BIKE HOST 2017 REPORT:

Introduction

Bike Host is a free cycling mentorship program for Convention refugees[1] and permanent residents, created by CultureLink Settlement and Community Services. This program involves the loan of a bicycle, helmet and lock, along with participation in basic training and bike rides led by a matched mentor who is an experienced cyclist. In 2017, Bike Host was offered in partnership with the South Riverdale Community Health Centre, Eastview Neighbourhood Centre, Central Toronto Academy and the Scarborough Cycles Bike Hubs at AccessPoint on Danforth and Birchmount Bluffs Neighbourhood Centre. Scarborough Cycles is a project funded by the Metcalf Foundation and led by the Toronto Centre for Active Transportation with partners Cycle Toronto, the Toronto Cycling Think & Do Tank, and CultureLink. This report, by researchers at the University of Toronto's Cycling Think & Do Tank presents an overview of Bike Host 2017 results based on data collected through entry and exit surveys from participants at all locations.

Methodology

The research team administered two surveys over the course of Bike Host. The first, the "entry" survey, was available online immediately following program registration. Participants had the option to complete it online or in-person when picking up the bikes loaned to them for the duration of the program. The second, the "exit" survey, was available online prior to the end of the program. For those who did not complete it online, it was administered when participants dropped off their bike or at the closing celebration. Some participants used their own bicycle for the program, but also completed the surveys.

We include only the 49 participants who filled out both an entry and an exit survey in our analysis. Sixty-four respondents completed an entry form. Responses that had an "N/A" for a question either in the entry or exit survey were removed from the question analysis. We analyzed the survey results in Excel.

We used Excel to calculate the standard deviation and mean of variables from the entry and exit surveys. When we had asked the same question at both the entry and exit surveys, we calculated a paired two-tailed t-test to analyze whether the change was significant, or whether the change could have occurred by chance.

We analyzed entry and exit attitudes towards a series of statements using a Likert scale of strongly disagree, disagree, neither agree nor disagree, agree, strongly agree and N/A. These were converted to values of 1 (strongly disagree) through 5 (strongly agree). We compared the

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[1] Convention refugees are outside their home country or the country where they normally live, and are unwilling to return because of a well-founded fear of persecution based on: race; religion; political opinion; nationality; or membership in a particular social group, such as women or people of a particular sexual orientation.

averages upon entry and exit and conducted a paired two-tailed t-test to analyze whether any changes in attitudes were significant or whether the change could have occurred by chance.

We report results as significant if there is less than a one in twenty probability that the change could have occurred by chance. This 95% confidence interval is associated with a p-value of 0.05 or lower. It is possible, however, there may be some changes that did not show up as significant because of the small sample size.

Demographics of Participants

Forty of the forty-nine respondents were between the ages of 25 and 44. Twenty-five identified as male and twenty-four as female. They came from a wide range of self-defined ethnicities including Indian, Korean, Syrian, Chinese, Hispanic, Iranian, Bangladeshi, Middle Eastern, Tamil and Asian. Twenty-eight were working full-time or in school full-time while fourteen worked or were in school part time. Fifteen respondents had access to a car in their household while only six had access to a bicycle prior to the program. See Appendix 1 Demographics for full details.

Trip Changes

Participants were surveyed at program entry and exit about their travel modes and frequency and perceived ease of travel in order to identify changes in travel behaviour.

Recreation Trips
On average participants made 3.9 more trips per month at program exit than at program entry, by bicycle, for fun and exercise. This change is significant at the 99.9% confidence interval (See Appendix 2 Table 1).

Ease of Travel
Participants were surveyed both at program entry and at program exit regarding how easy or difficult it was to access their daily destinations with 1 being difficult and 5 being easy. At program entry, participants reported an average value of 2.7 for their perceived ease of travel around Toronto. Following the completion of the program, participants found travel in and around Toronto easier and reported an average ease of travel value of 2.9. This change in perceived ease of travel was found to be statistically significant at $p<0.05$ (See Appendix 2 Table 2).

Shopping Trips

Participants were more likely to use a bike for shopping related trips at program exit than they were at program entry. Participants reported an increase in bicycling for shopping from 8% of trips at program entry, to 27% of trips at program exit (Figure 1). This change was found to be statistically significant at $p<0.05$ and represents a 19% growth in the proportion of trips by bicycle for shopping. No other changes were found to be statistically significant, however the

decline in shopping trips by bus fell just short of a attaining statistical significance (Appendix 2 Table 3).

