2010 Bicycle Count Report

December 2010
Cycling Infrastructure & Programs
Transportation Services

TORONTO

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Data Access

Interested individuals can download the raw Bicycle Count data at http://www.toronto.ca/open/.

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1. Introduction

In September 2010, the City of Toronto conducted its first screenline Bicycle Count. This Count provides the first data on how many cyclists are riding on downtown streets, when and where they are riding, and other characteristics about cyclists such as helmet use, gender, sidewalk riding, and whether the cyclist is transporting a passenger.

The purpose of conducting the Bicycle Count is to begin tracking trends in cycling, and progress towards achieving the City's goal of increasing the number of bicycle trips. The Bicycle Count data also provides important information to help the City of Toronto evaluate the use of existing cycling facilities and make decisions about new facilities and upgrades.

The Bicycle Count was modelled on the Institute of Transportation Engineers (ITE) National Bicycle and Pedestrian Document (NBPD) Project.[1] Beyond the City of Toronto, the data will be used by ITE to establish a database of bicycle count information generated by consistent methods and practices, and to begin analysis on the correlations between various factors and bicycle activity.

The intent is to repeat the Count annually and expand it with counts throughout the year to gather information on seasonal variations in bicycle traffic flows. Permanent counting stations that provide 24 hour bicycle count data 365 days a year at select locations are also a priority. Longer-term goals are to expand the Count beyond roads in the downtown core to also include off-road paths across the City, and roads in suburban centres.

Highlights

- Between the hours of 7:00 AM and 7:00 PM on a typical weekday in September 2010, 19,162 cyclists entered Toronto's downtown core, and 15,241exited the core.
- The western screenline at Spadina Avenue had the highest bicycle volumes, carrying 45% of all cyclists travelling to and from the core.
- The College Street bike lane carries by far the greatest volume of cyclists of any road or bike lane along a screenline, with 14% of all cyclists travelling to and from downtown.
- The distribution of cyclists indicates they prefer arterial roads (over local or collector roads), and roads with bike lanes.
- Bicycle traffic in the core follows a traditional peak period pattern – with an inbound peak in the morning (pre 7:00 AM to 10:30 AM), and an outbound peak in the afternoon and early evening (3:30 PM to past 7:00 PM).
- The majority (62%) of cyclists were male, 46% wore a helmet, and 95% rode on the street rather than on the sidewalk. Very few (0.32%) of counted cyclists were passengers (e.g. in a child seat or trailer).

[1] For more information on the Institute of Transportation Engineers National Bicycle and Pedestrian Documentation Project, visit: http://bikepeddocumentation.org/

2. Method

The Cordon & Screenlines

A "cordon" is a geographic area enclosed by a set of "screenlines" along which counting stations are set up to document the number of vehicles and passengers crossing in and out of an area. Cordon counts provide cities with information on the volume and characteristics of traffic entering and exiting defined areas, such as the city as a whole, or downtown. Cordon counts usually focus on motorized traffic and, to minimize crossing points and counting stations, the screenlines tend to follow natural or man-made barriers, (such as 400 series highways, and the Don and Humber Rivers in Toronto).

The Bicycle Count was initiated to provide better quality data on bicycle traffic than what is collected as part of the City of Toronto Cordon Count, which focuses on motorized traffic.[2] Compared to the City of Toronto Cordon Count, the screenlines for the Bicycle Count were selected to capture the large number of bike trips that begin and end within the central area of Toronto (Figure 1). These trips are not captured in the City of Toronto Cordon Count. We know from Census Journey to Work data that the vast majority of bicycle trips (for work purposes, at least) occur in this downtown area (Figure 2).

The four screenlines that were used for the Bicycle Count are Bloor Street in the north, Spadina Avenue in the west, Queen's Quay Boulevard in the south, and Jarvis Street in the east. These screenlines were selected because they delineate a transition zone from residential to commercial and institutional land uses and were expected to capture the greatest volume of commuter cyclists who access the downtown core for work and school (Figure 3).

The breakdown of road and bikeway types included in the bicycle count locations are included in Tables 1 and 2.

Figure 1. Location of the Bicycle Count Screenlines in the City of Toronto

[2] See for more information: City Planning. (2007, June). 2006 City of Toronto Cordon Count Program Information Bulletin. City of Toronto. Available online at http://www.toronto.ca/planning/pdf/cordon_count_2006.pdf

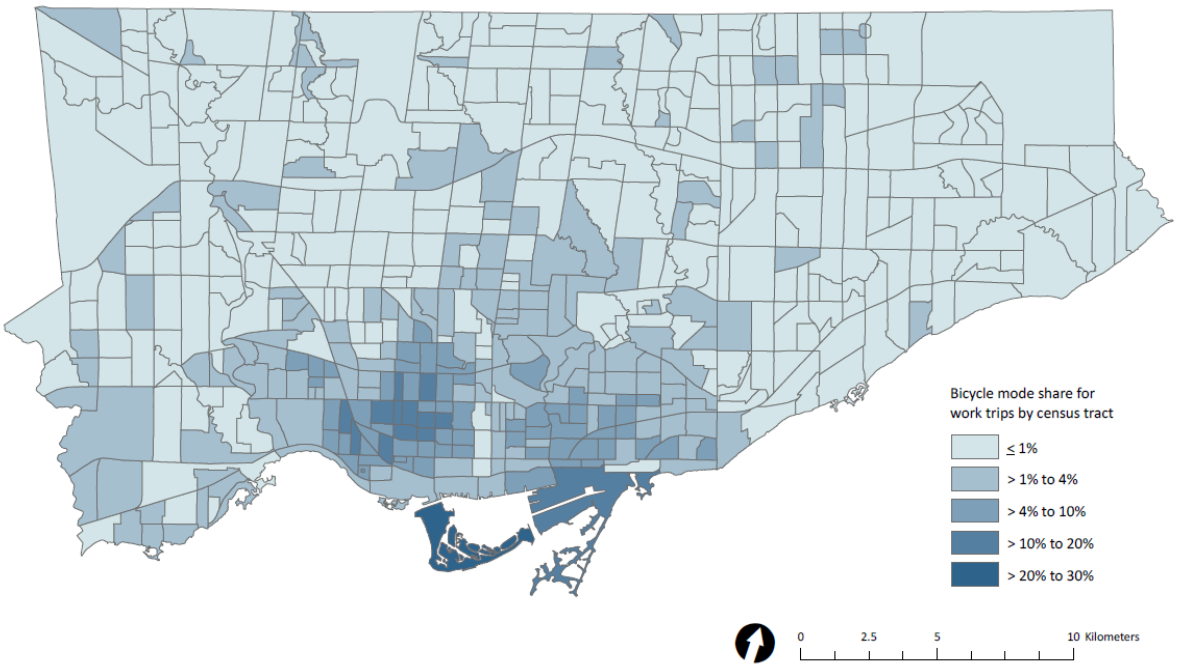

Figure 2. Bicycle Mode Share for Work Trips in Toronto, 2006 (from place of residence) [3]

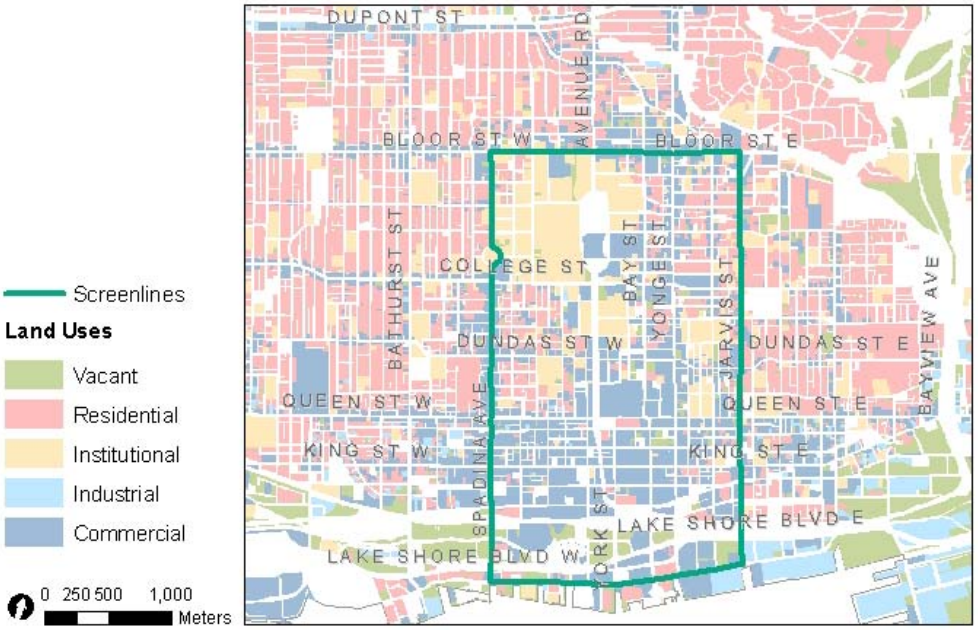

Figure 3. Land Use Transition at Screenlines[4]

[3] Data Source: Statistics Canada. 2008. Employed labour force (1) by mode of transportation, for Toronto census tracts - 20% sample data. Place of Work, 2006 Census. Ottawa. Released April 2, 2008.
[4] Data Source: Geospatial Competency Centre, City of Toronto. 2008. Land Uses: Vacant, Residential, Institutional, Industrial, Commercial.

