

Bike Lanes, On-Street Parking and Business

A Study of Bloor Street in Toronto's Annex Neighbourhood



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EXECUTIVE SUMMARY

Proposals to install bike lanes on major streets are often met with opposition from merchants who fear that the reallocation of road space from on-street parking to on-street bike lanes would hurt business. The purpose of this study is to understand and estimate the importance of on-street parking to business on Bloor Street in the Annex neighbourhood of Toronto.

To encourage more Canadians to use bicycles for utilitarian trips more often, it is essential that the implementation of bike lanes on major streets be accelerated. The Bloor-Danforth corridor is a particularly attractive option for a city-wide east-west bike lane in Toronto because it is one of the only long, straight, relatively flat routes that connects the city from end to end; there are no streetcar tracks; and it has one of the highest incidences of bicycle collisions in the city.

This report is about the development and testing of new analytic tools to determine the public acceptability and economic impact of reallocating road space. The study – conducted in July of 2008 – surveyed the opinions and preferences of 61 merchants and 538 patrons on Bloor Street and analyzed parking usage data in the area.

Among the study's findings:

- Only 10% of patrons drive to the Bloor Annex neighbourhood;
- Even during peak periods no more than about 80% of paid parking spaces are paid for;
- Patrons arriving by foot and bicycle visit the most often and spend the most money per month;
- There are more merchants who believe that a bike lane or widened sidewalk would increase business than merchants who think those changes would reduce business;
- Patrons would prefer a bike lane to widened sidewalks at a ratio of almost four to one; and
- The reduction in on-street parking supply from a bike lane or widened sidewalk could be accommodated in the area's off-street municipal parking lots.

The spending habits of cyclists and pedestrians, their relatively high travel mode share, and the minimal impact on parking all demonstrate that merchants in this area are unlikely to be negatively affected by reallocating on-street parking space to a bike lane. On the contrary, this change will likely increase commercial activity.

It is recommended that this type of study be replicated on other commercial streets where there is concern about reducing parking to accommodate wider sidewalks or bicycle lanes.

Specifically, the researchers also recommend that the City of Toronto use this study to look more closely at the future of Bloor Street as a candidate for a cross-town bikeway.

1. INTRODUCTION

Like other road users, bicyclists on utilitarian trips – from home to work or shopping, for example – prefer to take the most direct route between Point A and Point B. Because so many destinations are concentrated on major streets, this often entails riding on roads where the volume and/or speed of motor vehicle traffic is high. However, a 1999 survey of Toronto cyclists found that only 18% of cyclists reported feeling comfortable biking on major roads without bike lanes, whereas 53% reported feeling comfortable cycling on major roads with bike lanes (Decima Research, 2000).

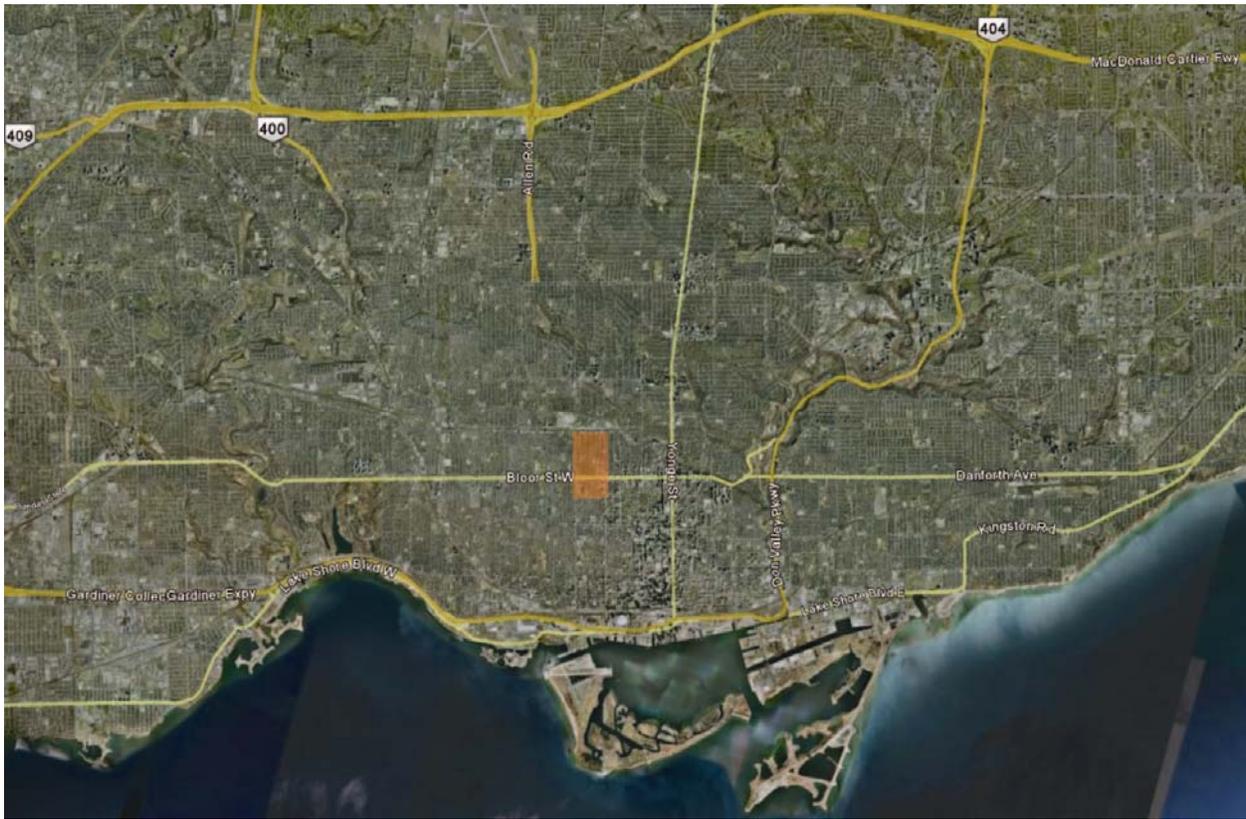
To encourage more Canadians to use bicycles for utilitarian trips more often, it is essential that the implementation of bike lanes on major streets be accelerated. However, proposals of this sort often meet with opposition from business owners on major streets who fear that the reallocation of road space from on-street parking to on-street bike lanes would hurt business. More than halfway through the timeline established for the implementation of the Toronto Bike Plan, less than 20% of the planned-for on-street bike lanes have been built, in part because of opposition from businesses on streets where they are proposed.

1.1 STUDY PURPOSE

The purpose of this study is to understand and estimate the importance of on-street parking to business. Regardless of the specific findings of the study, the project is intended to increase the ability of Canadian municipalities to better determine the public acceptability and economic impact of new bike lanes on major streets, as the analytical tools created will be made available to all municipalities so that they can replicate the study in their own jurisdictions. This tool will help municipalities determine whether vocal opponents of bike lanes reflect the opinions of the majority and whether warnings about loss of business from reduced parking are accurate.

1.2 STUDY DESCRIPTION

The study incorporated a series of surveys to: a) determine the relative importance of on-street parking to business activity on Bloor Street West in the Annex, a medium-to-high-density, traditional commercial street in downtown Toronto; and b) project the impacts on business activity of reallocating space in the Annex from on-street parking to bike lanes or widened sidewalks. For the purposes of this study, the Bloor Annex neighbourhood was defined as the area surrounding Bloor Street, bounded by Palmerston Boulevard to the West, Huron Street to the East, Dupont Street to the North and Harbord Street to the South (see Map 1. The Bloor Annex neighbourhood within the larger Toronto context).



Map 1. The Bloor Annex neighbourhood (highlighted in orange) within the larger Toronto context

(Source data: Google Earth,)

Data were collected using the following sources:

1. A survey of area merchants to gauge assumptions about the modes of transportation patrons use to access the neighbourhood and in what proportions.
2. A pedestrian intercept survey to determine how patrons access the neighbourhood, how often, and how much money they spend there. This survey also included a question about the type of road space allocation (to cars, bikes, or pedestrians) they would prefer.
3. On-street parking data to determine what percentage of the on-street parking spaces are occupied at different times of day.
4. Off-street parking data to determine whether there is underutilized capacity.

2. CONTEXT

2.1 BACKGROUND

City planners and engineers face competing priorities for space, especially when it comes to road space on commercial streets. From building line to building line, decisions need to be made whether to allocate space to commercial activity, sidewalks, street furniture, trees and other plantings, bicycle parking, car parking, parking meters, bicycle lanes, public transit and motor vehicle travel lanes (see Figure 1. Sample street configuration, including bike lane and streetcar). In many cases, it is not possible to accommodate all of these priorities, and it is the job of planners to weigh the needs of the various road and other public space users to make recommendations for the greatest public good. However, elected officials often make the final decision and their opinions may differ from those of the planners.