***Figure 1 Shopping Mode Share* (N=49)**
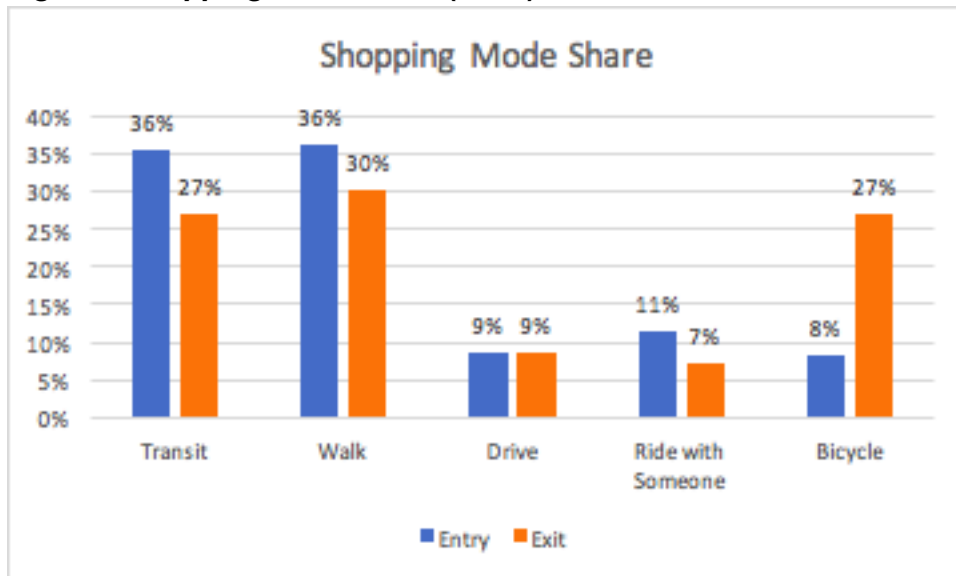
Work and School Trips

At program exit, participants reported they were more likely to use a bike for work or school trips than they were at program entry. Participants reported an increase in bicycling for trips to work and school from 7% of trips at program entry, to 28% of trips at program exit, or an increase of 1.6 cycling trips per week per respondent (Figure 2). This change was found to be statistically significant ($p < 0.05$) and represents a 21% growth in the percent of trips to work and school by bike (See Appendix 2 Table 4). There was also a statistically significant decrease in work or school trips by transit by 0.7 trips per week per respondent at $p < 0.05$.

***Figure 2 Work and School Mode Share* (N=49)**
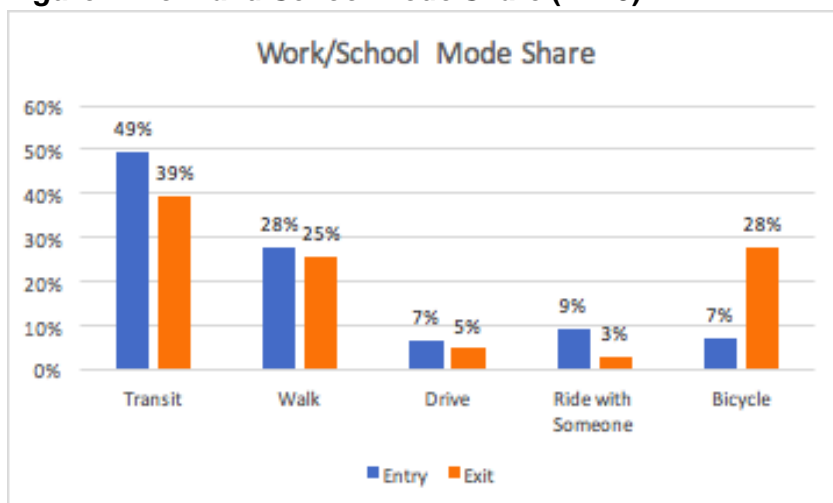
Combined Shopping and Work & School Trips

The combined shopping/work/school mode share analysis provides an overall picture of change in travel patterns. Overall, there was a 19% increase in the proportion of cycling trips per week (from 8% of trips per week to 27% of trips per week), or an average of 3.4 trips per week for shopping/work/school related trips. This change was significant at a 95% confidence interval (See Appendix 2 Table 5). Participants were less likely overall to take transit, walk or get a ride with someone at program exit than at program entry, however none of these changes were found to be statistically significant. Finally, very little change occurred in trips taken by car from program entry compared with program exit.