Table 1. Number of Roads by Type

Road Classification	Screenline				Total
	West (Spadina)	North (Bloor)	East (Jarvis)	South (Queen's Quay)	
Local	3	1	0	0	4
Collector	1	0	1	2	4
Minor Arterial	2	2	4	3	11
Major Arterial	6	3	6	0	15
Total	12	6	11	5	34

Table 2. Number of Roads by Bikeway Type[5]

Bikeway Type	Screenline				Total
	West (Spadina)	North (Bloor)	East (Jarvis)	South (Queen's Quay)	
None	10	5	8	3	26
Bike Lane	2	1	3	2	8
Total	12	6	11	5	34

The Bicycle Counts

Manual bicycle counts were collected by Ontario Traffic Inc. contract staff along the inside of the cordon at 34 locations (Figure 4), from September 13th to October 1st, 2010. The number of people riding a bicycle was counted at each location for one 12 hour period (7:00 AM to 7:00 PM) in 15-minute intervals, on one day when there was no precipitation. People on e-bikes were included in the count. In addition to counting the number of people on bicycles, the following characteristics were also noted: gender, helmet use, and if the person was riding on the sidewalk or if they were a passenger on the bicycle.

The counts were conducted in mid-to-late September to coincide with ITE's NBPD Project, and because cycling trips peak during this timeframe when weather conditions are favourable, school is back in session, and people have returned to work from summer vacation. Locations near the University of Toronto were counted later in the month to avoid capturing irregular traffic volumes and patterns during the first week of school (September 13-17). Other major education institutions (the Toronto District School Boards, Ryerson, and OCAD) began their academic year a week prior to the Bicycle Count (September 7).

Due to weather and staffing constraints, the counts were conducted on all weekdays. It is well established that traffic volumes are lower on Mondays and Fridays, and the preference for future years is to adhere to traffic counting standards and only conduct the counts from Tuesday to Thursday.

For the September 2010 Bicycle Count, 41% of counts were conducted on a Tuesday, Wednesday or Thursday; 26% were collected on a Monday, and 32% were collected on a Friday. All counts that were conducted on a Monday or Friday have been corrected by factoring them by

[5] The only type of bikeway (e.g. signed route, sharrow, bike lane, off-road path) on a screenline road was a bike lane.

the observed difference in average 12 hour traffic volume on a Monday/Friday, versus the average for Tuesday to Thursday, in September. Historical data (June 26, 1994 – July 10, 2008) from an automatic bicycle counter at Danforth Avenue and Castle Frank Crescent was used to determine the conversion factors, which were +9% for Monday and +6% for Friday.

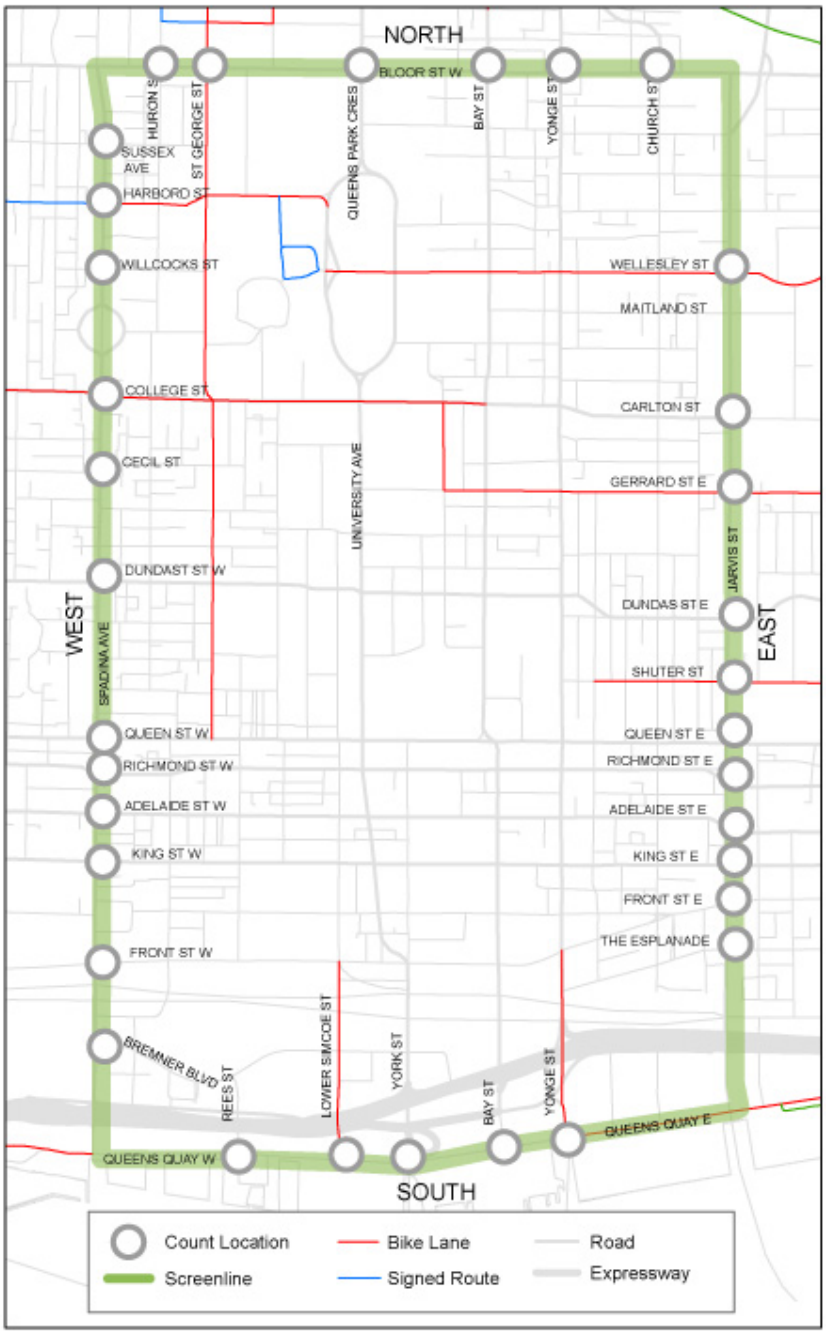

Figure 4. Bicycle Counting Locations

3. Traffic Volume Summary

Between the hours of 7:00 AM and 7:00 PM on a typical weekday in September 2010, 19,162 people on a bicycle entered the downtown core, and 15,241exited the core (Table 3). The inbound and outbound bicycle volumes are outlined *by screenline* for all roads (Table 3 & 4) and for bike lanes only in Table 5. In and outbound volumes *by bicycle lane* are provided in Table 6 and Figure 6.

Across all screenlines there were more cyclists entering the core than exiting during the 12-hour count period. The difference between in and outbound volumes can likely be attributed to cyclists entering the core during the count period, but exiting after 7:00 PM. Some cyclists may have also exited via another mode of travel (e.g. public transit).

Table 3. 12-Hour Bicycle Traffic Volume (7:00 AM – 7:00 PM), by Screenline

Screenline	Inbound		Outbound		Total	
West (Spadina)	9,164	48%	6,469	42%	15,633	45%
North (Bloor)	3,598	19%	3,295	22%	6,893	20%
East (Jarvis)	5,723	30%	4,890	32%	10,613	31%
South (Queen's Quay)	676	4%	587	4%	1,263	4%
Total	19,162	100%	15,241	100%	34,403	100%

Table 4. 12-Hour Bicycle Traffic Volume (7:00 AM - 7:00 PM), by Screenline

Screenline	Inbound		Outbound	
West (Spadina)	9,164	59%	6,469	41%
North (Bloor)	3,598	52%	3,295	48%
East (Jarvis)	5,723	54%	4,890	46%
South (Queen's Quay)	676	54%	587	46%
Total	**19,162**	**56%**	**15,241**	**44%**

The greatest volume of people who enter and exit downtown on a bicycle do so by crossing the western screenline at Spadina Avenue. In fact, 45% of all cyclists travelling to and from the core cross the western screenline, while 31% cross in the east, 20% cross in the north, and 4% cross in the south (Table 3, Figures 5 & 6). The higher volumes for the western and eastern screenlines reflect the predominance of east-west bicycle travel across downtown Toronto. The low volumes observed along the southern screenline at Queen's Quay is to be expected since the screenline abuts Lake Ontario, and comparatively few people live along the lake, south of the Gardiner Expressway. Unfriendly cycling conditions for crossing the Gardiner Expressway may also contribute to the low number of cyclists accessing the core from the southern screenline.