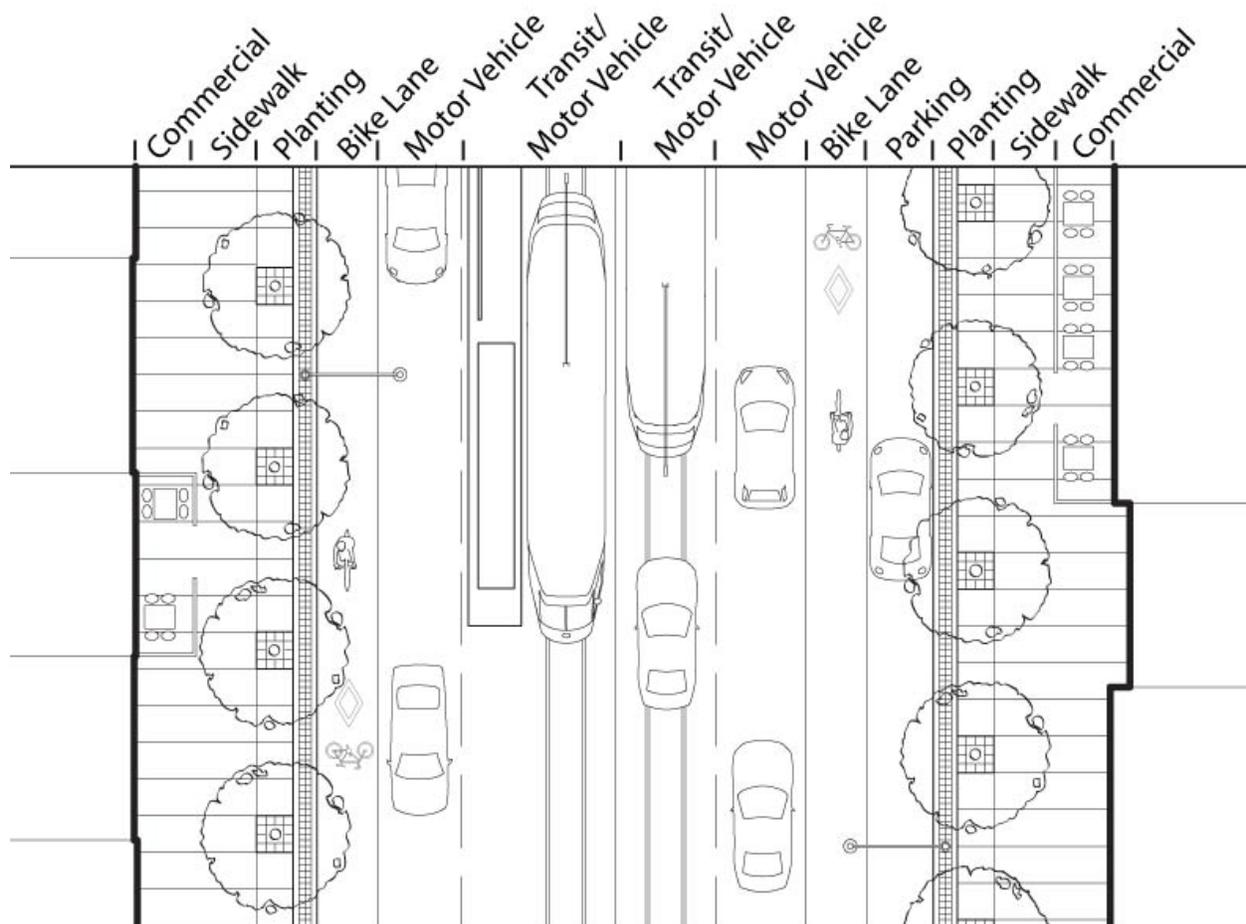


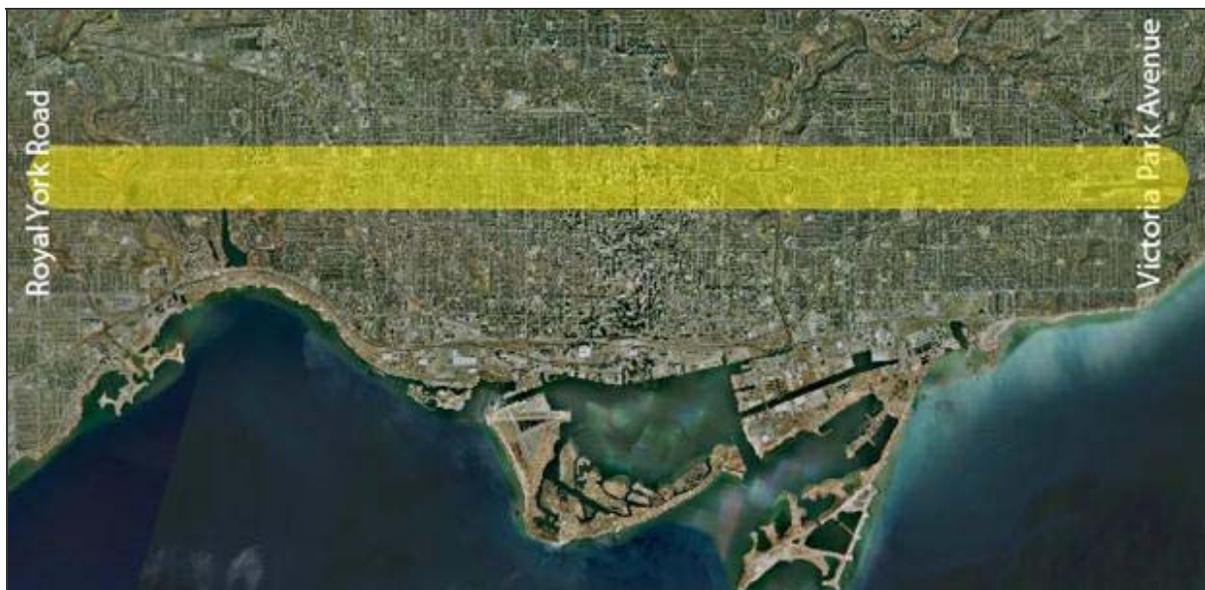
Figure 1. Sample street configuration, including bike lane and streetcar

2.2 CYCLING INFRASTRUCTURE AND THE BIKE PLAN

The Toronto Bike Plan's Bikeway Network calls for almost 500 km of bike lanes to be installed by 2011. City Council has now moved this target completion date to 2012, but even meeting that goal will require a monumental shift in City priorities in order to approve and install the needed bicycle infrastructure to create a real network throughout Toronto. Since the approval of the Bike Plan in 2001, City planners and engineers have faced hurdle after hurdle securing political approval to install bike lanes across the city. City champions have tried to accelerate the Bike Plan's implementation by increasing capital budgets and streamlining the approval process. But even in the 2008 construction season, City staff were unable to consistently count on all the necessary approvals at City Council.

Almost every new bike lane in the older city – where streets are narrower than in suburban areas – has involved the removal of at least some on-street parking. The removal of on-street parking capacity is a big concern for some business owners who believe that the majority of their customers arrive by car. They are concerned that if there isn't sufficient parking very close at hand, it will deter some customers from visiting the business. In most instances, there is very little evidence to support or negate this concern.

For quite some time cycling advocates – and some City staff – have been looking at how to make a major east-west bikeway in Toronto. Some propose that the most attractive option is the Bloor-Danforth corridor, stretching almost 20 kilometres across the city. The City did not include this route in its 2001 Bikeway Network plan, though earlier city reports did recommend a Bloor bike lane.



Map 2. Suggested Bloor-Danforth Bikeway (Source data: Google Earth)

The independent community cycling group, Bells on Bloor, has compiled numerous supporting reasons for choosing Bloor as the City's major east-west bike artery (Bells on Bloor, 2007). These include:

- *Bloor already has one of the highest rates of cycling in the entire city. Good bike route planning places bike lanes where the cyclists already are;*
- *Bloor has one of the highest incidences of bicycle collisions in the city;*
- *Bloor is one of few long, straight, relatively flat routes that connects the city from end to end;*
- *There are no streetcar tracks, which can sometimes interfere with the safe operation of a bicycle;*
- *The corridor is also served by a subway line, which provides a fast, frequent, viable alternative to driving;*
- *Research demonstrates that bike routes are most successful when they are continuous and direct, and when they minimize delays or stops for cyclists;*
- *Unconnected segments of bike lanes that force cyclists to take circuitous routes on various side streets will not encourage people to get out of their cars and onto bikes;*
- *A long, continuous and direct bike lane on Bloor will encourage more people to get out on their bikes, and will protect those who are already out there; and*
- *Long stretches of Bloor are made up of small business, and research has shown that bike lanes can be good for business. Cyclists can stop on a whim more easily than motorists, park at the nearest post-and-ring, and support local businesses.*

(Note: The points above have been paraphrased from the original text for brevity, clarity and accuracy. To view the original text, please visit www.bellsonbloor.ca)

2.3 THE BLOOR ANNEX NEIGHBOURHOOD

The Bloor Annex neighbourhood is a diverse neighbourhood, with a large student and young professional population. The area also has a strong commercial and entertainment character, with Bloor Street as the focus. The city's main east-west subway line runs along Bloor Street, with an interchange to the north-south University-Spadina subway line at the intersection of Bloor Street and Spadina Avenue. In terms of the street layout within the study area, the street is symmetrical, with sidewalks fronting the buildings on each side, a parking/travel lane, and then another travel lane. This layout is representative of the larger Spadina Avenue to Lansdowne Avenue section of Bloor Street.