Figure 3 Combined Shopping, Work & School Mode Share (N=49)
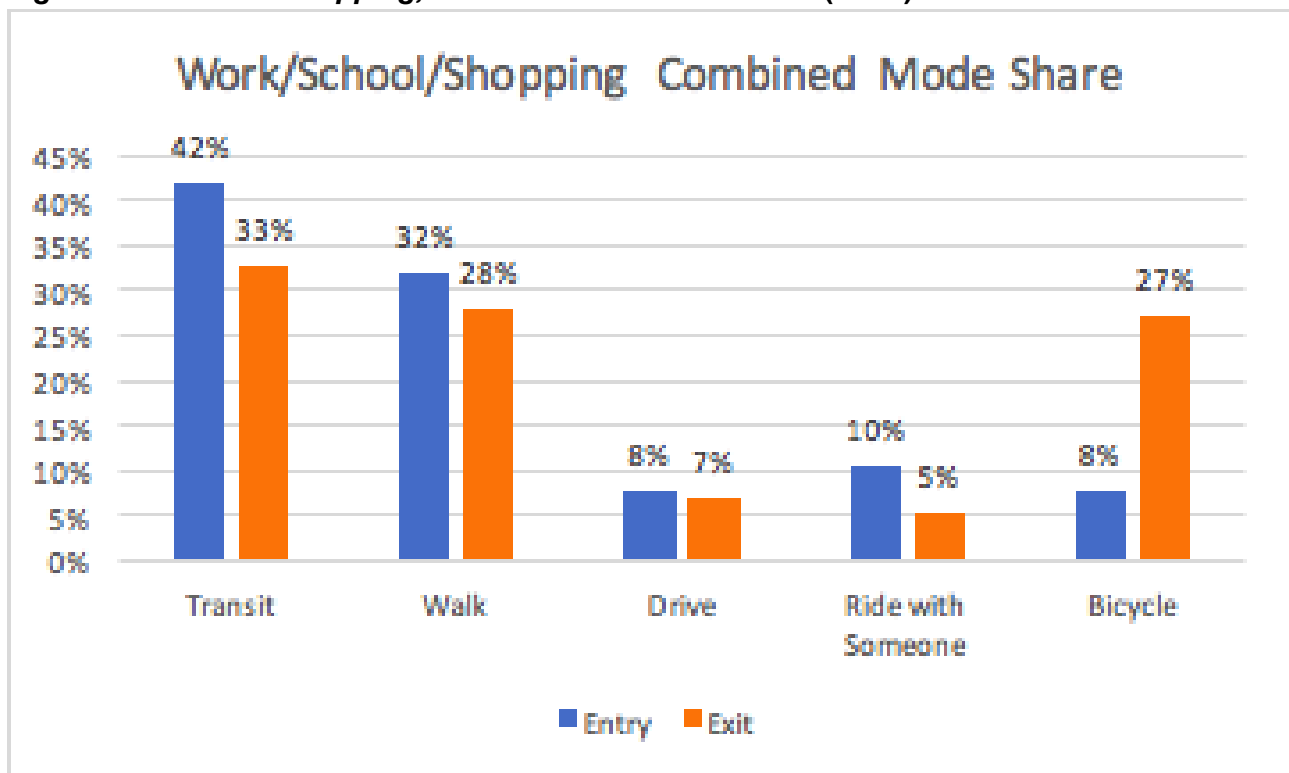
Changes in Attitudes

Participants were surveyed about their attitudes towards cycling at program entry and exit (See Appendix 2, Table 6). Multiple changes in attitude were statistically significant at a 95% confidence interval. At program exit, respondents were more likely to agree that there were safe streets to cycle on in their neighbourhood (p-value= 0.01). Similarly, they were more likely to agree that they see cyclists on the roads in their neighbourhood (p-value= 0.05), and that they feel confident knowing the rules of the road when cycling (p-value= 0.00) at program exit

compared to entry. Finally, at program exit, respondents were less likely to view cycling in their neighbourhood as dangerous (p-value=0.01), and were also less likely to agree that their families believed cycling in their neighbourhood was dangerous (p-value= 0.03).

Willingness to Spend

On average, participants increased their willingness to pay by $17.02 for a bike and $6.80 for bike accessories at program exit. Neither change is statistically significant (see Appendix 2, Tables 7 and 8). In comparison to earlier years of Bike Host, the participants were willing to spend more money at program entry on bikes and accessories meaning the change at program exit was not as extreme. It is not clear why this would be so.