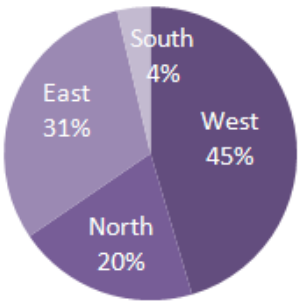

Figure 5. Share of Bicycle Traffic, by Screenline

Of all the bike lanes, the College bike lanes carry the greatest volume of cyclists, with 30% of all cyclists who cross the western screenline and 14% of all cyclists travelling to and from downtown (Table 6). The Harbord bike lane carries the second greatest volumes, with 23% of cyclists who cross the western screenline, and 10% of all cyclists traveling to and from the downtown. The St George bike lanes come in third, with 33% of all cyclists who cross the northern screenline, and 7% of all cyclists travelling to and from the core.

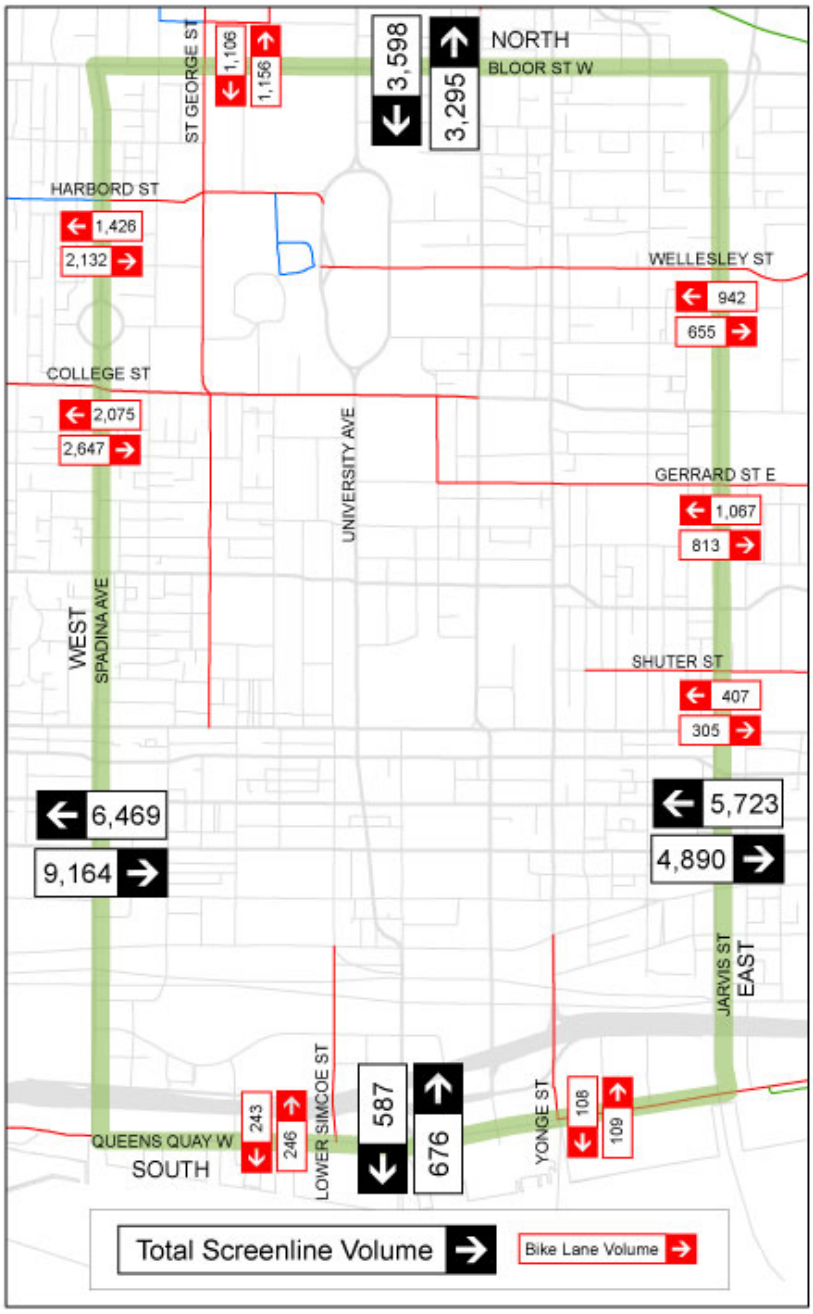

Figure 6. Inbound and Outbound Bicycle Traffic Volume, by Screenline and Bike Lane

Table 5. 12-Hour Bicycle Traffic Volume (7:00 AM – 7:00 PM), Bike Lanes Only

Screenline	Inbound		Outbound		Total	Share of Screenline Bicycle Traffic
West (Spadina)	4,779	58%	3,501	42%	**8,280**	53%
North (Bloor)	1,106	49%	1,156	51%	**2,263**	33%
East (Jarvis)	2,416	58%	1,773	42%	**4,190**	40%
South (Queen's Quay)	355	50%	351	50%	**706**	56%
Total (Bike Lanes Only)	**8,657**	**56%**	**6,782**	**44%**	**15,439**	**45%**

Table 6. 12-Hour Bicycle Traffic Volume (7:00 AM – 7:00 PM), by Bike Lane

Bike Lane	Screenline	Inbound	Outbound	Total	Share of Screenline Bicycle Traffic	Share of All Bicycle Traffic In/Out of the Core
College	West	2,647	2,075	**4,722**	30%	14%
Harbord	West	2,132	1,426	**3,558**	23%	10%
St George	North	1,106	1,156	**2,263**	33%	7%
Gerrard E	East	1,067	813	**1,880**	18%	5%
Wellesley	East	942	655	**1,597**	15%	5%
Shuter	East	407	305	**712**	7%	2%
Lower Simcoe	South	246	243	**489**	39%	1%
Yonge	South	109	108	**217**	17%	0.6%
Total (Bike Lanes Only)		8,657	6,782	**15,439**	-	45%

4. Distribution

Roadway Classification vs. Collected Bicycle Traffic

Cyclists mainly use major and minor arterial roads when entering and exiting the downtown core. Seventy-six percent of all the roads crossing the four screenlines are arterials, yet they carry about 91% of cyclists who travel in and out of downtown (Figure 7). In comparison, 12% of all screenline roads are collectors but they carry only about 3% of cyclists; and 12% of the roads are local, but carry only about 7% of cyclists. Arterials also carry the heaviest motor volumes,[6] but it is likely cyclists still prefer arterials because they are often the most continuous and direct options for getting from point A to point B.

The preference for arterials is particularly evident along the east-west screenlines, but not so along the north and south. Along the southern screenline cyclists show a preference for collector roads (Figure 8). This is likely because one of the two bike lanes that cross the southern screenline is on a collector road (Lower Simcoe Street). This is the only bike lane that crosses a screenline that is not on an arterial road. Across the northern screenline, cyclists are quite evenly distributed across the local versus arterial road types, though with a preference for minor arterials.

[6] Traffic Safety Unit. (2008, May). Screenline Traffic Volume Information Report – 2007. Transportation Services, City of Toronto.

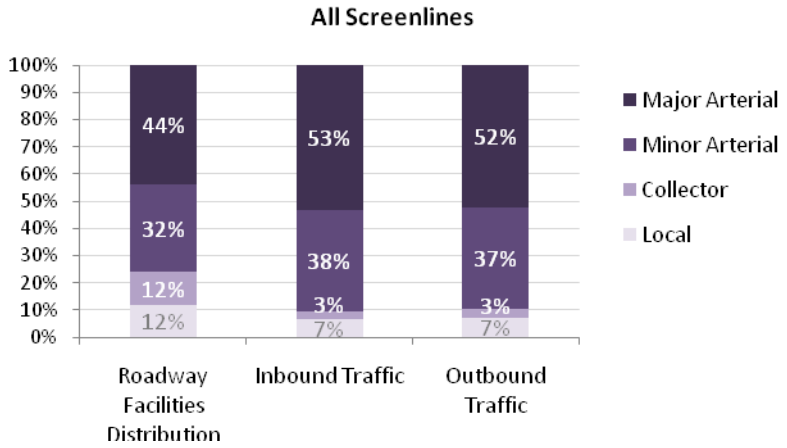

Figure 7. Distribution: Road Classification vs. Collected Bicycle Traffic, All Screenlines