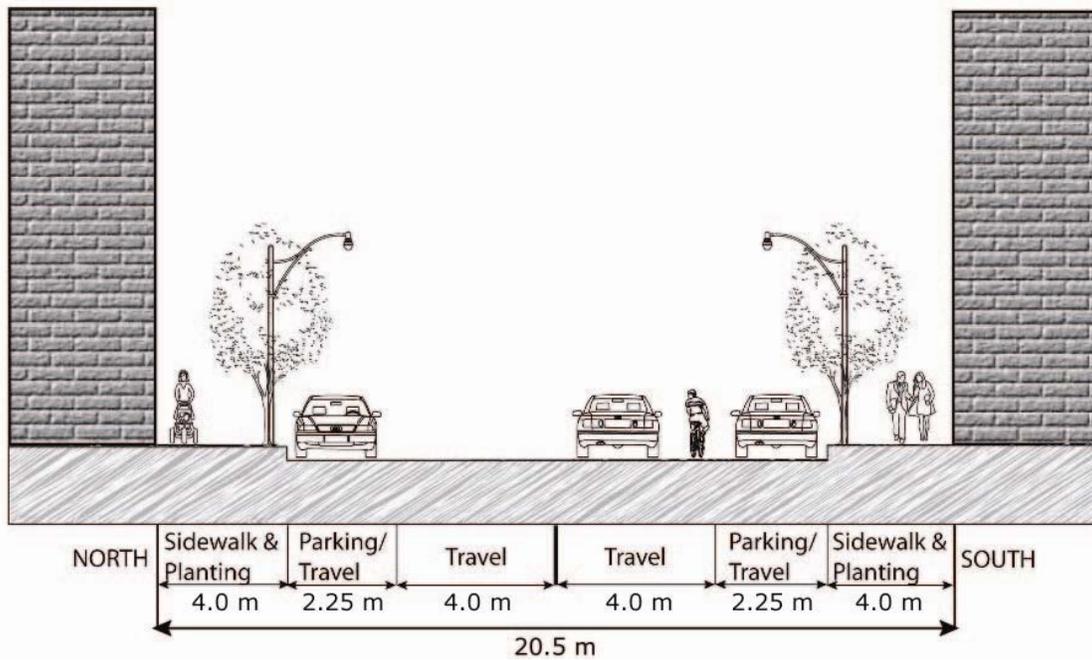


Figure 2. Typical Bloor Annex cross section (approximate dimensions)

The majority of this medium-to-high density neighbourhood is zoned for residential and commercial land uses, with some scattered parkland and the University of Toronto nearby. The majority of businesses on Bloor Street between Spadina Avenue and Bathurst Street (the study area – see Map 3. The Annex Land Use) are restaurants or bars; the rest are either stores or service providers.



Figure 3. Bloor Street facing east at Bathurst Street



Map 3. The Annex Land Use (Source data: City of Toronto)

To get to the Annex neighbourhood residents and visitors have many options. Two subway lines, two streetcar lines and a variety of bus routes feed into two subway stations (Spadina and Bathurst) at either end of the study area. Bloor is one of the busiest cycling streets in the city and has more bicycle-motor vehicle collisions than other streets. However, there are currently no dedicated cycling facilities that lead directly into this area. St. George Street – one of the city’s most popular north-south bike lanes – is approximately 300 metres to the east of the study area. Bloor Street is also a popular walking route between neighbourhoods to the west of the study area, the University of Toronto just east of the study area, and Toronto’s downtown core.



Map 4. The Annex built form and transportation network (Source data: City of Toronto)

For those who drive to the Annex, there is on-street paid parking on Bloor Street and Spadina Road at certain times of the day, depending on rush-hour restrictions on one or both sides of the street. Payment is by means of 'pay-and-display' machines scattered throughout the area, usually with a three-hour maximum, and parking is free before 9:00 a.m. and after 9:00 p.m. There is also free one-hour parking between 10:00 a.m. and 10:00 p.m. on most side streets, with permit parking for residents twenty-four hours per day.

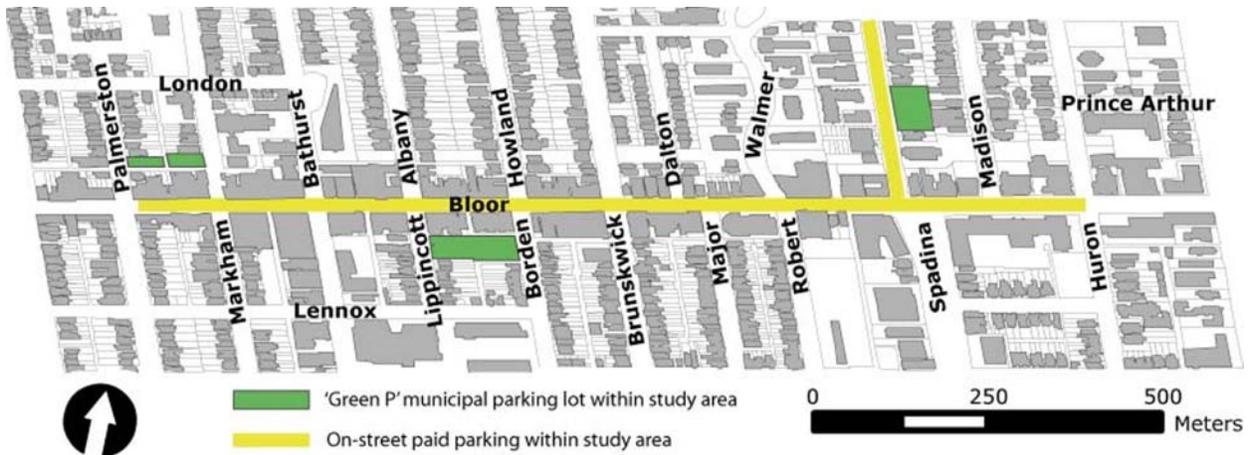


Figure 4. North side parking restrictions



Figure 5. Typical side street parking restrictions

There are three municipal paid parking lots (also known as ‘Green P’ lots) managed by the Toronto Parking Authority – all within a two- or three-minute walk of the study area. Within the study area, there are 168 paid on-street parking spaces and 267 paid spaces in the off-street municipal parking lots.



Map 5. Municipal paid parking options in the Annex (Source data: City of Toronto)



Figure 6. North side street parking



Figure 7. Pay-and-display machine



Figure 8. Lippincott parking lot

3. METHODOLOGY

3.1 EXISTING PRECEDENT

The methodology for this study was based on 2006 research that quantified the relative importance of the various modes of transportation to business activity on Prince Street, in New York City, as well as projecting the impacts on business activity of a road reallocation from on-street parking to wider sidewalks (Transportation Alternatives & Schaller Consulting, 2006). The study found that patrons of Prince Street's stores and restaurants would come more often, drawn by the reduced crowding on sidewalks, and that this increased patronage would offset by a five-to-one ratio any lost retail sales from those not coming due to the reduced number of parking spaces.

When Toronto considers implementation of a bike lane or wider sidewalks, City staff often prepare a parking study that uses observational data to show whether or not all the existing on-street parking is needed. However, this type of study often fails to satisfy the concerns of business owners or City Councillors – sometimes because of an issue with data collection (e.g., data was not collected on a peak business day or hour). Like the New York Study, this study endeavours to be more rigorous by understanding behaviour and perceptions of both customers and merchants, in addition to assessing parking capacity.

3.2 SURVEYS

The study was conducted in a two-week period from July 8 to 19, 2008, and employed two surveys: a survey of ground floor merchants along Bloor Street between Spadina Avenue and Bathurst Street; and a survey of pedestrians walking on Bloor Street between Spadina Avenue and Bathurst Street. Surveyors from the University of Toronto's Department of Health Sciences were hired to carry out the surveys. The complete merchant and pedestrian surveys are included in appendices A and B.

3.2.1 Merchant Survey

In cases where reallocating the parking lane to other travel modes within the right-of-way faces opposition from merchants, it is not clear how many of the total businesses the dissenting merchants actually represent. Do they speak for the majority or are they representing individual opinions and interests? The merchant survey sought to answer this question by asking the opinions of as many merchants as possible.

The merchants were asked how many customers they serve; how many of their customers they think drive to visit their business; and their opinions on the business impacts of losing one lane

of on-street parking in order to install a bike lane or widen the sidewalk. Merchants were asked about both a widened sidewalk and a bike lane to get at the root question: the perceived importance of on-street parking. For example, to determine if the business owner was against bike lanes for a reason unrelated to the loss of on-street parking, the researchers asked their opinion about losing parking for another non-vehicular use – in this case widening the sidewalk. For more detail on the questions contained in the survey, please see Appendix A.

