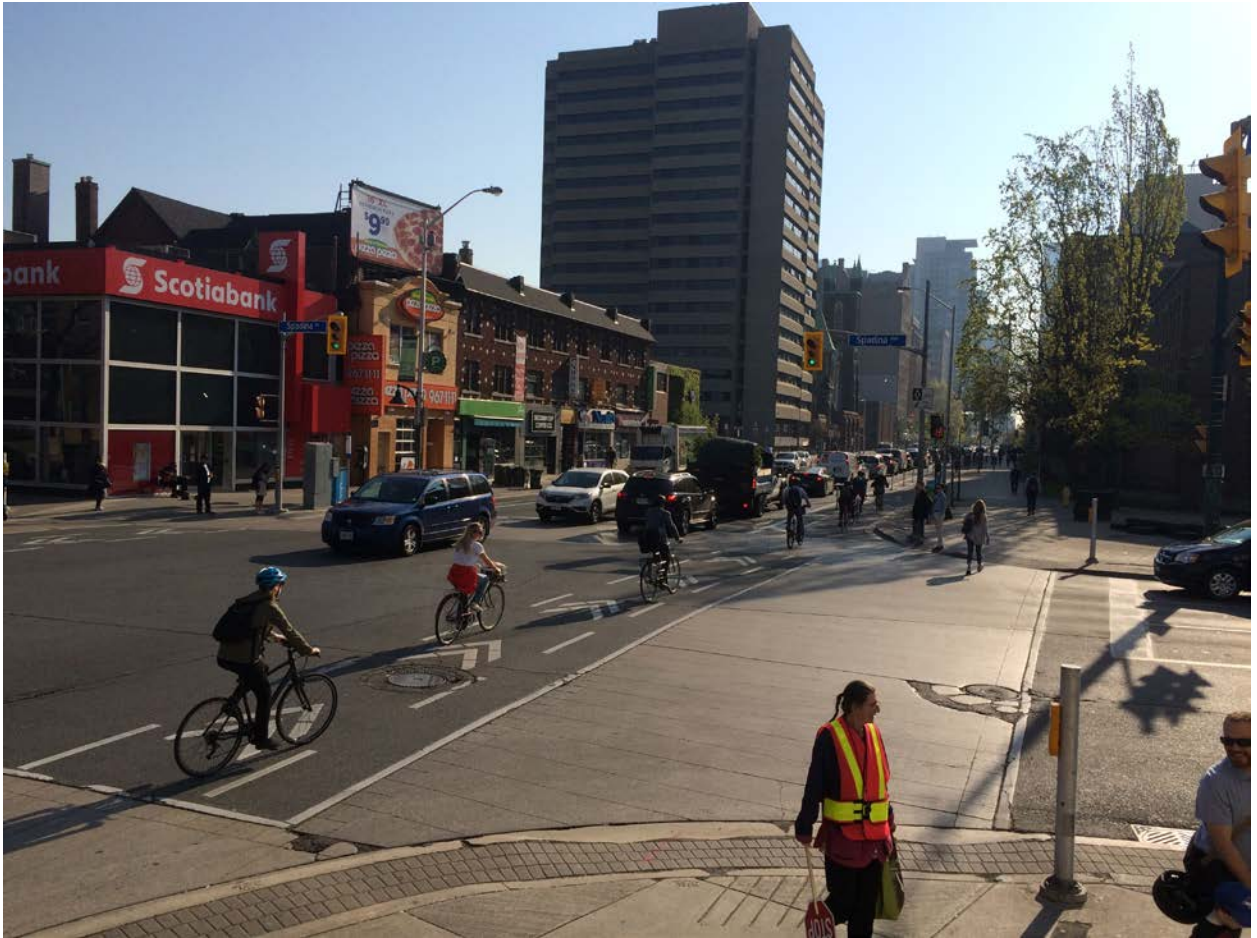
May 17, 2017 was a warm, sunny day with light winds and a daytime high reaching 29.7°C.⁴ The low for the day was 11.9°C. The temperatures during the month to that point had generally been below seasonal values, namely 19.1°C. By comparison, September 12, 2016 was also warm and sunny with a temperature high of 26.7°C and a low of 10.7°C.⁵ There was no rain on either day and light or no wind.

The May 17 count was conducted with the assistance of 29 volunteers, each of whom took a shift of one to two hours. Each volunteer was provided with written instructions in advance as detailed in Appendix A.