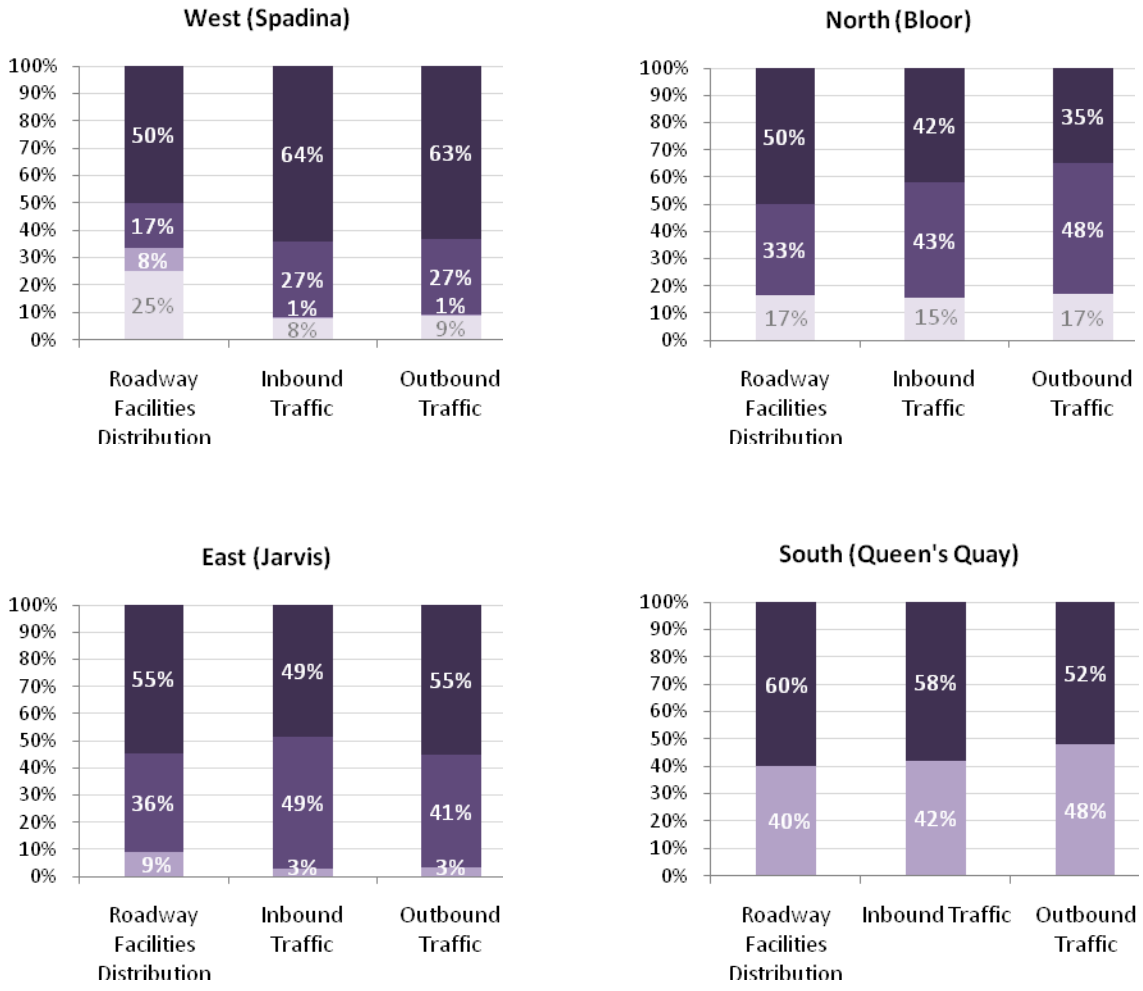

Figure 8. Distribution: Road Classification vs. Collected Bicycle Traffic, by Screenline

Bikeway Classification vs. Collected Bicycle Traffic

As suggested above, many cyclists who travel to and from the downtown core are drawn to roads that have bike lanes. While only 24% of roads crossing a screenline have bike lanes, these bike lane roads carry 45% of all cyclists (Figure 9).

The preference for bike lanes is consistent across all screenlines, though to varying extents (Figure 10). Of the four screenlines, cyclists entering and exiting the core from the western screenline show the strongest preference for bike lanes. Along this screenline only 17% of roads have bike lanes, but the bike lanes carry over 50% of all bicycle traffic. The heightened preference for roads with bike lanes along the western screenline can partially be attributed to ongoing road construction that has deteriorated cycling conditions on non-bike lane roads that cross Spadina Avenue (e.g. on Queen Street West and Dundas Street West). The preference for bike lanes is still evident but less pronounced across the other three screenlines.

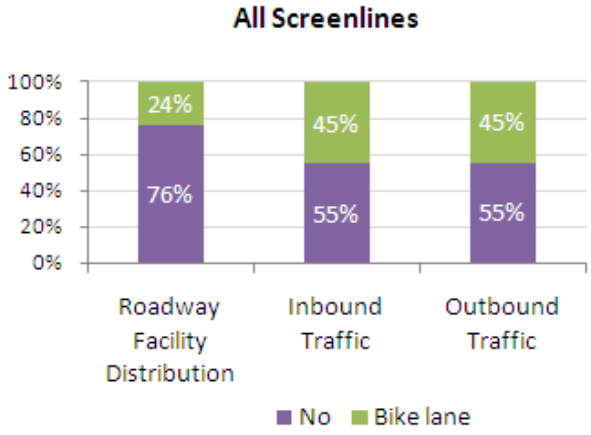

Figure 9. Distribution: Bikeway Facility vs. Collected Bicycle Traffic, All Screenlines

Figure 10. Distribution: Bikeway Facility vs. Collected Bicycle Traffic, by Screenline

5. Travel Patterns

Bicycle traffic entering and exiting the downtown core follows a traditional peak period pattern – with an inbound peak in the morning, and an outbound peak in the afternoon and early evening. In general, there is a modest reverse flow (i.e. AM traffic travelling outbound and PM traffic travelling inbound).

During the September Count, the morning peak period started before the 7:00 AM start time and lasted until about 11:30 AM (Figure 11). The highest inbound bicycle volumes occurred from 8:00 AM to 9:00 AM, when 13% of all 12-hour inbound travel occurred.

The afternoon peak period started around 3:30 PM and lasted past the 7:00 PM end time of the Bicycle Count. The highest outbound bicycle volumes occurred from 5:00 PM to 6:00 PM, when 13% of all 12-hour outbound travel occurred.

In Figures 11 & 12, the beginning and ends of the peaks are visible where the trend line plateaus. Since we cannot see the plateau for the beginning of the morning peak and the end of the afternoon peak, we know that they have not been captured in the 12 hour count. A 24 hour count conducted on College Street confirms these findings (see page 13).

The travel patterns were consistent across the four screenlines, although a shorter AM peak was observed along the southern screenline (Figure 12). Across all screenlines, the morning peak occurred at 8:30 AM and the afternoon at 5:30 PM.