We approached all 110 ground floor merchants and Fifty-five percent, or 61 out of 110, responded to the survey. The surveyors were directed to have the survey completed by the owner or manager of the business. The surveyors made up to three visits to administer the survey if the owner or manager was not initially available. The types of businesses that responded to the survey have a slightly different distribution than the distribution of all businesses on the street. The difference in these distributions demonstrates that owners or managers of retail stores were more likely to respond to the survey than those at services, bars and restaurants. Almost three-quarters of store-owners and managers responded to the survey, compared to slightly less than half of the owners or managers at services, bars and restaurants.

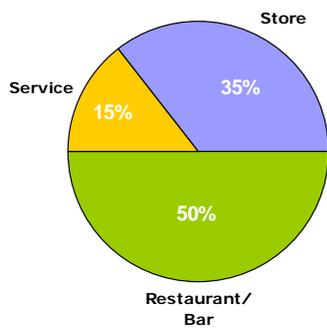


Figure 9. Types of businesses on Bloom

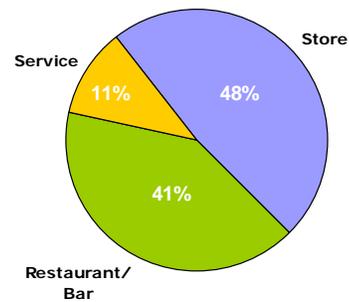


Figure 10. Types of businesses that responded to the survey

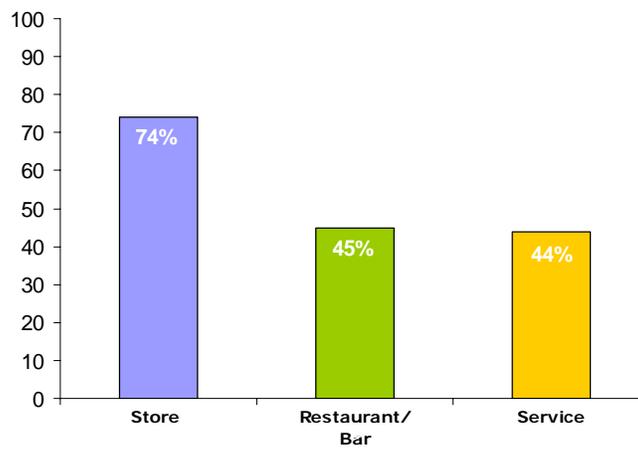
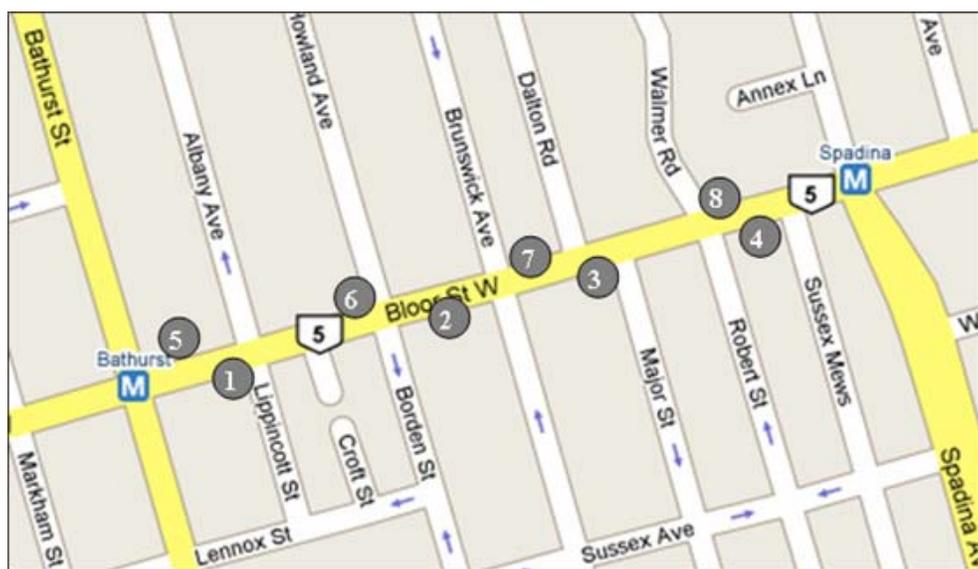


Figure 11. Response rate by type of business

3.2.2. Pedestrian Survey

The pedestrian survey targeted people walking on Bloor Street between Spadina and Bathurst. The survey participants may have arrived by car, transit, bike or on foot, but were walking when intercepted to complete the survey. Pedestrians were approached at one of eight locations throughout the study area on both sides of the street in order to avoid any bias associated with a particular destination on Bloor (See Map 6. Pedestrian intercept locations and Table 1. Distribution of survey respondents by survey location). The responses from each survey location were fairly evenly distributed with no more than 19% and no less than 5% of responses coming from any one survey location.



Map 6. Pedestrian intercept locations (Source data: Google Maps)

Survey Location on Bloor Street		Surveys Completed	Percentage share of total surveys completed
1	South-East corner at Lippincott	38	7%
2	Mid-block between Borden and Brunswick (south side)	79	15%
3	South-West corner at Major	103	19%
4	Mid-block between Robert and Sussex (south side)	50	9%
5	Mid-block between Bathurst and Albany (north side)	28	5%
6	North-West corner at Howland	74	14%
7	Mid-block between Brunswick and Dalton	72	13%
8	North-East corner at Walmer	94	18%
Total		538	100%

Survey participants were asked if they live or work in the area; how often they visit the area; how much they spend in the area; the purpose of their visit; what form of transportation they use to get to the area; and their preference for a bike lane or a wider sidewalk. Again, pedestrians were also asked about widening the sidewalk, as an alternative to installing a bike lane, simply to understand whether or not they were opposed to losing on-street parking, regardless of the alternative use of the space. Survey respondents were also asked where they live in order to gauge how many of the Bloor Annex patrons live close to area. For more detail on the questions contained in the survey, please see Appendix B.

The survey was conducted on a Tuesday, Wednesday, Thursday or Saturday, with a fairly equal distribution between those days (see Table 2. Distribution of survey respondents by survey day of the week). The study focus is on people who visit the Bloor Annex area, and not those passing through, so the surveyors avoided the peak morning and afternoon commute hours in an attempt to exclude most of the pedestrians passing through the area to work or school).

Table 2. Distribution of survey respondents by survey day of the week							
Tuesday		Wednesday		Thursday		Saturday	
July 8	10%	July 9	9%	July 10	18%	July 19	19%
July 15	15%	July 16	18%	July 17	11%		
Total	25%	Total	27%	Total	29%	Total	19%

3.3 PARKING DATA

In order to understand the effects of removing one lane of on-street parking, the researchers needed to know the current supply of public on-street and off-street parking in the area, and the current rates of usage. If one lane of parking is removed, merchants and City decision-makers will want to know if the existing parking demand can be accommodated with the remaining supply. (It is important to note that even if the remaining supply cannot accommodate existing demand, municipalities have the option of constructing new municipal parking lots or converting side street parking to pay parking. For example, as part of the newly constructed St. Clair streetcar exclusive right-of-way, TPA is building new ‘Green P’ lots to make up for some of the lost on-street parking.)

Rather than using observational data, parking capacity and usage data was requested from the Toronto Parking Authority (TPA). Because the TPA now exclusively employs pay-and-display parking machines for on-street parking and in most municipal parking lots (‘Green P’ lots), the TPA has a robust, sophisticated, and reliable system for tracking parking usage.

TPA supplied July 2008 usage data for on-street parking along Bloor Street and Spadina Road, all within a two or three minute walk of the study area. TPA also supplied data for three 'Green P' lots, also within a two or three minute walk of the study area: at 577 Palmerston, 365 Lippincott and 19 Spadina. The data tracks payments made using TPA's pay-and-display machines for both on-street parking and off-street TPA lots.

For on-street parking, data is reported as the number of valid tickets during 15-minute intervals throughout the days that correspond with the pedestrian survey days (July 8, 9, 10, 15, 16, 17 and 19). However, data for Saturday, July 19th was not available, so Saturday, July 12th was substituted instead. The researchers took hourly snapshots between 10:00 a.m. and 9:00 p.m. – the hours when the machines are generally in use – and determined the average number of valid tickets throughout the day, as well as morning-midday, afternoon, and evening averages.

For the off-street lots, parking data is reported as daily and evening peaks – the highest recorded number of valid tickets at any given time in the day or evening period. Again, the TPA supplied data for the same days as the on-street parking data, which correspond to the pedestrian survey days.

The average valid ticket counts were compared to the overall capacity – either on-street or in lots – to determine the average usage of on-street and off-street paid parking.

3.4 DATA ANALYSIS

Under direction of the lead researcher, the survey team entered and compiled the survey data and computed preliminary tallies and trends. Additional survey and parking data analysis and correlations were computed by the lead researcher under direction of the advisory committee. The survey team used SPSS statistics software, while the lead researcher used MS Excel. Further description of the data analysis methodology is found in the 'Findings' section of this report.