B. Data – Bloor bike lane at Spadina

⁴ The long-term forecast at the time the count was organized showed an anticipated temperature of about 17C.

⁵ Farmer's Almanac: "Weather history for Toronto, ON; online at:
<http://www.almanac.com/weather/history/ON/Toronto/2017-01-16>



Bloor at Spadina looking eastbound, May 17, 2017

Photo: Albert Koehl

(i) Counts for Wednesday, May 17, 2017

Starting Hour	Bicycle Count	Motor vehicle count	Bikes as % of all vehicles
4:00	12		
5:00	25		
6:00	83		
7:00	202	817	20%
8:00	611	822	43%
9:00	399	773	34%
10:00	215		
11:00	193		
12:00	257		
13:00	227		
14:00	258		
15:00	267		

16:00	463		
17:00	482		
18:00	597		
19:00	317		
20:00	321		
21:00	224		
22:00	164		
23:00	134		
24:00	48		
1:00	16		
2:00	No data collected ⁶		
3:00	No data collected		
Total	5,515		

Table 1: Bicycle (and motor vehicle) count at Bloor and Spadina, May 17, 2017

Bicycle traffic on Bloor is highest from 8 to 9am. During this time, bicycles constitute 43% of all vehicle traffic. It is worth noting that during rush hour on Bloor far more people are moved east and west by a mode of traffic that isn't visible at all – the TTC subway where over 20,000 passengers will pass through the intersection at Spadina during the 8-9am rush hour alone.⁷ In addition, huge numbers of pedestrians walk through the intersection.

Similar to automobile traffic, bicycle traffic is overwhelmingly eastbound in the morning and westbound in the afternoon consistent with rush hour in-bound and out-bound traffic patterns.⁸

(ii) Counts for Wednesday, September 12, 2016

Our bicycle count on September 12, 2016 followed the same methodology as May 17. A total of 6,099 cyclists was documented in the Bloor bike lane at Spadina.

Time (start time)	Bicycle Count	Motor vehicle count	Bikes as percent of all vehicles
4:00	20		
5:00	20		

⁶ Our count ended at 1:43 am on May 18, and did not document cyclists from 2-4am, however, the additional number of cyclists is certain to have been quite small.

⁷ Toronto Star: "Putting Scarborough subway claims to the test," June 16, 2016, Jennifer Pagliaro and Benn Spurr; online at: <https://www.thestar.com/news/gta/2016/06/16/putting-scarborough-subway-claims-to-the-test.html>

⁸ For example, between 7 and 8am, 81.2% of bicycle traffic on Bloor was eastbound, or heading downtown; while from 5 to 6pm, the pattern had reversed albeit, at 63% westbound, not yet equal to inbound morning patterns. Eastbound and westbound data was not collected for each hour. This data is available from the authors.

6:00	78		
7:00	220		
8:00	660	1,100	37.5%
9:00	435		
10:00	268		
11:00	167		
12:00	280		
13:00	334		
14:00	265		
15:00	325		
16:00	480		
17:00	658		
18:00	594		
19:00	386		
20:00	304		
21:00	261		
22:00	159		
23:00	103		
24:00	65		
1:00	17		
2:00	No Count		
3:00 AM	No Count		
Total	6,099		

Table 2: Bicycle (and motor vehicle) count at Bloor and Spadina, September 12, 2016

The highest cycling numbers were recorded from 8-9am. Bicycles comprised 37.5% of all vehicles on Bloor during this hour, although the bike lane occupies much less than this percentage of the roadway.

(iii) City of Toronto data for Bloor St. pilot area -- prior to and after bike lane installation⁹

In August 2015, a year before installation of the bike lane the City of Toronto documented 3,409 cyclists on Bloor at Spadina during a 24-hour period. This provides a good reference point for our counts of September 2016 and May 2017.¹⁰

⁹ City of Toronto, General Manager, Transportation Services, May 3, 2016, "Supplementary Report, Information Only", Bloor Street Bike Lane Pilot Project – Performance Evaluation and Additional Information (PW 12.1); online at: <http://www.toronto.ca/legdocs/mmis/2016/cc/bgrd/backgroundfile-92801.pdf>

¹⁰ City of Toronto, "Update Bloor bike lane pilot project," February 24, 2017, p. 20; online at: http://www1.toronto.ca/City%20of%20Toronto/Transportation%20Services/Cycling/Files/pdf/B/Bloor_Pilot_February_2017_Update_web1.pdf