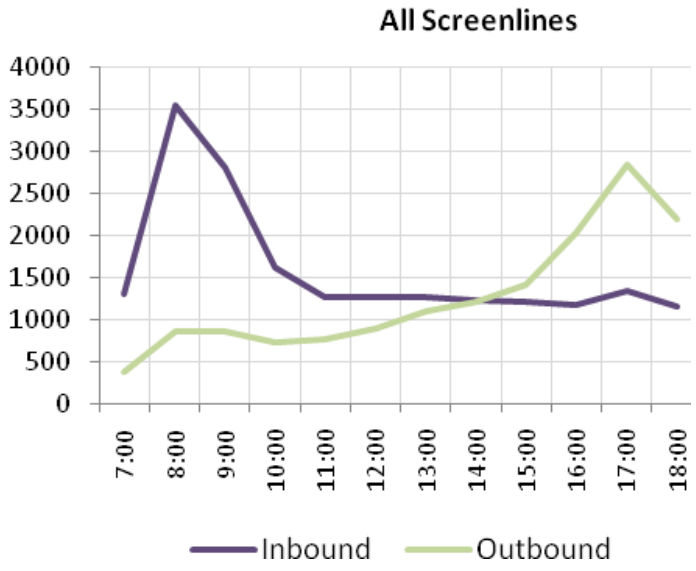

Figure 11. Hourly Inbound and Outbound Bicycle Traffic, All Screenlines

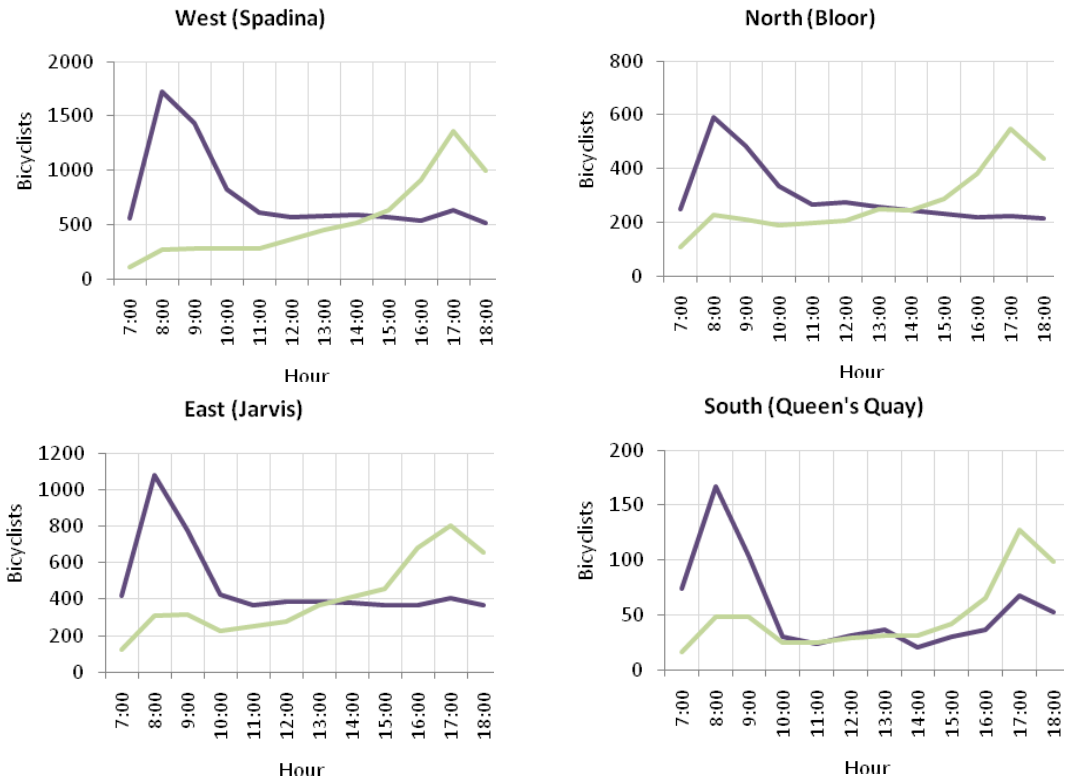

Figure 12. Hourly Inbound and Outbound Bicycle Traffic, by Screenline

Travel Patterns in Detail: Automatic Bicycle Count on the College Street Bike Lane

During the September Bicycle Count, an automatic counter was set out on College Street at Spadina Avenue to collect a 24-hour bicycle count for nine days, including five weekdays and two weekends (September 18-26, 2010). The automatic bicycle counter (distributed by EcoCounter®), is a pneumatic road tube designed to capture bicycle traffic, and was set out across the bike lane portion of the road only. This auto-counter provides a broader data set than the manual Bicycle Count, including 24-hour data, and counts for weekends and one rain day (Wednesday September 22). However, the automatic counter missed approximately 13% of cyclists who chose to manoeuvre out of the bike lane to avoid riding over the tube.[7] The volumes shown in the figures below have not been corrected to reflect the missed cyclists, but the difference is noted in Table 7.

On average during the College Street automatic count, 78% of bicycle trips occurred between the hours of 7:00 AM and 7:00 PM (the hours of the Bicycle Count). If this observation was applied to the September Bicycle Count (which documented 34,403 cyclists during the 12-hour period) we could estimate that 44,106 cyclists travel in and out of the core on an average weekday.

[7] Same-day manual and automatic counts were compared to determine the exact percentage of cyclists missed by the automatic counter. Cycling staff are developing signage to encourage cyclists to not swerve around the pneumatic tube for future counts (e.g. "Be part of the cyclist count!", or "Roll by and be counted").

Overview

During the College Street auto-count, an average of 2,262 eastbound (inbound) and 2,405 westbound (outbound) cyclists were counted daily during the week (Monday to Friday) (Table 7). As expected, cyclist volumes were about 45% lower on the weekends, and about 20% lower on the one rain day (Table 7). Overall, the 24 hour volumes were higher in the westbound direction – unlike the 12 hour Bicycle Count, which had higher volumes in the inbound direction across all screenlines. This discrepancy is likely due to the fact that the Bicycle Count missed a portion of cyclists who travel outbound (westbound along the western screenline) after 7:00 PM. Also, bicycle volumes were as high on the Monday as the Tuesday and Thursday volumes, which is inconsistent with observed historical trends in traffic flows. As mentioned above, traffic volumes are typically lower on Mondays and Fridays. Slightly lower volumes were observed on Friday, as expected (Figure 13).

Table 7. Bicycle Traffic Volume, College Street Auto-count at Spadina Avenue, September 18-26, 2010

Count Type	Bicycle Volume	Corrected Bicycle Volume (+13%)	
Weekday Eastbound Avg*	2,262	2,556	
Weekday Westbound Avg*	2,405	2,718	
			Volume Comparison to Dry Weekday
Saturday Eastbound Avg	1,205	1,362	53%
Saturday Westbound Avg	1,318	1,489	55%
Sunday Eastbound Avg	1,232	1,392	54%
Sunday Westbound Avg	1,391	1,572	58%
Rain Day Eastbound	1,861	2,103	82%
Rain Day Westbound	1,951	2,205	81%

*Average, excluding the rain day.

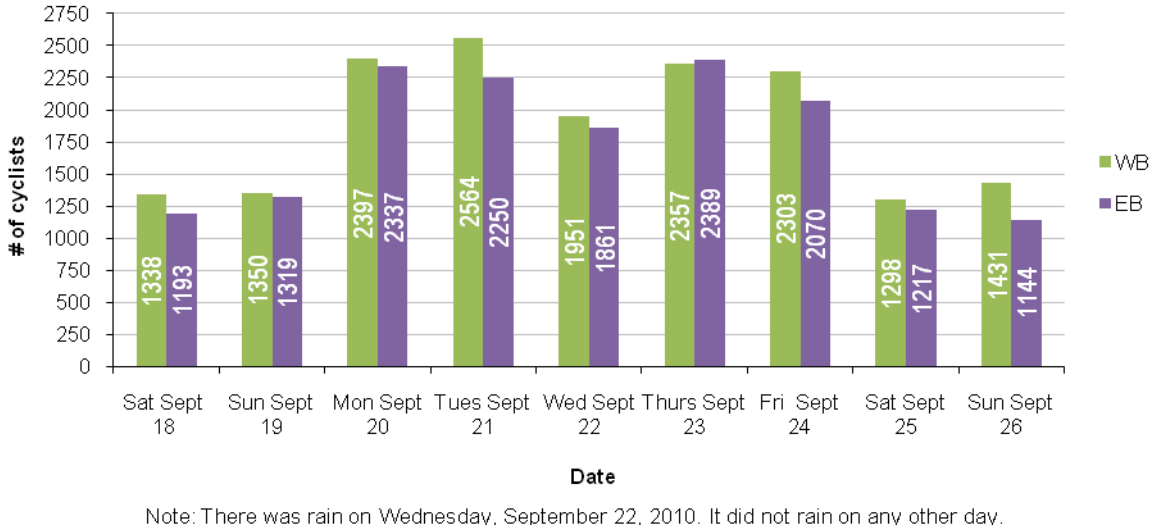

Figure 13. Daily Bicycle Traffic, by Direction of Travel on the College Street Bike Lane[8]

[8] Note: The manual Bicycle Count was completed on College Street on Friday September 24, 2010.

Travel Patterns

During the week of the auto-count, the College Street peak periods were consistent with the manual Bicycle Count (see page 11) (Figures 14 and 15). Since a full 24-hours were observed, the auto-count shows the beginning (5:00 AM) and end (somewhere between 7:30-8:30 PM) of the peak periods, which was not captured by the 12-hour Bicycle Count.

On the weekends, College Street bicycle volumes increased during the day with the highest volumes record from 11:00 AM to 12:00 PM in the eastbound direction, and 5:00 PM to 6:00 PM westbound (Figures 16 & 17). Westbound bicycle traffic climbed again slightly after 9:00 PM. Compared to the weekdays, weekend bicycle traffic flows are more moderate throughout the mid-day, without strongly defined directional AM and PM peaks.