3.5 STUDY LIMITATIONS

The most obvious limitation of this study is the fact that it was conducted in only one month of the year. This was due to both funding and organizational resource constraints. The researchers acknowledge that there are variations in travel behaviour associated with weather and temperature, and this study does not capture these variations. The study also fails to capture possible variations in parking demand during busier commercial periods.

There is also a potential bias due to the fact that the Bloor Annex neighbourhood has a high student population because of the proximity to the University of Toronto and its general popularity as a student area – yet the study was conducted during the summer holiday (June to

August) when many students leave Toronto. University students – especially those living in a dense central neighbourhood with excellent public transit access – are unlikely to own cars, let alone drive or need to park them. So while the study does not capture the general drop in bicycle transportation during the winter, and thus the associated decline in economic contributions by cyclists, it also does not capture the higher student population, and their economic contributions during the school year (September to May).

In general, it is noted that the survey did not incorporate a statistically random sample, in that the researchers were not able to control for this by collecting the survey respondents' socio-demographic information.

Regarding the merchant survey data, only ground floor merchants were approached. This represents the majority of merchants, as most second and third floor units along Bloor Street are residential. Nonetheless, there are some businesses that were not included, and it is possible that the ground floor sample does not accurately represent the others.

With regard to the pedestrian survey, the question that asks about preference for a bike lane or a wider sidewalk should have been more descriptive. While a bike lane inherently suggests improved conditions for cycling, a wider sidewalk does not promise anything other than a wider sidewalk. The intent of the researchers was to suggest that a wider sidewalk would also provide more space for benches, trees, and other amenities that would likely improve the pedestrian environment. However, unfortunately this intent was not accurately conveyed in the survey question.

Finally, regarding the parking data, the TPA employs a pay-and-display system that can only track payment and not actual usage. So it is likely that some users pay for more time than they actually park their car, and also that some users do not pay for some or all of the time they use. Also, the capacity of on-street parking depends on the size of cars parked, as there are no designated spaces within a block. So, for example, there could be 10 large sport utility vehicles or 20 mini compact cars – or any combination thereof – parked in the same amount of space. However, the TPA has been using this data as its primary source for capacity analysis so the researchers feel this is a reasonable data set to use. In future studies, it could be useful to combine the TPA's pay-and-display data with observational recordings so to include any noteworthy local conditions, such as pick-up/drop-off vehicles that stop for short periods of time and commercial deliveries that do not pay for parking

4. FINDINGS

4.1 MERCHANT'S PERCEIVED CUSTOMER TRAVEL HABITS

Bloor Annex is a very busy commercial corridor, with 55% of businesses serving more than 100 customers each weekday, and 75% serving more than 100 customers each weekend day. Merchants were asked to estimate what percentage of their customers drove and parked to access their business. Five of the 61 survey respondents did not answer this question. The survey data shows that most business owners do not believe that the majority of their customers drive to their business. In fact, only 4% of businesses believe that more than 50% of their customers drive to their business, and almost three-quarters of businesses believe that less than 25% of customers drive to their business. Therefore, according to most merchants (71%), any change to the parking situation in the Bloor Annex would affect at most 25% of their customer base.

Table 3. Merchant estimate of customers that drive and park in the area		
Percentage of customers that drive	Frequency	Percentage share of responses
0-10%	17	30%
11-25%	23	41%
26-50%	14	25%
51-75%	2	4%

4.2 MERCHANT'S PERCEIVED EFFECT OF POTENTIAL STREET CHANGES

Merchants were also asked how they thought their business would be affected if the City made changes to the street such as installing a bike lane or widening the sidewalk. Merchants were informed that these changes would require the removal of half the on-street parking on Bloor Street, since that is where the space would come from to accommodate a bike lane or wider sidewalks. In order to estimate the effect, merchants were asked if they thought the respective change would bring fewer customers or more customers to their business, or if they expected no effective change to their customer base. On the question of installing a bike lane and removing half the on-street parking, almost 75% of businesses thought their business would improve or stay the same, while slightly more than 25% thought the change would bring in fewer customers. On the question of widening the sidewalk and removing parking, the results were almost the same, with only 25% of merchants believing the change would hurt business. The data shows that more merchants think that bike lanes and wider sidewalks would increase business than decrease it.

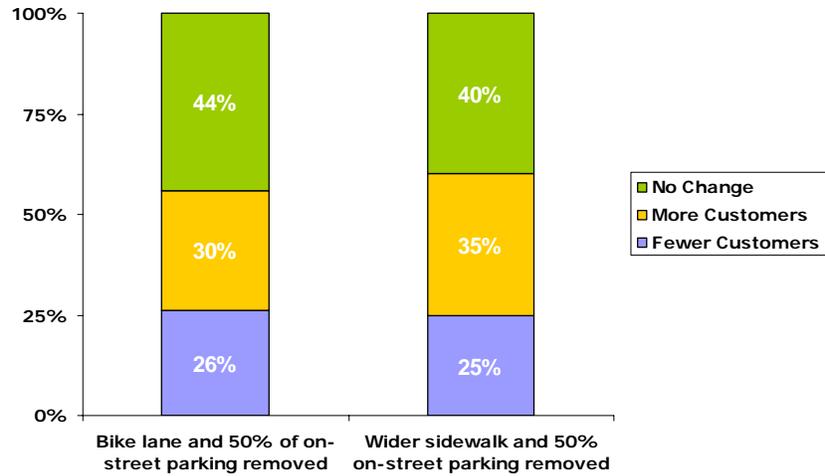
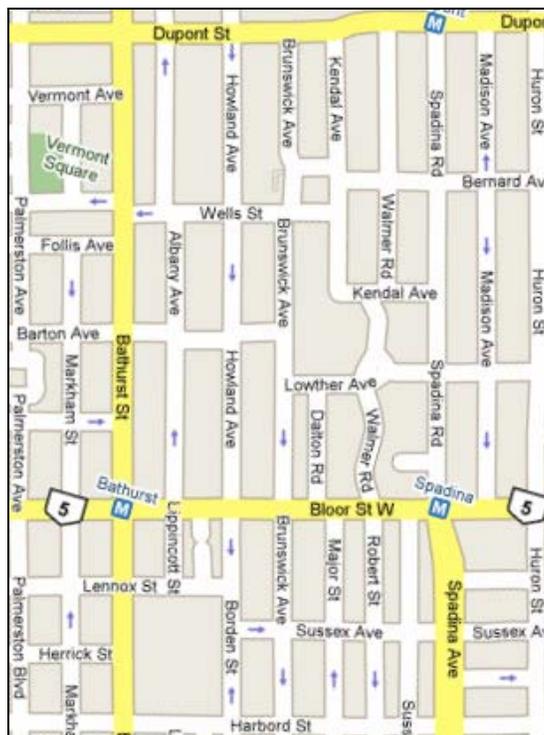


Figure 12. Merchants' perception of the impact on business of reduced parking

4.3 PEDESTRIAN SURVEY RESPONDENTS

A total of 538 visitors to the Bloor Annex completed the survey. Of the respondents, 55% said that they live or work in the area. If prompted by the respondent, the Bloor Annex area was defined as the area around Bloor Street, bounded by Palmerston Boulevard to the West, Huron Street to the East, Dupont Street to the North and Harbord Street to the South (see Map 7. Study area boundary).

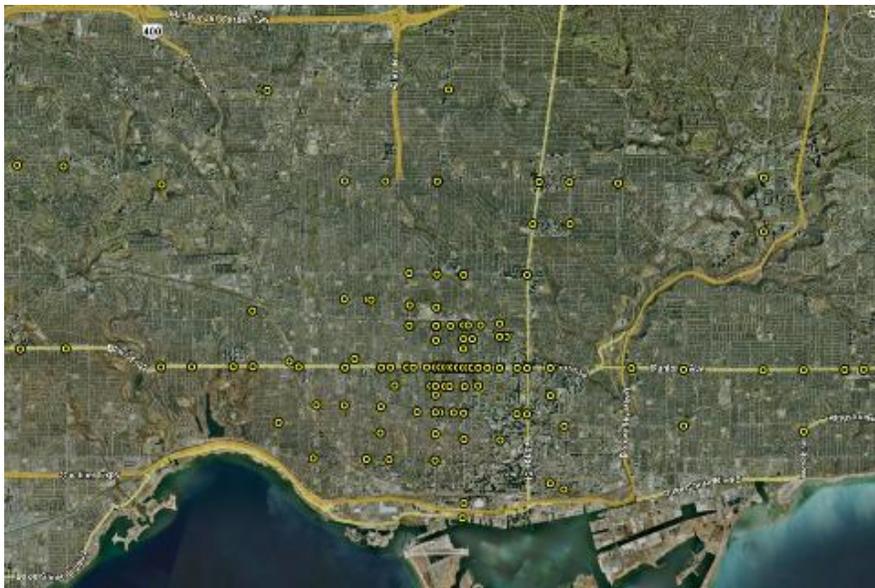


Map 7. Study area boundary (Source data: Google Maps)

Respondents were also asked specifically where they live (either nearest intersection and/or postal code). Mapping the nearest intersection data, it is easy to see that the greatest concentration of respondents are those that live quite close to the study area (within one kilometre), though a portion of the total survey sample comes from other areas around the city and the region.