Location	Bike count (24 hr. volume)	Motor vehicle (24-hr volume)
Bloor at Spadina	3,409	19,828
Bloor at Bathurst	3,571	18,521

Table 3: Pre-bike lane data for Bloor at Spadina from City of Toronto, August 2015

In February 2017, the city released new data showing that cycling on Bloor had increased from approximately 3,300 cyclists per day to 4,500, entailing a 36% increase.¹¹ By comparison, in 2014 the City reported that Harbord had between 3,500 and 3,900 cyclists per day.¹² This suggests that there were virtually as many cyclists on Bloor St. --- without a bike lane --- as on Harbord St. with a bike lane. (Since the time of the report, however, improvements have been made to the Harbord bike lane.)

The recent city counts for the Bloor pilot bike lane, using video monitoring technology, were conducted at Clinton, Walmer, and Bedford Streets, as well as beyond the bike lane at the intersection with Bay St. We understand the counts took place in late October and early November, covering a three-day weekday period. No specific dates or weather conditions have been published.

The city also conducted bicycle counts on Harbord and Dupont St. to determine how much of the new bicycle traffic on Bloor had migrated from other streets.¹³ Dupont St. is a relatively wide, fast-moving east-west ‘arterial’ with no cycling infrastructure. The city reported that 25% of the increase in cycling on Bloor was from new cyclists, and not from Dupont or Harbord.

C. Data - Harbord bike lane at Spadina

(i) Bike and car count, May 17, 2017

The highest number of bikes on the Harbord bike lane was 513, recorded during the 8-9am morning rush hour -- during which time bicycles accounted for 39% of all vehicular traffic. On Bloor, during the same hour bicycles made up virtually the same percentage of all vehicles at 38%. In each case, the bike lane uses only from one quarter to one third of the road width.

Hour (start)	Bicycles	Cars	Bikes as % of all vehicles
7:00	173	667	21%
8:00	513	816	38.6%

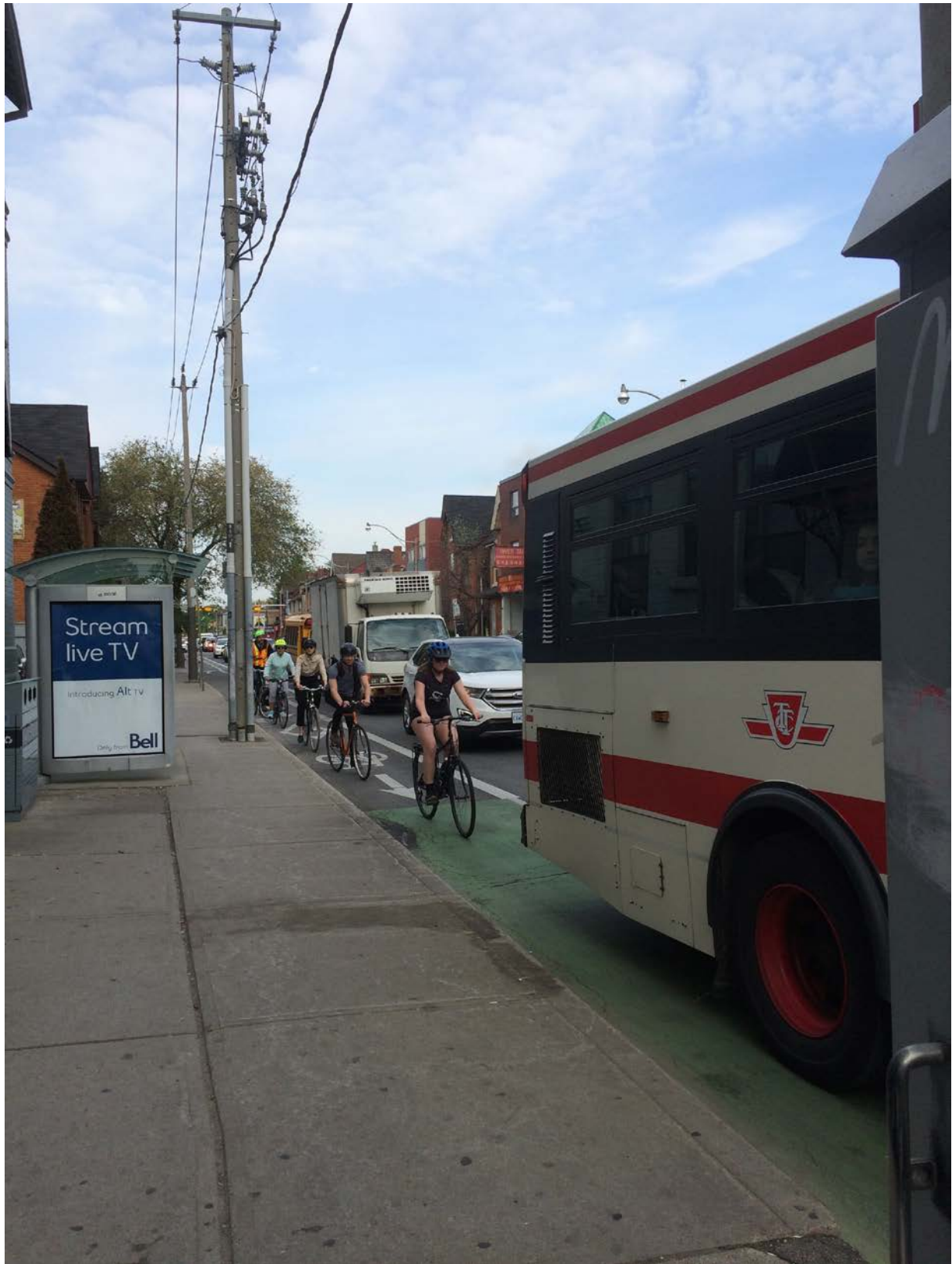
¹¹ City of Toronto, “Update Bloor bike lane pilot project,” February 24, 2017, p. 20; online at: http://www1.toronto.ca/City%20of%20Toronto/Transportation%20Services/Cycling/Files/pdf/B/Bloor_Pilot_February_2017_Update_web1.pdf