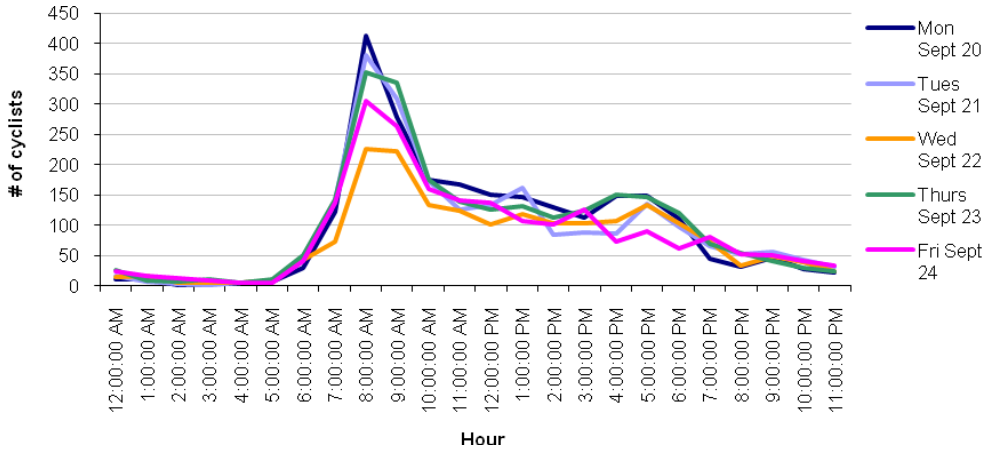

Figure 14. Weekday Bicycle Volume by Hour, College Street Bike Lane Approaching Spadina Avenue, Eastbound (Inbound), September 20-24, 2010

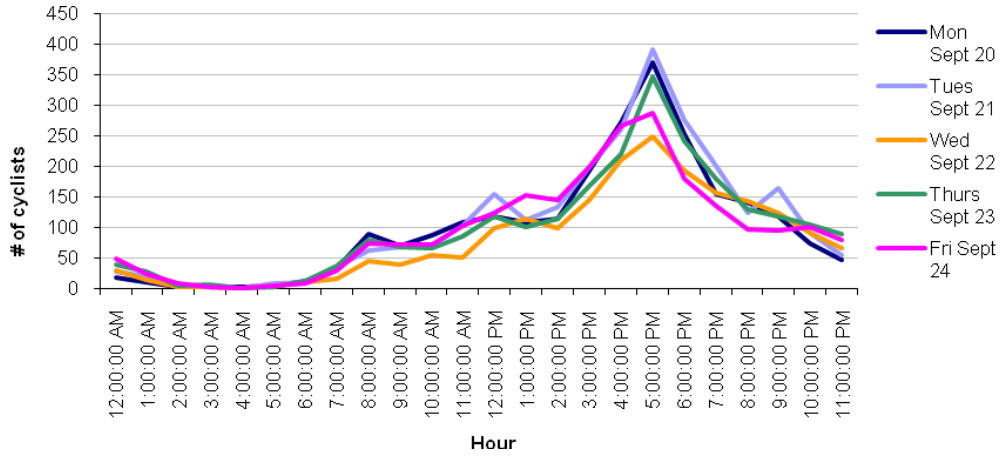

Figure 15. Weekday Bicycle Volume by Hour, College Street Bike Lane Approaching Spadina Avenue, Westbound (Outbound), September 20-24, 2010

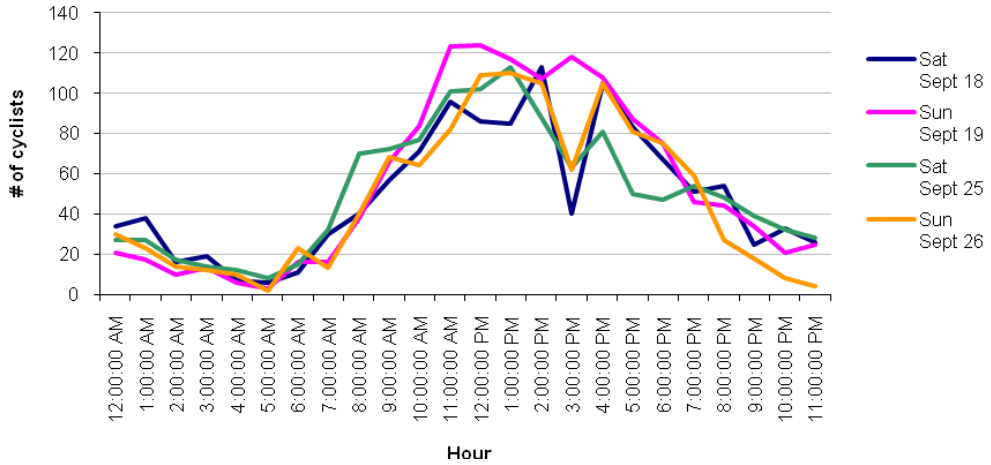

Figure 16. Weekend Bicycle Volume by Hour, College Street Bike Lane Approaching Spadina Avenue, Eastbound (Inbound), September 18-19, 2010

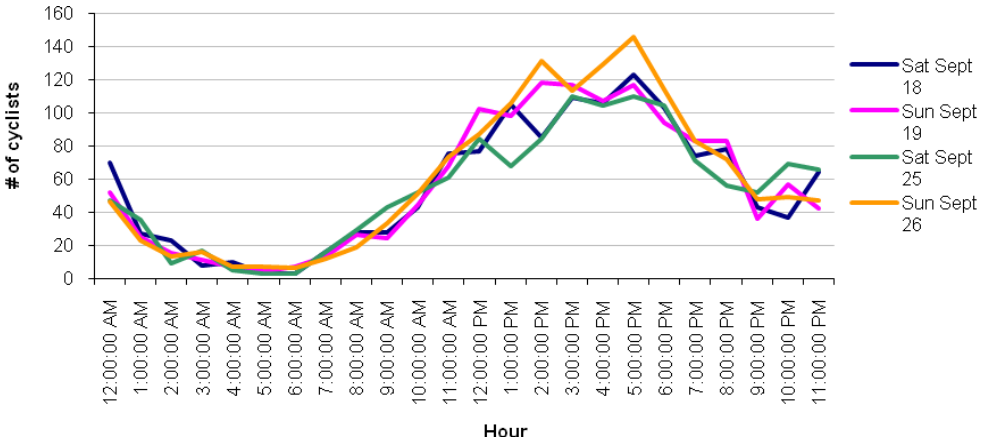

Figure 17. Weekend Bicycle Volume by Hour, College Street Bike Lane Approaching Spadina Avenue, Westbound (Outbound), September 18-19 and 25-26, 2010

6. Cyclist Characteristics

In the September 2010 Bicycle Count, 62% of all cyclists were male, and 38% were female (Figure 18, Table 8). In other North American cities, the average is closer to 70% male and 30% female. A higher share of female cyclists is typically found in cities with higher overall bicycle mode shares, and higher quality cycling facilities – which both make cycling safer and more attractive to a broader range of people (for example, the young, old and female).

It is notable that the gender split was fairly consistent across all screenlines except for the western screenline, where a higher proportion of cyclists was female (41%) (Table 8). This is the screenline with by far the heaviest bicycle traffic volumes, and the greatest proportion of cyclists choosing roads with bike lanes. Across the downtown screenlines, the gender split was more even for roads with bike lanes (average 59% male and 41% females) than roads without bike

lanes (64% males and 36% female) (Table 9). The most "equal" bicycle lane was Harbord, with a 55% male, 45% female gender split.

The Bicycle Count also found that just under half (46%) of cyclists wear a helmet (Figure 18). Across the four screenlines, cyclists travelling across the north and south screenlines were more likely to wear a helmet than cyclists crossing the east and west screenlines (Table 8). Cyclists riding in a bike lane were more likely to wear a helmet than cyclists riding elsewhere (50% versus 44%) (Table 9).

The majority of cyclists counted were riding in the street, with only about 5% riding on the sidewalk (Figure 18). This was consistent across all screenlines, except for the southern screenline where 15% of cyclists rode on the sidewalk (Table 8). The higher incidence of sidewalk riding along the southern screenline is likely because the cycling conditions are more challenging in that area. Cyclists riding on a street with a bike lane were less likely to ride on the sidewalk than cyclists riding elsewhere (3% versus 6%) (Table 9). Finally, very few (0.32%, n=208) of the people counted on bicycles were passengers (e.g. a child in a child seat or trailer) (Figure 18, Tables 8 & 9).

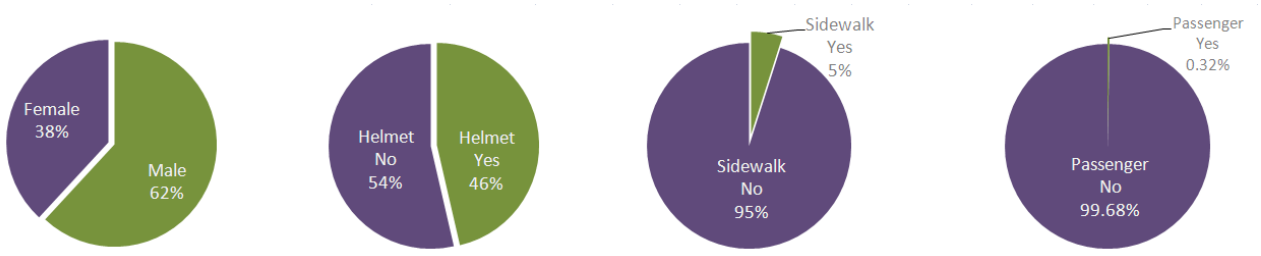

Figure 18. Cyclist Characteristics (All Screenlines)

Table 8. Cyclist Characteristics, by Screenline

Screenline	Gender		Helmet		Passenger		Sidewalk	
	Male	Female	Yes	No	Yes	No	Yes	No
West	59%	41%	45%	55%	0.28%	99.73%	4%	96%
North	63%	37%	50%	50%	0.48%	99.52%	4%	96%
East	65%	35%	45%	55%	0.29%	99.71%	5%	95%
South	65%	35%	53%	47%	0.08%	99.92%	15%	85%
Total	**62%**	**38%**	**46%**	**54%**	**0.32%**	**99.69%**	**5%**	**95%**

Table 9. Cyclist Characteristics, Overall and by Bikeway Provision

	Gender		Helmet		Passenger		Sidewalk	
	Male	Female	Yes	No	Yes	No	Yes	No
Overall	62%	38%	46%	54%	0.32%	99.69%	5%	95%
No Bike Lane	64%	36%	44%	56%	0.34%	99.67%	6%	94%
Bike Lane	59%	41%	50%	50%	0.32%	99.68%	3%	97%

7. Next Steps

The September Bicycle Count has shown there are thousands of cyclists riding downtown, and it has provided information about when and where they are cycling, their gender, helmet use, and whether they carry a passenger or ride on the sidewalk. This first Count provides baseline data from which the City can track trends in cycling in downtown Toronto. The data can also be used to guide decisions about new infrastructure and upgrades, policies and programs for cycling.