Benefits

Social Connections & Belonging

On average, individuals made 4.2 new social connections by participating in Bike Host, and met an additional 3.3 people outside of the program because of their bicycle (n=49). In the exit survey, respondents were more likely to agree that they felt a sense of belonging in the community than in the entry and the result was significant.
(p-value=0.014, n=47).

This is especially noteworthy as many participants were newcomers to Canada with 84% having lived here for less than 5 years. The program served to support them in their new community. The increased social connections may also help explain the improvement in health and well being 96% of the participants experienced. It is believed that increased social connections serve as a buffer against psychological distress by improving an individual's coping mechanism and having a positive effect on mental health[2]. Psychological stress is especially high amongst immigrants as they transition and navigate their way in the new country, frequently without strong family and community ties.

Figure 4: Sense of Belonging (N=47)

[2] Kawachi, I. (2001). Social Ties and Mental Health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine, 78*(3), 458-467. doi:10.1093/jurban/78.3.458

Perceived Benefits

At program entry, safe cycling skills, health and exercise, and meeting new people were the top three perceived benefits of participating in Bike Host.

Figure 5: perceived benefits (N=49)

Perceived Benefits
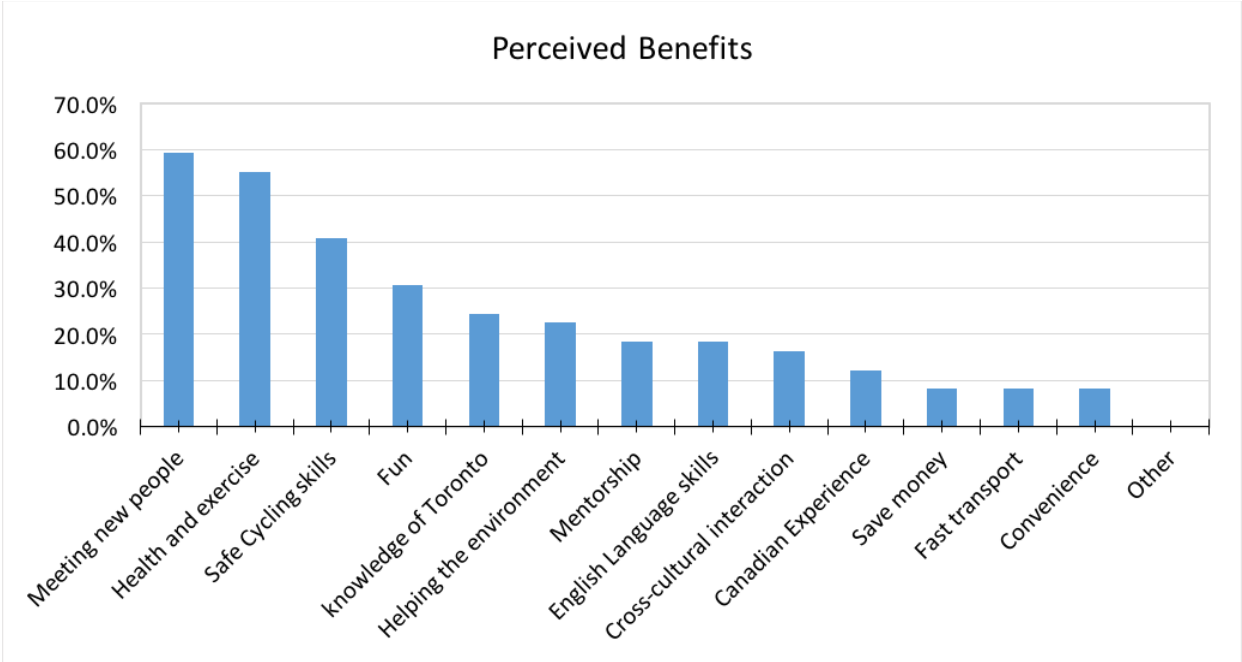
Received Benefits

The top benefits received from participating in Bike Host were fun, health and exercise, safe cycling skills and meeting new people. Safe cycling skills, health and exercise and fun were also the top three benefits noted in the entry surveys. There was consistency between benefits expected from the program and benefits received from the program. An increase in fun was noted at program exit.