¹² City of Toronto, Manager, Transportation Services: “Staff report for action on Harbord-Hoskin Bicycle Lane Upgrades,” April 22, 2014, p. 1; online at: <http://www.toronto.ca/legdocs/mmis/2014/pw/bgrd/backgroundfile-68951.pdf>

¹³ Footnote 11, pp 19-20.

9:00	420		
Total (bikes 7-10am)	1,106		

Table 4: Bike count in Harbord bike lane at Spadina, May 17, 2017



Harbord St. bike lane at counting location during morning rush hour, west of intersection with Spadina. Bus merges into bike lane for passenger pick up. May 2017. Photo: Albert Koehl

(ii) Combined numbers – Bloor and Harbord bike lanes

There was similar, and heavy usage of the bike lanes on Bloor and Harbord during the peak morning cycling hours, ranging from 173 to 513 cyclists on the Harbord lane and between 202 and 611 cyclists on the Bloor bike lane.

During the peak 8-9am cycling hour, there was a combined total of 1,124 bicycles (513 + 611) on the Bloor and Harbord bike lanes at Spadina, with the far greater number travelling eastbound.

Street	7:00	8:00	9:00	Total
Bloor	202	611	399	1,212
Harbord	173	513	420	1,106
Totals	375 (7-8am)	1,124 (8-9am)	819 (9-10am)	2,318

Table 5: Combined bicycle counts on the Bloor and Harbord bike lanes, May 17, 2017

(iii) Historical cycling data for Bloor and Harbord Streets (1979-83)

There is limited historical data for cycling numbers on Bloor and Harbord, although the available numbers show high cycling levels since the 1970s, following the so-called cycling revival of 1971.

A bikeway study in the late 1970s by consultant Barton-Ashman for the City of Toronto, recommended a bike 'route' for Harbord, while rejecting Bloor St. even though it scored highest on most cycling measures, including the number of cyclists, the cycling growth potential, and the number of cycling collisions.¹⁴

The route later implemented on Harbord, based on the consultant's recommendation, was not a bike lane but included such measures as a wider curb lane, signage, and some pavement markings. Soon after the installation of the Harbord bike route, the City found that cyclists still preferred Bloor St.