Map 8. Pedestrian survey respondents' places of residence – Scale: Greater Toronto Area
(Source data: Google Earth)



Map 9. Pedestrian survey respondents' places of residence – Scale: Toronto (Source data: Google Earth)

4.4 VISITOR HABITS AND CONSUMPTION

In order to understand the importance of the various modes of transportation, survey respondents were asked how they usually get to the Bloor Annex area. Overall, most visitors get to Bloor Annex on foot, followed by public transit, bicycle and finally car. Amongst those who live or work in the area, two-thirds walk, 14% cycle, another 14% take public transit, and only 5% drive. For those who do not live or work in the area, 54% take public transit, 20% walk, 16% drive, and 10% cycle. For those who do not live or work in the area, 54% take public transit, 20% walk, 16% drive, and 10% cycle.

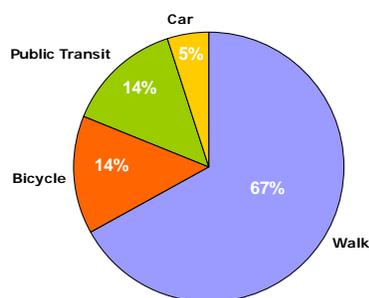


Figure 13. Transportation mode share – live or work in the area

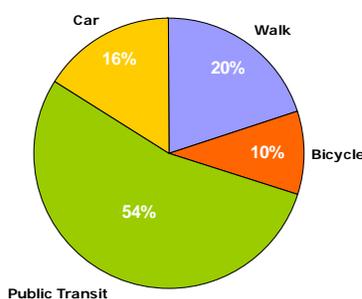


Figure 14. Transportation mode share – do not live or work in the area

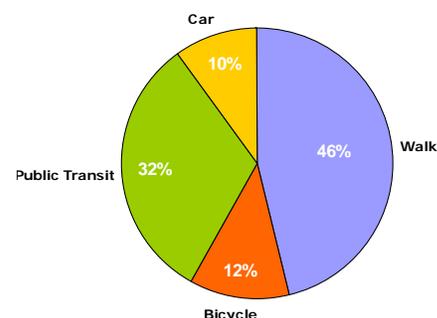


Figure 15. Transportation mode share – Total

Survey respondents were also asked how many days per month they typically visit Bloor Annex. The majority of respondents visit Bloor Annex frequently, with 58% reporting that they visit more than ten times per month. Only 20% visit two or less times per month. Not surprisingly, the visit frequency data was strongly correlated with the home or work location of the respondents. Those who live or work in the area visit Bloor Street much more frequently than those who do not. For example, 92% of those who live or work in the area visit more than five times per month; whereas only 34% of those who do not live or work in the area visit more than five times per month. On the other end of the spectrum, 66% of those who do not live or work in the area visit five or fewer times per month; compared to only 8% of those who do live or work in the area.

Overall, walkers visit the area most often, with 84% visiting more than 5 times per month; followed by bicyclists, 72% of whom visit more than 5 times per month; public transit users, 44% of whom visit more than 5 times per month; and drivers, 42% of whom visit more than 5 times per month. By contrast, 58% of drivers and 56% of public transit users visit five or fewer times per month; compared to only 16% of walkers and 28% of bicyclists.

Table 4. Number of days per month visiting the Bloor Annex							
Number of days	Live or work in the area (294)	Live and work outside the area (244)	Walk (246)	Bicycle (64)	Public Transit (171)	Car (55)	Total (538)
0-1	2%	30%	7%	5%	24%	29%	15%
2	1%	10%	2%	5%	9%	9%	5%
3	1%	7%	2%	5%	5%	7%	3%
4	2%	13%	3%	8%	12%	9%	7%
5	2%	6%	2%	5%	6%	4%	4%
6-10	6%	9%	5%	9%	10%	7%	8%
11-20	16%	16%	14%	15%	18%	20%	16%
21-30	70%	9%	65%	48%	16%	15%	42%

Survey respondents were also asked how much money they spend in the Bloor Annex in a typical month, with five spending ranges provided as options. Overall, the greatest percentage of respondents report spending between \$100 and \$499 (41%). Among those who live or work in the area, 50% report spending between \$100 and \$499, compared to 35% of those who do not live or work in the area. Instead, the greatest percentage of those who do not live or work in the area spend between \$25 and \$99 (35%).

Looking at spending categorized by the respondent's mode of travel, walkers seem to spend the most (defined as the greatest percentage spending more than \$100 per month), followed by bicyclists, then car drivers, and finally public transit users. The spending habits of car drivers and public transit users are similar, while walkers seem to spend more than bicyclists and considerably more than car drivers and public transit users.

Table 5. Money spent in the area per month							
	Live or work in the area (294)	Live and work outside the area (242)	Walk (246)	Bicycle (64)	Public Transit (171)	Car (55)	Total (536)
< \$25	6%	31%	8%	11%	29%	24%	17%
\$25-\$99	21%	35%	16%	39%	37%	37%	27%
\$100-\$499	50%	29%	52%	42%	28%	30%	41%
\$500-\$999	14%	5%	17%	3%	3%	4%	10%
> \$1,000	9%	0%	7%	5%	3%	5%	5%

The researchers also wanted to know how a potential change to the street would affect businesses on Bloor Street. From the visitor point of view, the researchers asked what possible change they preferred, with no change as an option. The question also included the fact that the

two options (widening the sidewalk or installing a bike lane) would also result in less on-street parking. The survey respondents were overwhelmingly in favour of a bike lane – 62% of the total sample, with similar numbers for both those who live and those who do not live in the area. Not surprisingly, bicyclists were most in favour of a bike lane (86%). However, all the groups favoured the bike lane, including drivers (46% – the same number who preferred no change), walkers (63%), and public transit users (56%).

Table 6. Preferred change to the street							
	Live or work in the area (292)	Live and work outside the area (244)	Walk (246)	Bicycle (64)	Public Transit (171)	Car (51)	Total (536)
Widened sidewalk & less on-street parking	16%	16%	17%	8%	22%	8%	16%
Bike lane & less on-street parking	64%	59%	63%	86%	56%	46%	62%
No change	20%	25%	20%	8%	22%	46%	22%

4.5 ON-STREET PARKING USAGE

The majority of on-street paid parking within easy walking distance (two or three minutes) of the Bloor Annex's main commercial strip is on Bloor Street, between Palmerston Avenue and Huron Street; on both the north and south sides of the street. There is also one block of parking on Spadina Road, between Bloor Street and Lowther Avenue that is close enough for Bloor Annex patrons to use (see Map 5. Municipal paid parking options in the Annex).

According to the data provided by the Toronto Parking Authority (TPA), on average between about one third and two thirds of the on-street parking (168 spaces) is utilized throughout the day. During the week, the busiest time for parking is in the evening with 57% utilization, followed by the morning-midday at 49%. On Saturdays, the busiest times are in the afternoon and in the evening each with 62% utilization.