Figure 6: Received benefits (N=49)
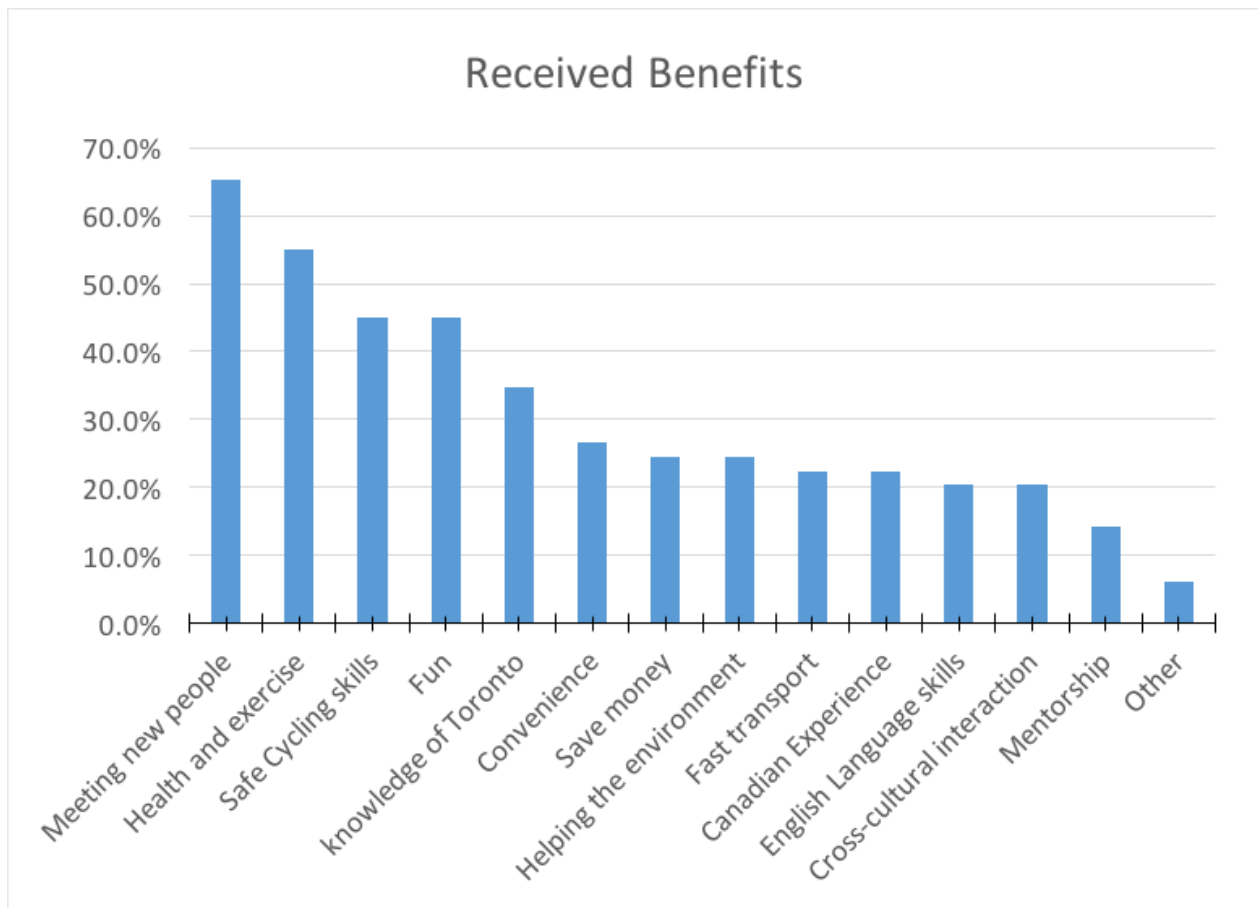
Financial Benefits