Measurements on Bloor St. between 1979 and 1983 --- based on the "8-hour maximum cycling volume"¹⁵ --- showed an increase in cycling levels from 768 to 1,437. The 1983 Bloor cycling

¹⁴ Barton-Ashman Canada Limited in association with Peat Marwick and Partners: "Planning for Urban Cycling," prepared for City of Toronto, 1979. [Available from authors]

¹⁵ What is an "8-hour maximum cycling volume"? This is a measure of cycling volumes during the peak traffic periods of the day. It is also used to measure motor traffic. It is not a consecutive eight-hour count. We understand the eight-hour count would include the morning (6-9am) and afternoon 3:30-6:30pm rush hours and the two hours at mid-day. This count would therefore only represent a portion of the total bicycle volume for a 24-hour period.

volume was far greater than both the 986 cyclists for the 8-hour maximum volume on the Harbord bike route and also higher than the 8-hour maximum on the College/Carlton route.^{16 17}

Date of Survey	Max 8-hr bike volume Bloor St	Max 8-hr bike volume Harbord St.	Min 8-hr bike volume Bloor St.	Min 8-hr bike volume Harbord St.
Aug., 1978	768	495	605	302
Aug., 1981	1,161	483	527	377
Sept., 1983	1,437	986	534	567

Table 6: City of Toronto bicycle counts, comparing Bloor to Harbord (adapted from October 11, 1983 letter from Works Commissioner)¹⁸

Based on these numbers, Works Commissioner Ray Bremner concluded:

The most recent bicycle surveys indicate as previously noted in my report of September 27, 1982 that Bloor Street is still the preferred route for the majority of east-west bicyclists travelling in the central area of the City.¹⁹

Interestingly, Bremner simply recommended elimination of the Harbord/Hoskin-Wellesley bike route instead of recommending that Bloor be made safe for cyclists.

D. Data – Bloor at Spadina wintertime counts

(i) Rush hour bicycle counts, January 16-30, 2017

In January 2017, a morning rush hour count of bicycles in the bike lane on Bloor at Spadina was conducted using the same methodology as the September and May counts. In this case, bicycles were counted during each weekday rush hour period for 8-9am, and then extrapolated using data from September 12, 2017, to calculate day-time totals.

¹⁶ 1,037 cyclists were documented for the College-Carlton bike route.

¹⁷ City of Toronto, Letter, City Services Committee Commissioner Raymond Bremner, October 11, 1983, “Harbord Street/Wellesley Street Bicycle Route. (Ward 6)”, p. 2-3. The measurements were taken on Bloor, Harbord, and College-Carlton between Spadina and Church Streets. The report noted that the highest volumes of bicycles were recorded on each street just east of St. George St.

¹⁸ City of Toronto, Letter, City Services Committee, October 11, 1983, “Harbord Street/Wellesley Street Bicycle Route. (Ward 6)” [Copy available from authors.]

¹⁹ City of Toronto, Letter, City Services Committee, Commissioner Ray Bremner, October 11, 1983, “Harbord Street/Wellesley Street Bicycle Route. (Ward 6),” p. 3.

Hour	Mon, Jan 16	Wed, Jan 18	Fri, Jan 20	Mon, Jan 23	Wed, Jan 25	Fri, Jan 27
8:00-9:00	182	167	174	191	207	169
17:00-18:00					205	

Table 7: Winter weekday rush hour counts, Jan. 16-30, 2017

The September 12, 2016 count had shown that the morning 8-9am rush hour accounted for about 11% of the 6,100 cyclists in the bike lane recorded over a consecutive 24-hour period. We carried out one evening count on January 25 from 5-6pm to confirm that the hourly breakdowns of cycling numbers held approximately true for the winter.

The number of bicycles in the 8-9am period ranged from a low of 167 to a high of 207. The average number of cyclists for the weekday period of January 2017, based on our extrapolation, was just over 1,700 cyclists per day.

January was a relatively warm month based on historical winter temperatures. The average daytime high for Toronto in January is -1⁰ Celsius. However, January 2017 was similar in temperature to the previous January (2016) and consistent with the rising temperature trends brought by climate change.

During the hours of the count, temperatures ranged between 0⁰ C and +3⁰ C, with consistently overcast skies. The bike lane was clear of snow or ice on every day of our counts.

Hour (start)	Sept. 12 actual bicycle count	Winter Extrapolation
4:00	20	6
5:00	20	6
6:00	78	22
7:00	220	62
8:00	660	185*
9:00	435	122
10:00	268	75
11:00	167	47
12:00	280	78
13:00	334	94
14:00	265	74
15:00	325	91
16:00	480	135
17:00	658	184
18:00	594	167
19:00	386	108
20:00	304	85

21:00	261	73
22:00	159	45
23:00	103	29
24:00	65	18
1:00	17	5
2:00	No Count	N/A
3:00	No Count	N/A
Total	6,099	Ave. (extrapolated) daily figure for Jan 16-30, 2017 = 1,710

Table 8: Winter counts based on extrapolation, Jan. 16-30, 2017

*denotes the average figure derived from the six counts conducted from Jan. 16-30

(ii) Bicycles as percentage of all vehicles

As in our September counts we counted motor vehicles during the 8-9am rush hour period on Bloor at Spadina. This count showed that even in this winter period bicycles accounted for no less than 16% of all vehicles on Bloor St.