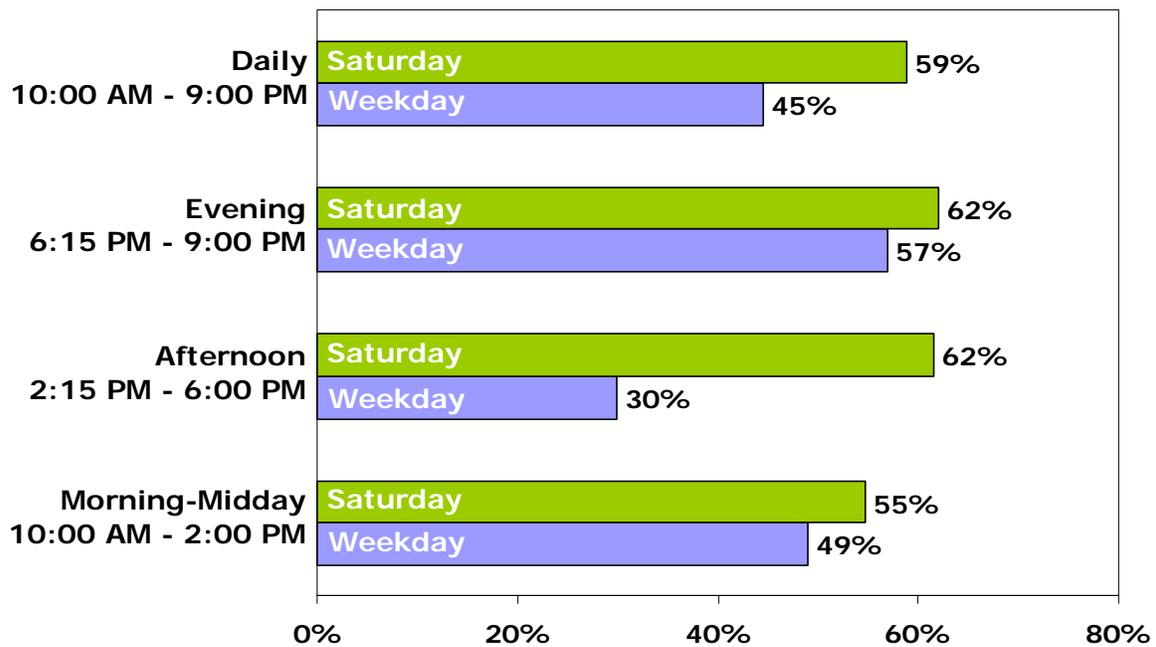


Figure 16. Bloor Street average on-street parking usage

Table 7. Bloor Street and Spadina Road average on-street parking usage

Street Segment	Number of Total Spaces	Day	Morning-Midday 10:00 AM - 2:00 PM	% used	Afternoon 2:15 PM - 6:00 PM	% used	Evening 6:15 PM - 9:00 PM	% used	Daily 10:00 AM - 9:00 PM	% used
Bloor Street - Huron to Palmerston - North Side	72	Weekday	38	53%	10	15%	45	63%	31	43%
		Saturday	47	65%	52	72%	54	75%	50	70%
Bloor Street - Huron to Palmerston - South Side	72	Weekday	34	47%	35	48%	43	60%	36	51%
		Saturday	39	55%	47	66%	45	63%	44	60%
Bloor Street - Huron to Palmerston - Total	144	Weekday	72	50%	45	31%	88	61%	67	47%
		Saturday	86	60%	99	69%	100	69%	94	65%
Spadina Road - Bloor to Lowther - East Side	16	Weekday	6	34%	1	4%	3	19%	3	21%
		Saturday	3	16%	3	17%	1	8%	2	15%
Spadina Road - Bloor to Lowther - West Side	8	Weekday	5	58%	4	54%	4	51%	4	55%
		Saturday	3	40%	2	25%	3	42%	3	35%
Spadina Road - Bloor to Lowther - Total	24	Weekday	10	42%	5	21%	7	30%	8	32%
		Saturday	6	24%	5	20%	5	19%	5	22%
Spadina and Bloor Combined	168	Weekday	82	49%	50	30%	96	57%	75	45%
		Saturday	92	55%	104	62%	104	62%	99	59%

However, there are rush-hour restrictions during weekday afternoons between 4:00 and 6:00 pm, and so this skews the weekday afternoon average. For this reason, and to account for other potential spikes or troughs in the parking data, it is also useful to look at the specific hourly

totals for each of the seven study days (see Table 8. Bloor Street and Spadina Road average hourly on-street parking usage).

Table 8. Bloor Street and Spadina Road average hourly on-street parking usage													
	Total Spaces	10:00 am	11:00 am	12:00 am	1:00 pm	2:00 pm	3:00 pm	4:00 pm	5:00 pm	6:00 pm	7:00 pm	8:00 pm	9:00 pm
Tuesday, July 8, 2008	168	71	92	101	89	94	72	42	29	48	112	120	58
Wednesday, July 9, 2008	168	54	71	93	98	88	83	36	37	51	107	134	69
Thursday, July 10, 2008	168	39	72	85	119	104	80	41	43	52	119	128	58
Saturday, July 12, 2008	168	41	82	105	122	110	113	101	103	97	123	126	64
Tuesday, July 15, 2008	168	59	60	76	103	88	77	39	31	48	96	113	67
Wednesday, July 16, 2008	168	55	71	86	93	108	78	45	37	37	81	115	54
Thursday, July 17, 2008	168	36	63	94	107	99	72	35	43	47	91	122	76
Weekday Average	168	52	72	89	102	97	77	40	37	47	101	122	64

At peak demand (8:00 pm on Wednesday, July 9 during the study period), 134 of the 168 (80%) on-street parking spaces are occupied. Installing a bike lane or widening the sidewalk on Bloor would remove one lane of parking, reducing supply on Bloor by 50%. The on-street parking on Spadina would be unaffected, and so the total reduction of on-street parking would be 72 spaces (half of 144). At peak demand, such a change to the street would leave a shortage of 38 parking spaces that may need to be accommodated elsewhere.

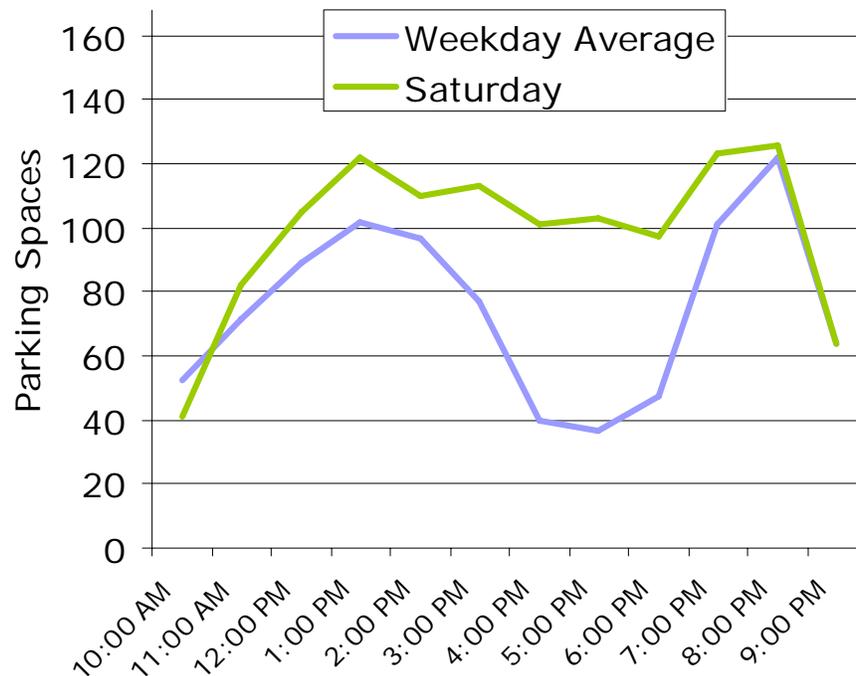


Figure 17. Bloor Street average hourly on-street parking usage

4.6 OFF-STREET PARKING

The majority of off-street paid parking within easy walking distance (two or three minutes) of the Bloor Annex main commercial strip is found in three TPA ‘Green P’ lots at 557 Palmerston Avenue, 365 Lippincott St. and 19 Spadina Road (see Map 5. Municipal paid parking options in the Annex). The Palmerston lot is directly adjacent to one of the Bathurst subway station entrances, the Spadina lot is very close to one of the Spadina subway station entrances, and the Lippincott lot is the closest to the heart of the Bloor Annex commercial strip.

According to the data provided by the TPA, between 48% and 82% of the off-street parking (267 spaces) is utilized at any one time. During the week, the busiest time for parking is in the evening with 66% utilization. On Saturdays, the busiest time is also in the evening with 82% utilization. Saturday evening is the busiest time at the Spadina and Lippincott lots, while weekdays are busiest at the Palmerston lot.



Figure 17. Palmerston parking lot

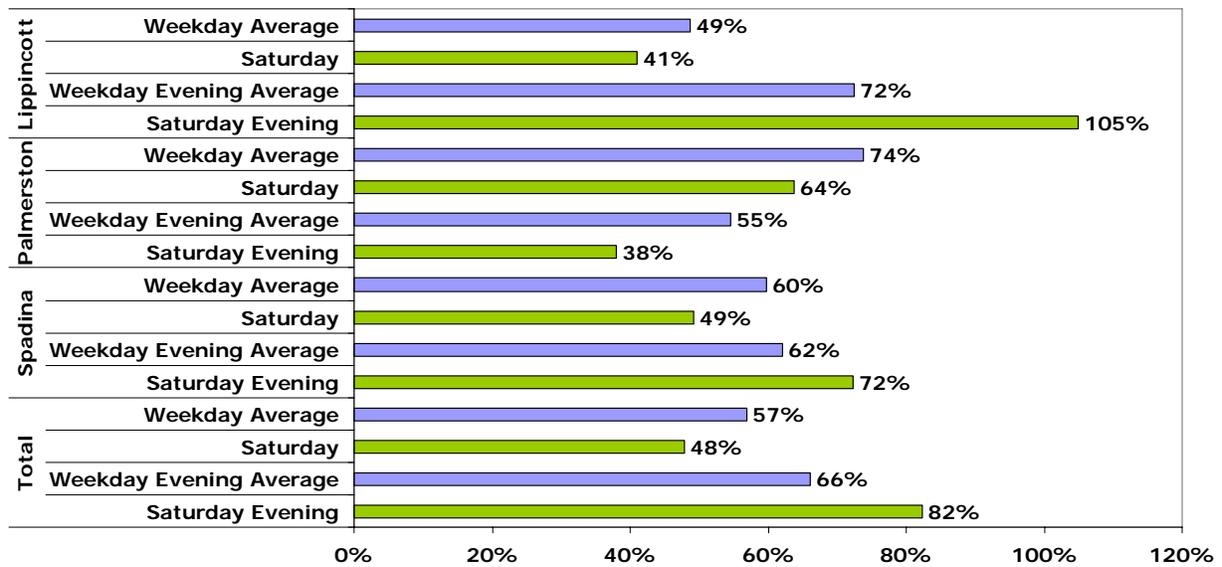


Figure 18. Toronto Parking Authority average parking lot usage

At peak demand, 220 of the 267 off-street parking spaces are occupied. As already stated, installing a bike lane or widening the sidewalk on Bloor would leave a shortage of 38 on-street parking spaces during peak on-street demand, and this shortage may need to be accommodated elsewhere. If the peak demand for on- and off-street parking were to coincide – which they do not – there would still remain a surplus of 47 spaces in off-street lots to accommodate the loss on Bloor Street.