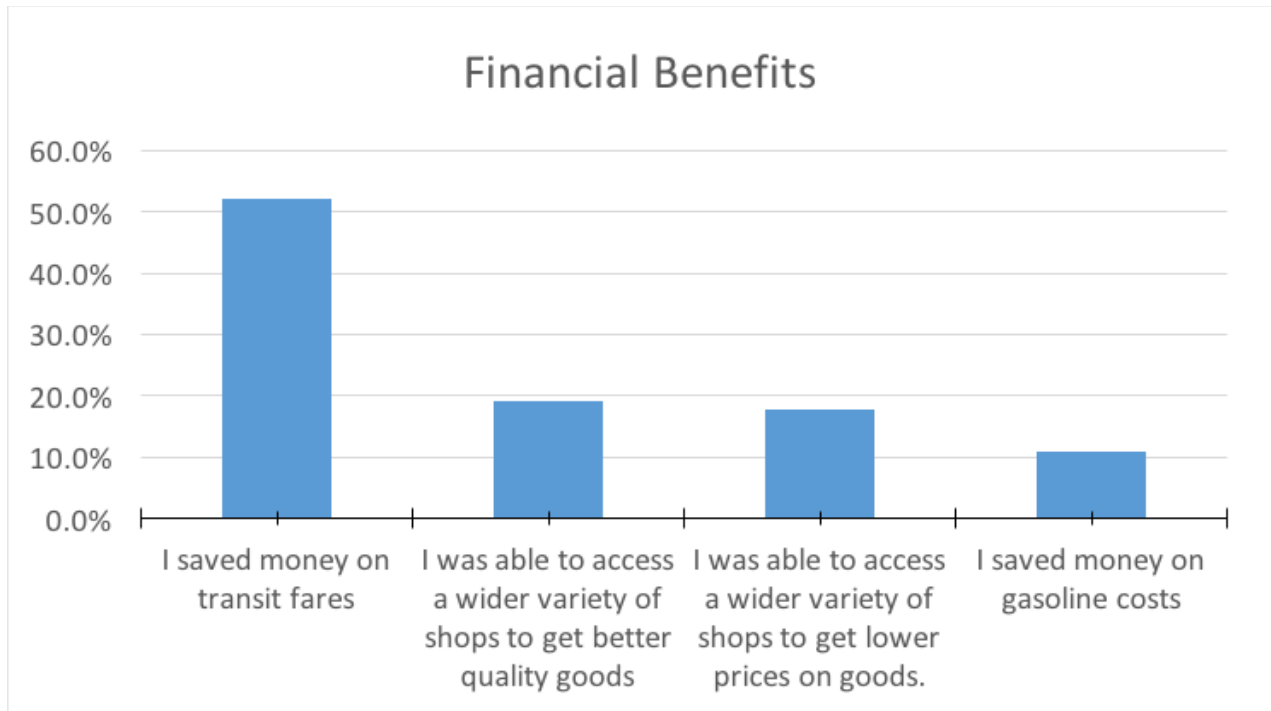In the exit survey, respondents reported a variety of financial benefits including saving money and the ability to access a wider variety of goods. 77.6% of respondents saved money on transit fares and 16.3% on gasoline costs. 28.6% of respondents could access better quality goods while 26.5% could find lower prices on goods.

Figure 7: Financial benefits (N=49)

Experiential Results

83.7% of exit survey respondents "strongly agreed" or "agreed" that their experience with Bike Host made them more likely to encourage their children to bike to school. Given the age range of the participants (82% were in the prime child raising years aged 25-44) and 44% of participants living with children under the age 17, this is an important outcome.

90% agreed or strongly agreed that the program had improved their own cycling skills and knowledge. 61.2% of the survey respondents considered riding in Toronto less difficult than riding in other places.

At program entry, 61.7% either agreed or strongly agreed that they felt comfortable riding their bicycle on the streets of Toronto. At exit, this figure had increased to 81%. However, this was not statistically significant and it can be attributed to the small sample size. Of the 47 respondents to this question, 22 felt more comfortable riding a bike at program exit, 12 felt the same, and 13 felt less comfortable at program exit.

91.8% felt the program had improved their knowledge of Toronto. 96% felt their health and well-being improved. 88% felt the time commitment was manageable.

71.4% gained experience sharing their stories in English and 63.3% gained experience working as a team in Canada. 65.3% agreed or strongly agreed they had gained experience planning an event.

Figure 8 below highlights all other experiential benefits that respondents were asked to consider.