	Bicycles	Automobiles	Bikes as proportion of all vehicles
Jan 18 (8-9am)	167	870	16%
Jan 25 (8-9am)	207	872	19%

Table 9: Bicycles as percentage of all vehicles from 8-9am, January 18 and 25, 2017

E. Data -- Bloor St., eastbound single-occupant motor vehicle count, May 17, 2017

One new count conducted on May 17, 2017 was of single-occupant (eastbound-only) vehicles on Bloor St. The location, one block west of Spadina, was chosen for ease of street-level observation. We separated out vehicles that were clearly of a commercial nature, including cargo trucks and taxis. The documented result was that during the 7-10am period an average of 80% of passenger vehicles had only one occupant, namely the driver.

Hour (start)	Total eastbound passenger vehicles	Single occupant	Multi-occupant	% of single occupant
6:00	350	300	50	86%
7:00	479	375	104	78%
8:00	343 ²⁰	261	82	76%

Table 10: Eastbound single-occupant passenger vehicles on Bloor St., May 17, 2017

²⁰ We exclude commercial vehicles including commercial vehicles like cargo trucks and taxis. From 6-7am, there were also 9 trucks, 3 buses, and 3 motorcycles. From 7-8am, there were 19 commercial vehicles, of which 8 were single occupant; there were 8 motorcycles, and 28 taxis of which 17 were occupied by only the driver. From 8-9am, there were 15 taxis, 12 of which had only the driver. There were 40 trucks of which 19 had a single occupant.

F. Data -- Bloor and Shaw intersection – Bloor bike lane and Shaw contra-flow lane

The objective of the count at Bloor and Shaw St. was simply to document the volume of cyclists at one of the small number of intersections in Toronto where bike lanes intersect – a street configuration that would be common if Toronto had a complete cycling network.²¹

Hour (start)	Eastbound or westbound on Bloor	Northbound and southbound on Shaw	Total
7am	158	81	239
8am	455	283	743
9am	308	197	505
Total thru intersection 7-10am	921	561	1,487

Table 11: Bicycle count at Bloor and Shaw intersection, May 17, 2017

G. Data -- Barton St. at Albany Ave. (neighbourhood count)

(i) Traffic counts

It has been suggested that motorists are diverting from Bloor to alternative east-west routes such as Harbord, Dupont, and Barton-Lowther Streets. The City of Toronto reported in its February 2017 update that the daily volume of automobiles on Bloor had dropped from 24,000 to 20,000.²² The report concluded, however, that these motorists were not diverting to Dupont or Harbord. No measurement was provided for the parallel side-streets of Barton-Lowther.

The May 17, 2017 count showed a significant amount of car traffic on Barton St. at its intersection with Albany. Our count can be used by the City to determine if traffic restrictions are needed to restrict access to Barton from non-residents.

Hour (start)	Eastbound Cars	Westbound Cars	Total	Bikes	Pedestrians	Total traffic – autos, bikes, pedestrians
7:00	168	64	232	70	181	483
8:00	460	82	542	160	239	941

Table 12: Automobile, pedestrian and cyclist count at Barton and Albany, May 17, 2017

²¹ A comparison of cycling numbers during the 7-10am period in the Bloor bike lane at Spadina (1,212 cyclists) to those in the bike lane at Shaw (921 cyclists), suggests that a significant number of the cyclists in the Bloor bike lane at Spadina entered east of Shaw St. This is plausible given the high number of cyclists in neighbourhoods like the Christie Pits area, Seaton Village, and the Annex who may have entered the bike lane later.

²² City of Toronto, "Update Bloor bike lane pilot project," February 24, 2017, p. 20; online at: http://www1.toronto.ca/City%20of%20Toronto/Transportation%20Services/Cycling/Files/pdf/B/Bloor_Pilot_February_2017_Update_web1.pdf

The motor vehicle count on Barton is more than half that of the count at Bloor and Spadina, however, at least some of the eastbound vehicles on Barton can enter Bloor at Brunswick Ave. or Walmer Rd. and may therefore also have been counted at Bloor and Spadina.