Improving Data Quality

1. Beginning in 2011, the manual Bicycle Count will only be conducted mid-week on Tuesdays, Wednesdays and Thursdays. Adhering to basic transportation data collection standards will improve the reliability of the data, and negate the need to correct the data after it is collected – thereby improving accuracy.

2. To capture a larger portion of cyclists travelling in and out of the downtown core, the 12 hour manual count will be extended to an 18 hour count. Based on the College Street auto-count, an 18 hour count (6:00 AM to 12:00 AM) will capture 97% of bicycle traffic.[9]

Sharing the Data

3. As intended, the Bicycle Count data will be submitted as part of ITE's NBPD Project, with the required supplemental data, e.g. surrounding land uses, quality of connecting facilities, access, etc.

4. The data will be released publicly through the City of Toronto's Open Data web site at http://www.toronto.ca/open/. In doing so, the City can benefit from the additional analysis and application of the data by the public.

5. As part of the City's continued release of the Bicycle Count data, the count instructions will be made available online so community groups can complete their own counts using consistent methods. This way, when community groups take the initiative to collect data on cycling (or walking) in their neighbourhood, the usefulness of that data will be maximized. The Methods section of this report provides details about how the count was conducted, and for the time being, community groups can access full data collection instructions on ITE's NBPD Project web page at http://bikepeddocumentation.org/, under "Downloads".

[9] Based on the College Street auto-count, extending the count before 7AM and after 7PM can increase the portion of captured bicycle traffic, as follows:

Count Duration		% of daily bicycle traffic captured
12 hour	7AM-7PM	78%
14 hour	7AM-9PM	87%
16 hour	6AM-10PM	93%
18 hour	6AM-12AM	97%

Expanding the Program

Capturing Daily, Weekly and Seasonal Trends

6. To build on this initial count and establish a bicycle count database, the City will repeat the September count annually, and consider adding counts in January, May and July, or some other suitable intervals during the year. Cycling staff will review opportunities to coordinate the Bicycle Count with future pedestrian counts.

7. Adding permanent counters at key locations with high bicycle volumes is a short-term priority to help track daily, weekly and seasonal trends in cycling. The provincial Ministry of Transportation has shown an interest in automatic and permanent counters for bicycles, and will be approached to examine the possibility of resource-sharing.

Bicycle Infrastructure Counts

8. Beyond general road counts, Cycling staff will collect auto-counts for all bike lanes and paths, including:
    - A "before" count for all new bike lanes and paths
    - A one-year follow-up count for all new bike lanes and paths
    - A count between May and October once every three years for all existing bike lanes and paths.

    This data will be released publicly on the City of Toronto's Open Data web site, and be used to track the impact of investments in new bicycle infrastructure, and for guiding decision-making about new investments.

Counting Beyond the Downtown Core

9. Once the downtown program is established, counts will be added beyond the downtown core. These additional counts may be located in or near areas designated as centres, employment districts or other destinations (e.g. Etobicoke Centre, North York Centre, Yonge-Eglinton Centre, Scarborough Centre, York University), or neighbourhoods known to have higher cycling levels (e.g. in the west end). These counts will be used to assist in identifying/prioritizing routes outside of the downtown core as opportunities arise, particularly through redevelopment.

Appendix: 12 hour Inbound and Outbound Bicycle Volumes by Road (Monday & Friday Corrected)

							Start Time													
ID	Cross Street	Road Class	Bikeway	Date	Day	Weather	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	**Totals**	**%**
WEST BOUNDARY (SPADINA)																				
INBOUND (EASTBOUND)																				
54542	Sussex	Local	No	9/23/2010	Thurs	Clear	14	46	33	16	15	13	20	15	18	16	8	10	224	2%
54544	Harbord	Minor Arterial	Bike Lane	9/23/2010	Thurs	Clear	119	439	418	235	163	138	120	93	99	103	109	96	2,132	23%
54546	Wilcocks	Local	No	9/23/2010	Thurs	Clear	4	25	22	24	10	13	26	20	21	23	15	17	220	2%
54548	College	Major Arterial	Bike Lane	9/24/2010	Fri	Clear	176	520	440	224	196	181	171	182	172	125	145	114	2,647	29%
54550	Cecil	Local	No	9/13/2010	Mon	Sunny	4	38	31	22	11	12	13	26	22	22	34	27	262	3%
54552	Dundas W	Major Arterial	No	9/14/2010	Tues	Sunny	48	142	113	82	55	59	51	60	63	64	79	60	876	10%
54554	Queen W	Major Arterial	No	9/23/2010	Thurs	Clear	57	115	76	54	40	44	58	65	55	51	75	60	750	8%
54603X	Richmond W	Major Arterial	No	9/27/2010	Mon	Cloudy/Rain	1	0	2	4	3	3	5	9	1	1	1	2	34	0%
54604	Adelaid W	Major Arterial	No	9/27/2010	Mon	Cloudy/Rain	38	159	133	64	44	31	26	24	27	33	32	29	640	7%
54556	King W	Major Arterial	No	9/14/2010	Tues	Sunny	65	169	114	73	48	51	64	64	61	68	93	67	937	10%
54558	Front W	Minor Arterial	No	9/15/2010	Weds	Clear	26	55	40	24	24	23	23	26	30	29	41	33	374	4%
54560	Bremner	Collector	No	9/15/2010	Weds	Clear	5	10	12	8	3	5	2	5	6	5	4	4	69	1%
						Totals	558	1719	1434	830	612	573	579	589	575	540	636	520	9,164	100%
						%	6%	19%	16%	9%	7%	6%	6%	6%	6%	6%	7%	6%	100%	
OUTBOUND (WESTBOUND)																				
54514	Sussex	Local	No	9/23/2010	Thurs	Clear	3	7	9	7	7	8	12	16	19	32	45	39	204	3%
54543	Harbord	Minor Arterial	Bike Lane	9/23/2010	Thurs	Clear	13	40	44	57	51	67	76	125	110	213	372	258	1,426	22%
54545	Wilcocks	Local	No	9/23/2010	Thurs	Clear	4	8	12	11	14	13	9	17	19	19	43	36	205	3%
54547	College	Major Arterial	Bike Lane	9/24/2010	Fri	Clear	29	70	64	74	105	138	170	174	254	300	408	290	2,075	32%
54549	Cecil	Local	No	9/13/2010	Mon	Sunny	2	8	8	4	9	11	12	12	13	17	26	21	143	2%
54551	Dundas W	Major Arterial	No	9/14/2010	Tues	Sunny	15	22	34	43	26	38	51	29	39	61	82	78	518	8%
54553	Queen W	Major Arterial	No	9/23/2010	Thurs	Clear	21	35	34	30	21	27	35	41	54	86	111	96	591	9%
54603	Richmond W	Major Arterial	No	9/27/2010	Mon	Cloudy/Rain	2	25	23	9	1	11	23	15	20	45	84	43	300	5%
54604X	Adelaide W	Major Arterial	No	9/27/2010	Mon	Cloudy/Rain	1	0	2	1	9	4	1	2	7	7	10	8	51	1%
54555	King W	Major Arterial	No	9/14/2010	Tues	Sunny	14	39	37	27	18	29	33	46	60	76	104	75	558	9%
54557	Front W	Minor Arterial	No	9/15/2010	Weds	Clear	9	18	19	18	19	21	25	34	32	44	66	47	352	5%
54559	Bremner	Collector	No	9/15/2010	Weds	Clear	2	2	2	3	3	3	5	3	4	10	5	4	46	1%
						Totals	115	274	287	284	282	370	452	514	631	910	1356	994	6,469	100%
						%	2%	4%	4%	4%	4%	6%	7%	8%	10%	14%	21%	15%	100%	