Figure 8: Experiential Benefits (n=49)
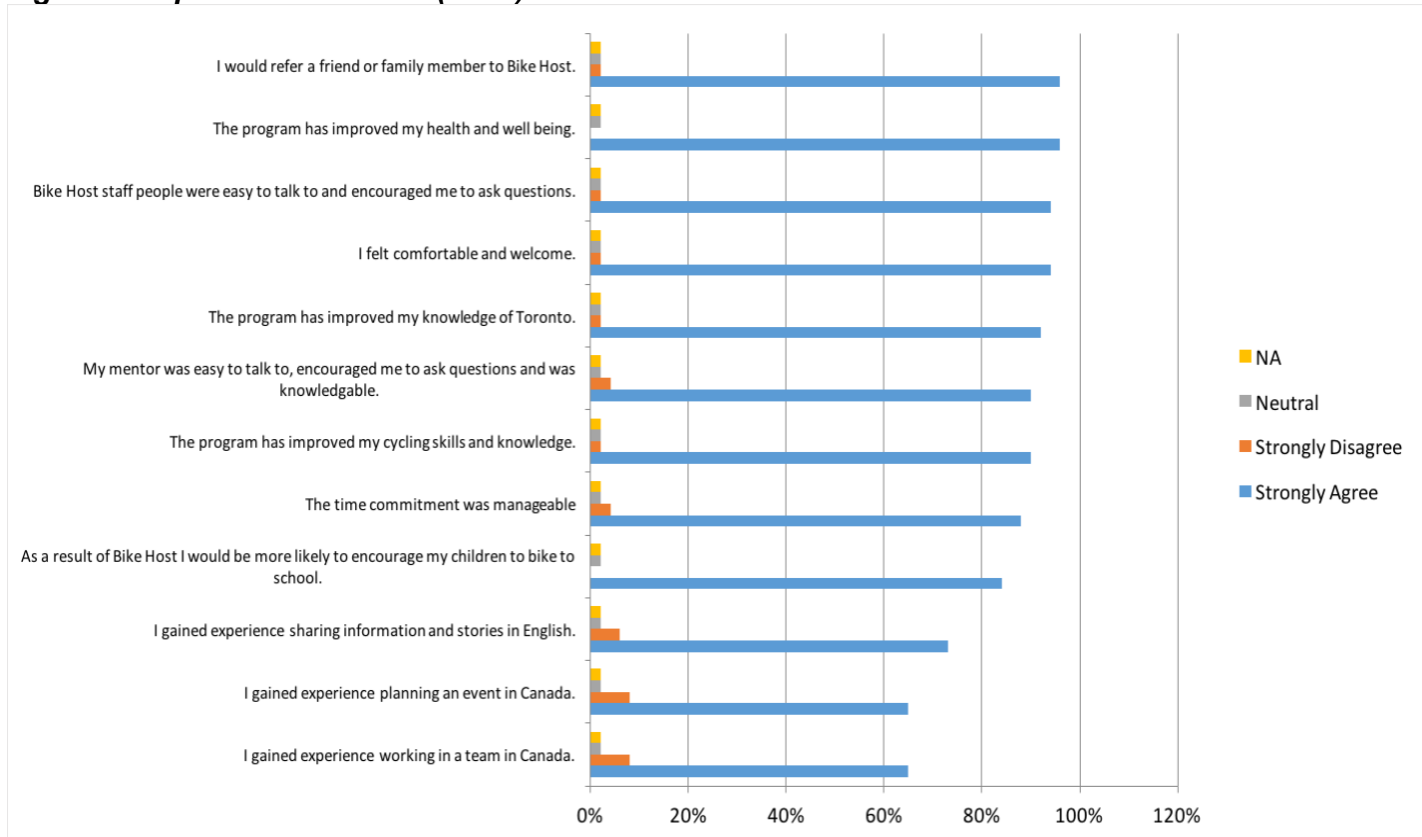
Satisfaction with Bike Host

98% of Bike Host exit respondents "agreed" or "strongly agreed" that they would refer a friend or family member to Bike Host and 96% believed that they felt comfortable and welcome, indicating overwhelming satisfaction with the program.

Conclusion

Bike Host participation resulted in many positive outcomes for participants and their communities. Bike Host participants travelled significantly more days by bike at program exit than at entry. This applied to all types of trips including shopping and work/school and trips for recreation.

Participants increased their confidence in many ways. They found safe routes to bicycle on, increased their knowledge of the rules of the road and were less likely to view cycling in their neighbourhood as dangerous.

At program exit, they were willing to spend more money than at program entry, on both bikes and accessories (although not at a statically significant level). This lack of significance may be due to small sample size.

The increased sense of belonging is a particularly important result of the program for this group of newcomers. At the same time, they gained English language experience and many gained experience working with others in Canada and planning events.

Participants improved their cycling skills and agreed that participation in the program made it more likely they would allow their children to bike to school. They improved their health and well-being, as well as their knowledge of Toronto. Many participants also reported financial benefits as a result of the program. They reported saving money on transit fares as well as gasoline costs and having greater access to greater variety of shops and lower prices.Thus the beneficial impact of the program was widespread.

The 2017 Bike Host program not only encouraged cycling uptake, but provided a crucial service to new arrivals to Canada by helping them build social connections in their new community.