Table 9. Toronto Parking Authority average parking lot usage				
Parking Lot	Total Spaces	Day	Peak Usage	% Used
Lippincott	144	Weekday Average	70	49%
		Weekday Evening Average	104	72%
		Saturday	59	41%
		Saturday Evening	151	105%
Palmerston	58	Weekday Average	43	74%
		Weekday Evening Average	32	55%
		Saturday	37	64%
		Saturday Evening	22	38%
Spadina	65	Weekday Average	39	60%
		Weekday Evening Average	40	62%
		Saturday	32	49%
		Saturday Evening	47	72%
Total	267	Weekday Average	152	57%
		Weekday Evening Average	176	66%
		Saturday	128	48%
		Saturday Evening	220	82%

5. DISCUSSION

The first goal of this study was to understand the relative importance of on-street parking to business activity on Bloor Street West in the Annex. The findings show that relative to the other modes of transportation, not very many patrons drive to the Bloor Annex area. Therefore, on-street parking does not appear to be a major issue for the economic well-being of businesses. 71% of merchants believe that less than one-quarter of their patrons drive to their business. According to our survey of people on the street, only 10% of patrons drive to the Bloor Annex, and 16% of patrons who do not live or work in the area. Furthermore, of all patrons, those that drive to the Bloor Annex visit the least often and report spending the least amount of money.

The second goal of this study was to project the impacts on business activity of reallocating space in the Annex from on-street parking to other travel modes such as cycling (a bike lane) and walking (a wider sidewalk). From a purely economical point of view, in order to maximize commercial activity, the prioritization of space should shift closer toward the mode of travel used by the majority of patrons. Pedestrians, cyclists and public transit users make up 90% of patrons, and do not need on- or off-street parking. Providing more space for cycling and for pedestrians improves accessibility. Dedicated bicycle lanes attract cyclists and widened sidewalks – where there is more space to dedicate to street furniture, like benches, waste receptacles, plantings and bicycle parking – attract pedestrians. The survey shows that patrons arriving by foot and bicycle visit the most often and spend the most money. It appears in the best interest of merchants to favour reallocating space toward their more frequent and higher-spending patrons – in this case, pedestrians and cyclists.

According to the data supplied by the TPA, on average between about one third and two thirds of on-street parking is used during the pay parking periods (9:00 a.m. to 9:00 p.m.), and 48% to 82% of off-street parking lot space is used. The removal of one lane of on-street parking would reduce on-street parking by one half and total paid parking in the study area by about 20%. Since average peak usage is not far above 80% at any time of the day, the potential 20% reduction can likely be absorbed by existing paid parking capacity. In addition, even if all the Bloor Annex patrons who drive cannot be accommodated, the survey data show the lost business associated with reduced parking space would likely be more than offset by attracting more non-driving patrons by improving the bicycling and pedestrian environment.

On the question of whether to install a bike lane or widen the sidewalk, the response of patrons was quite clear: bike lanes are preferred. 75% of merchants thought a bike lane or widened sidewalk would improve or have no effect on business, and patrons preferred a bike lane to widened sidewalks at a ratio of almost four to one. Even 46% of drivers supported the idea of a

new bike lane and less on-street parking. Only 22% of patrons preferred to see no change to the street, and 25% of merchants thought the loss of parking could negatively affect their business.

Furthermore, the fact that 12% of patrons cycle to the Bloor Annex is impressive. City-wide, only about 2% of travelers use a bicycle, and in the downtown the number is probably higher. According to the survey, in the Bloor Annex corridor the bicycle mode share is six times the city norm. A high existing bicycle mode share is a strong supporting condition to warrant a dedicated cycling facility to protect the safety of cyclists.

6. CONCLUSIONS & RECOMMENDATIONS

Streets constitute a major component of public space in the city. Planning and designing great streets is a complex process which involves many proponents and various challenges: limited budgets, competing priorities for space, fear of economic losses by merchants, and political opposition. It is important to study the issues thoroughly so that decisions are based on the best possible information, reflect the greatest public good, and achieve goals that all or most stakeholders can support.

This study set out to analyze the constraints and opportunities, including the economic impact of removing one lane of on-street parking, for installing a bike lane on Bloor Street through the Annex neighbourhood, between Spadina Avenue and Bathurst Street. Based on the data, analysis and discussion, the evidence makes a strong case that Toronto should be looking to install a bike lane on this section of Bloor Street. The spending habits of cyclists, their relatively high mode share, and the minimal impact on parking all demonstrate that merchants in this area are unlikely to be negatively affected by reallocating on-street parking space to a bike lane. On the contrary, this change will likely increase commercial activity.

The general finding from this study is that pedestrians, cyclists and transit users account for the bulk of retail spending on Bloor Street West in the Annex neighbourhood. In fact, there is evidence to suggest that efforts to attract more pedestrians and cyclists will have a more positive economic impact on businesses than maintaining the existing parking on the street. On this section of Bloor Street, the existing parking demand can be accommodated by a reduced number of on-street parking spaces combined with the existing off-street parking spaces. It is clear that many merchants in the study area do not view on-street parking as key to their business

This study has developed a sound research protocol for understanding this important issue. This type of study should be replicated on other commercial streets where there is concern about reducing parking to accommodate wider sidewalks or bicycle lanes. However, not every City project will require this level of analysis, and policy-makers should be wary of resting the full decision process on this type of study. This is just one of a number of study tools and should be weighed against other information available to planners.

Specifically, the researchers also recommend that the City of Toronto use this study to look more closely at the future of Bloor Street in the Annex and beyond. The city's cyclists need a good east-west bike route for safety, and studies like this can show it can make good economic sense as well.

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APPENDIX A – MERCHANT SURVEY

ID #

Merchant Survey

1. On average, about how many customers do you serve per day? (Choose one per question)

(1) Weekday:

- [1] Less than 25
- [2] 25-49
- [3] 50-99
- [4] 100-199
- [5] 200 or more

(2) Weekend:

- [1] Less than 25
- [2] 25-49
- [3] 50-99
- [4] 100-199
- [5] 200 or more

3. What percentage of your customers or clients would you estimate drive to the Bloor-Annex area and park in the area?

[1] ____%

4. If Bloor Street had wider sidewalks and half the on-street parking was removed, would you expect to have: (choose one)

- [1] Fewer customers or clients daily?
- [2] More customers or clients daily?
- [3] A similar number of customers or clients daily?

5. If Bloor Street had a bike lane and half the on-street parking was removed, would you expect to have: (choose one)

- [1] Fewer customers or clients daily?
- [2] More customers or clients daily?
- [3] A similar number of customers or clients daily?

APPENDIX B – PEDESTRIAN SURVEY

Pedestrian Survey

1. Do you live or work in the area?

[1] Yes

[2] No

2. In a typical month, how many days do you visit this area of Bloor Street ?

3. About how much money do you spend in the Bloor-Annex in a typical month?

[1] Less than \$25

[2] \$25-99

[3] \$100-499

[4] \$500-999

[5] \$1,000 or more

4. What is the purpose of your trip to the Bloor-Annex today? (Check all that apply)

[A] Shopping

[B] Restaurant/Bar

[C] Services (e.g., copy centre, medical or legal)

[D] Visiting friends

[E] I live here

[F] I work here

[G] I'm just passing through

[H] Other _____

5. How do you usually get to the Bloor-Annex? (choose one)

[A] Walk

[B] Bicycle

[C] Public Transit

[D] Taxi

[E] Car: Where did you park?

[intersection/block or Green P lot]

[F] Other _____

7. If the City was considering changes to the street, which of the following would you prefer? (choose one only)

[1] Widened sidewalks on Bloor Street even if that means less on-street parking;

[2] A bike lane on Bloor Street even if that means less on-street parking.

[3] No change

8. Where do you live?

[A] Nearest

intersection _____

[B] Postal Code _____

Date: _____, 2008

Time: ____:____

Survey Location Number: _____

Interviewer: _____