(ii) **Motorists' compliance with stop signs**

Our count at Barton and Albany included a count of all motorists who stop at least somewhere in the vicinity of the stop signs located at each of the four corners. Since this location has significant pedestrian traffic, the stop sign can be considered an important safety feature. In fact, there is a popular parkette on the northeast corner of Barton and Albany in front of a school.

Our count determined that only a small percentage of motorists came to a full stop at or near stop signs at the intersection.

Hour (start)	Eastbound cars that stop at/near stop sign		Westbound cars that stop at/near stop sign		% that stop at/near stop sign
	Stop	Don't stop	Stop	Don't stop	
7:00	47	121	13	52	25.7%
8:00	63	392	12	70	14%

Table 13: Percent of motorists who stop at neighbourhood stop sign (Barton and Albany), May 17, 2017²³

Interestingly, as the volume of traffic --- automobiles, bicycles, and pedestrians --- increased from the 7-8am period to the 8-9am period, the percentage of automobiles that stopped at the intersection dropped by almost half to a mere 14% in the later hour.

²³ There is a slight discrepancy between the total number of cars as between Tables 12 and 13.



Barton St. looking east at intersection with Albany Ave.-- St. Albans Square is in background; note narrow pedestrian sidewalk on SE corner, May 2017.

Photo: Albert Koehl

G. Data analysis

Bloor bike lane at Spadina

The high number of cyclists (5,515) documented on Bloor on May 17, 2017 will not surprise anyone who has observed the morning rush hour since installation of the Bloor bike lane. This count buttresses the earlier count of September 12, 2016 and suggests that on a warm, sunny day 5,000 to 6,000+ cyclists may well be the new normal.

The similarly high number of cyclists documented on May 17 in the Harbord bike lane at Spadina suggests that Harbord is properly considered part of a cycling *network*, as opposed to a *substitute* for Bloor. During the highest cycling volume between 8-9am, the Bloor and Harbord bike lanes (at Spadina) had a combined total of 1,124 cyclists; and between 7-10am, a combined total of 2,318 cyclists.

In August 2015, in the year before installation of the Bloor bike lane, the city documented 3,409 cyclists on Bloor at Spadina. The 5,515 cyclists counted in the Bloor bike lane on May 17 and the 6,099 cyclists counted on September 12, 2016 entail an increase of 2,000-2,500 cyclists per day.

The increase in cycling numbers subsequent to the installation of the Bloor bike lane is consistent with observations made on other new bike lanes. For example, after installation of the Richmond/Adelaide east-west bike lanes, the number of cyclists almost tripled, as measured for an eight-hour period.²⁴

Bloor at Robert – single-occupant vehicles

The high percentage of single-occupant cars on Bloor St. in the morning rush hour suggests, yet again, that the City of Toronto is making poor use of precious road space. Exhortations to car-pool have traditionally fallen on deaf ears,²⁵ despite the existence of new technologies to help motorists coordinate rides with each other. The decrease in car volume from 24,000 to 20,000 per day on Bloor, as reported by the city for post-bike lane installation²⁶ suggests the possibility that at least some motorists have switched to transit and cycling.

The common argument by bike lane opponents that such lanes are inefficient because of lower winter cycling volumes is undermined by the fact that most cars on the road are mostly empty 365 days per year.

²⁴ City of Toronto, Fact Sheet, "Extension of Richmond-Adelaide Cycle Tracks;" online at: <https://www1.toronto.ca/City%20of%20Toronto/Transportation%20Services/Cycling/Factsheets/Richmond-Adelaide%20fact%20sheet%20Sept%202015.pdf>

²⁵ See, for example, Pollution Probe, "Trip Reduction Manual," online at: <https://www.carpool.ca/Includes/Documents/SMComplete.pdf>

²⁶ City of Toronto, "Update Bloor bike lane pilot project," February 24, 2017, p. 20; online at: http://www1.toronto.ca/City%20of%20Toronto/Transportation%20Services/Cycling/Files/pdf/B/Bloor_Pilot_February_2017_Update_web1.pdf

Harbord bike lane at Spadina

The Harbord bike lane is often proposed as a substitute for a bike lane on Bloor. The relatively equal, and significant, cycling volumes on both Harbord and Bloor Streets, however, suggest that both streets are parts of a proper cycling network.