							Start Time													
ID	Cross Street	Road Class	Bikeway	Date	Day	Weather	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	**Totals**	**%**
NORTH BOUNDARY (BLOOR)																				
INBOUND (SOUTHBOUND)																				
54592	Church	Minor Arterial	No	9/21/2010	Tues	Clear	28	67	52	23	29	29	29	29	27	32	43	39	427	12%
54594	Yonge	Major Arterial	No	9/20/2010	Mon	Clear	27	48	47	36	36	35	33	40	44	40	34	35	455	13%
54596	Bay	Major Arterial	No	9/20/2010	Mon	Sunny	51	116	89	51	36	36	37	51	53	45	51	45	662	18%
54598	Queen's Park	Major Arterial	No	9/27/2010	Mon	Clear	25	57	53	51	33	38	35	29	23	20	15	14	393	11%
54600	St George	Minor Arterial	Bike Lane	9/27/2010	Mon	Cloudy	86	219	167	110	86	89	84	65	62	46	47	45	1,106	31%
54602	Huron	Local	No	9/24/2010	Fri	Clear	32	87	75	65	48	46	39	30	25	38	35	36	555	15%
						Totals	249	593	484	336	267	273	257	245	234	221	225	213	3,598	100%
						%	7%	16%	13%	9%	7%	8%	7%	7%	7%	6%	6%	6%	100%	
OUTBOUND (NORTHBOUND)																				
54591	Church	Minor Arterial	No	9/21/2010	Tues	Clear	27	37	27	20	22	25	33	35	41	49	60	55	431	13%
54593	Yonge	Major Arterial	No	9/20/2010	Mon	Clear	5	15	16	10	17	17	19	25	33	40	51	53	301	9%
54595	Bay	Major Arterial	No	9/20/2010	Mon	Sunny	10	28	24	25	28	24	33	35	36	74	140	104	560	17%
54597	Queen's Park	Major Arterial	No	9/27/2010	Mon	Clear	9	15	27	27	22	28	39	33	31	27	19	13	290	9%
54599	St George	Minor Arterial	Bike Lane	9/27/2010	Mon	Cloudy	26	47	41	43	60	68	86	88	121	152	246	179	1,156	35%
54601	Huron	Local	No	9/24/2010	Fri	Clear	32	87	75	65	48	46	39	30	25	38	35	36	555	17%
						Totals	109	229	211	189	197	207	249	246	287	380	550	439	3,295	100%
						%	3%	7%	6%	6%	6%	6%	8%	7%	9%	12%	17%	13%	100%	

							Start Time													
ID	Cross Street	Road Class	Bikeway	Date	Day	Weather	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	**Totals**	**%**
EAST BOUNDARY (JARVIS)																				
INBOUND (WEST BOUND)																				
54573	The Esplanade	Collector	No	9/13/2010	Mon	Clear	14	43	20	1	2	7	17	17	11	9	11	12	164	3%
54575	Front E	Minor Arterial	No	9/13/2010	Mon	Sunny	24	48	39	24	25	37	24	20	27	37	31	32	367	6%
54577	King E	Major Arterial	No	9/17/2010	Fri	Sunny	29	68	58	43	36	36	32	41	42	38	46	46	515	9%
54579	Queen E	Major Arterial	No	9/17/2010	Fri	Clear	33	98	78	64	57	43	35	57	61	58	72	73	730	13%
54581	Shuter	Minor Arterial	Bike Lane	9/17/2010	Fri	Clear	53	119	65	6	3	22	32	28	29	27	11	14	407	7%
54583	Dundas E	Major Arterial	No	10/1/2010	Fri	Clear	29	116	90	63	39	45	50	34	35	35	33	30	597	10%
54585	Gerrard E	Minor Arterial	Bike Lane	9/24/2010	Fri	Clear	95	251	196	89	67	68	60	42	47	51	56	45	1,067	19%
54587	Carlton	Major Arterial	No	9/24/2010	Fri	Clear	57	128	69	39	53	53	71	71	45	18	39	31	674	12%
54589	Wellesley	Minor Arterial	Bike Lane	9/21/2010	Tues	Clear	76	181	137	78	60	56	52	53	48	61	80	60	942	16%
54605X	Adelaide E	Major Arterial	No	10/1/2010	Fri	Clear	2	3	3	0	0	3	4	5	4	1	0	1	28	0%
54606	Richmond E	Major Arterial	No	10/1/2010	Fri	Clear	7	23	21	21	22	15	7	10	20	31	30	24	232	4%
						Totals	419	1077	777	428	365	385	385	378	369	365	408	366	5,723	100%
						%	7%	19%	14%	7%	6%	7%	7%	7%	6%	6%	7%	6%	100%	
OUTBOUND (EASTBOUND)																				
54574	The Esplanade	Collector	No	9/13/2010	Mon	Clear	3	14	9	3	2	11	20	11	10	17	38	25	164	3%
54576	Front E	Minor Arterial	No	9/13/2010	Mon	Sunny	4	8	12	9	20	15	15	22	24	32	52	41	254	5%
54578	King E	Major Arterial	No	9/17/2010	Fri	Sunny	18	36	33	21	27	28	36	40	47	83	85	63	515	11%
54580	Queen E	Major Arterial	No	9/17/2010	Fri	Clear	7	34	42	51	33	34	40	51	40	55	119	105	612	13%
54582	Shuter	Minor Arterial	Bike Lane	9/17/2010	Fri	Clear	10	17	17	8	19	20	21	21	28	47	56	41	305	6%
54584	Dundas E	Major Arterial	No	10/1/2010	Fri	Clear	11	29	36	32	20	30	52	55	65	73	50	49	500	10%
54586	Gerrard E	Minor Arterial	Bike Lane	9/24/2010	Fri	Clear	5	35	46	35	45	42	38	53	76	153	152	134	813	17%
54588	Carlton	Major Arterial	No	9/24/2010	Fri	Clear	27	60	53	35	46	52	78	90	99	94	82	68	783	16%
54590	Wellesley	Minor Arterial	Bike Lane	9/21/2010	Tues	Clear	26	46	41	23	25	29	37	49	46	100	130	103	655	13%
54605	Adelaide E	Major Arterial	No	10/1/2010	Fri	Clear	14	29	25	11	8	17	30	19	22	21	36	24	257	5%
54606X	Richmond E	Major Arterial	No	10/1/2010	Fri	Clear	0	1	2	1	6	2	2	3	3	4	3	3	32	1%
						Totals	125	308	316	229	250	280	370	415	459	679	802	656	4,890	100%
						%	3%	6%	6%	5%	5%	6%	8%	8%	9%	14%	16%	13%	100%	

							Start Time													
ID	Cross Street	Road Class	Bikeway	Date	Day	Weather	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	**Totals**	**%**
SOUTH BOUNDARY (QUEEN'S QUAY)																				
INBOUND (NORTHBOUND)																				
54561	Rees	Collector	No	9/17/2010	Fri	Clear	4	4	4	2	3	4	5	1	2	2	4	2	39	6%
54563	Lower Simcoe	Collector	Bike Lane	9/14/2010	Tues	Clear	33	71	50	13	7	11	9	7	10	11	12	12	246	36%
54566	York	Minor Arterial	No	9/14/2010	Tues	Clear	12	30	15	4	4	6	5	3	8	8	15	12	122	18%
54568	Bay	Minor Arterial	No	9/15/2010	Weds	Clear	16	36	21	7	7	6	11	5	6	11	19	15	160	24%
54571	Yonge	Minor Arterial	Bike Lane	9/15/2010	Weds	Clear	9	26	14	4	3	4	6	5	4	5	17	12	109	16%
						Total	74	167	104	30	24	31	36	21	30	37	67	53	676	100%
						%	11%	25%	15%	4%	4%	5%	5%	3%	4%	5%	10%	8%	100%	
OUTBOUND (SOUTHBOUND)																				
54562	Rees	Collector	No	9/17/2010	Fri	Clear	0	4	2	2	4	4	5	2	3	5	3	3	39	7%
54564	Lower Simcoe	Collector	Bike Lane	9/14/2010	Tues	Clear	10	17	18	4	10	12	11	9	13	26	63	50	243	41%
54567	York	Minor Arterial	No	9/14/2010	Tues	Clear	4	6	6	5	3	4	4	4	8	9	20	11	84	14%
54569	Bay	Minor Arterial	No	9/15/2010	Weds	Clear	1	10	12	8	2	4	6	8	8	12	25	17	113	19%
54572	Yonge	Minor Arterial	Bike Lane	9/15/2010	Weds	Clear	1	11	10	6	6	5	5	8	10	13	16	17	108	18%
						Total	16	48	48	25	25	29	31	31	42	65	127	98	587	100%
						%	3%	8%	8%	4%	4%	5%	5%	5%	7%	11%	22%	17%	100%	