Harbord has various distinct disadvantages to Bloor as an east-west cycling route, including the fact that TTC buses must pull across the bike lane on Harbord to pick up and drop off passengers. As well, Harbord ends at Ossington Ave. on its western end and at Queen's Park on its eastern end (where cyclists must turn south). The gap between Harbord/Hoskin and Wellesley has now --- almost four decades after it was recommended --- been closed but this is of no value to cyclists who end up travelling south when their destination is in a northern direction.

As long ago as 1983, it has been clear that cyclists will continue to use Bloor regardless of the existence of the bike lane on Harbord. Removing the bike lane on Bloor would only mean that cyclists will again be exposed to the myriad hazards of parked and moving cars.

Bloor bike lane and Shaw contra-flow lane

Toronto does not yet have a cycling *network*. One feature of a network would be east-west and north-south connections that allow cyclists to get safely from one point in the city to another. One of the exceptions to the small number of intersecting bike lanes is the intersection of Bloor and Shaw, where the Shaw contra-flow lane crosses the Bloor bike lane.

Our count documented 1,487 cyclists passing through this intersection during the 7-10am period. The significant bicycle traffic through this intersection shows that when more complete cycling infrastructure is in place it will be well used by cyclists.

Barton at Albany

Our data collected at this location shows a high traffic volume between 8-9am. This count can be used by the city to assess whether motor traffic access to neighbourhood streets needs to be restricted.

Debates about cycling infrastructure like bike lanes typically descend into angry finger-pointing about the conduct of cyclists, including, for example, their failure to stop at stop signs. Our observation that a mere 14% of motorists stopped at or near the stop signs in the Barton/Albany intersection suggests that motorists' do not have any obvious claim to the high moral ground.

Conclusions

The significant increase in cycling numbers on Bloor confirms that when the City of Toronto installs bike lanes in Toronto's central area, they will be well used by cyclists.

The impressive popularity of the Bloor bike lane has been established despite its obvious shortcomings. The pilot bike lane ends at Avenue Rd. on the east and Shaw St. on the west leaving cyclists to fend for themselves in heavy motor traffic. In essence, the pilot is a stub. Notwithstanding this limitation, cyclist numbers have risen substantially along the Bloor pilot bike lane providing a strong case for its extension east and west along Bloor St. and Danforth Ave.

Appendix A - Methodology

Each of the 29 volunteers was given a specific set of written instructions relating to their task in advance of their work. Each volunteer was equipped with a counting sheet on which one mark or notation was made for each vehicle.

Bloor bike lane at Spadina

Each volunteer was instructed to count each bicycle passing a fixed point on Bloor St., namely a bus stop pole on the south side. Each bicycle going eastbound or westbound past the bus stop (a few metres west of Spadina) was counted. Bicycles on the sidewalk were not counted. Electric bikes in the bike lane were counted if they had a set of pedals.

This count took place from inside the Second Cup coffee shop on the southwest corner. The coffee shop provides a good vantage point from a second-floor location overlooking the street. During times when the coffee was not yet open (4-7am) or after it closed the volunteer worked from the street, and from the Tim Hortons across the road in the hours from midnight to 2am.

Motor vehicles passing the noted point, were counted in the same manner.

Bloor bike lane near Robert St.

For the count of single-occupant vehicles, volunteers counted all motor vehicles but separated passenger vehicles from vehicles that were clearly of a commercial nature, such as freight trucks. Taxis were also excluded. (Each category of vehicle was divided into single and multi-occupant categories.) An observation location several metres west of Robert St., in front of the Trinity-St. Paul Centre for Faith, was chosen given the ease of observation it provided.

Harbord bike lane at Spadina

The volunteers at this location were instructed to count all the eastbound and westbound bikes which are crossing into or from Spadina Rd. Bicycles on the sidewalk were not counted. This count took place at the southwest corner of the intersection close to the TTC bus stop.

Bloor bike lane at Shaw St.

The volunteers at this location were instructed to count all eastbound and westbound bikes along with all northbound and southbound bikes. Bikes making a turn from one road to another were counted only once.

Barton St. at Albany Ave.

The volunteer at this location was instructed to count all vehicles travelling east and westbound. Albany Ave. is one-way northbound on the south side of Barton, and one-way southbound north of Barton. The volunteer distinguished eastbound from westbound vehicles. In addition to counting all cars, the volunteer also counted cyclists and pedestrians travelling through this intersection. The volunteer documented all motor vehicles that failed to come to a complete stop at any point in the intersection, whether before or near the stop sign.