Appendix 1: Demographics (n=49)

Demographics	
Sex	Male: 25 Female: 24
Age	<25: 2 25-34: 23 35-44: 17 45-54: 5 55-64: 1 65+: 1
Ethnicities	Indian, Korean, Syrian, Chinese, Hispanic, Iranian, Bangladeshi, Middle Eastern, Tamil, Asian
Access to car	Yes: 15 No: 34
Access to Bike	Yes: 6 No: 42 NA: 1
Years in Canada	< 1 year: 17 1-<3 years: 16 3-5 years: 8 >5 year: 8
Household size	1: 2 2: 18 3: 11 4: 9 5: 7 6: 0 NA: 2

Number of children under 17 in household	0 <17: 27 1 <17: 11 2 <17: 7 3 <17: 3 NA: 1
School	Full-time: 16 Part-time: 6 Not attending school: 27
Employment	Full-time: 12 Part-time: 8 Not applicable: 29
Housing	Detached or semi-detached house: 10 Townhouse: 4 Low-rise apartment (4 storeys or less): 6 High-rise apartment (5 storeys or more): 21 Other: 8
Telephone	Cell: 48 Landline: 7
Safe Place to Lock a Bike	Yes: 38 No: 11

Appendix 2: Statistical Tests

Table 1
Recreation trips- During an average MONTH, I usually ride my bike approximately this many times for FUN and EXERCISE:

Base Number	2.12
Change	3.91
P-value	$2.6448E^{-05}$

Table 2:
Ease of Travel - In general, how easy or difficult is it for you to get where you need to go in Toronto? (n=49)

Mean Perceived Ease of Travel at Entry	2.7
Mean Perceived Ease of Travel at Exit	2.9
Change	0.2
P-value	0.03

Table 3:
Shopping Mode Frequency – days per week (N=49)

	Bus	Walking	Taxi	Get a Ride	Drive	Bicycle
Entry Survey	3.1	3.1	0.4	0.6	0.8	0.7
Exit Survey	2.5	2.8	0.2	0.5	0.8	2.5
Change	-0.6	-0.3	-0.2	-0.1	0	1.8
P-Value	0.06	0.26	0.14	0.39	0.75	<0.01

Table 4:
Work/School Mode Frequency - days per week (N=49)

	Bus	Walking	Taxi	Get a Ride	Drive	Bicycle
Entry Survey	3.8	2.1	0.2	0.6	0.5	0.6
Exit Survey	3.1	2.0	0.1	0.2	0.4	2.2
Change	-0.7	-0.1	-0.1	-0.4	-0.1	1.6
P-Value	0.05	0.8	0.42	0.05	0.27	<0.01

Table 5:
Combined Mode Frequency - days per week (N=49)

	Bus	Walking	Taxi	Get a Ride	Drive	Bicycle
Entry Survey	7.0	5.3	0.5	1.2	1.3	1.3
Exit Survey	5.6	4.9	0.3	0.6	1.2	4.7
Change	-1.4	-0.4	-0.2	-0.6	-0.1	3.4
P-value	0.1	0.56	0.29	0.11	0.84	<0.01

Table 6:
Changes in Attitude (n=48)

Attitude	Entry Survey	Exit Survey	Change	P-Value

I feel comfortable riding a bike on the street in my neighbourhood.	3.90	4.02	0.12	0.59
There are safe streets to ride a bike in my community.	3.65	4.08	0.43	0.01
I'm afraid my bike will get stolen if I lock it up outside.	3.75	3.44	-0.31	0.13
It is possible to visit my friends using a bicycle.	4.22	4.04	-0.18	0.32
I believe that biking is a fast and convenient way to get around in my neighbourhood.	4.12	4.24	0.12	0.44
I believe it is dangerous to ride a bike in my neighbourhood.	2.53	2.04	-0.49	0.01
People in my family think it is dangerous to ride a bike in my community	2.90	2.46	-0.44	0.03
Only low income people ride bikes for transportation.	1.67	1.69	0.02	0.91
I feel confident that I can find a good bicycle route.	3.98	4.08	0.1	0.58
There are not many women or girls who ride bikes in my neighbourhood.	2.79	2.44	-0.35	0.20
Cycling can sometimes be easier for me than using transit.	3.96	4.08	0.12	0.50
Cycling can sometimes be easier for me than driving.	4.00	4.13	0.13	0.53
I feel confident that I know the rules of the road when I bicycle in Canada	3.57	4.22	0.65	0.00
I see cyclists on the road in my neighbourhood	4.14	4.37	0.22	0.05
People from my culture think it is important to drive a car.	3.33	3.25	-0.08	0.75

Table 7:
Willingness to spend on bicycle (n=47)

Average Willingness to spend in entry data	$176.6
Change	$17.02
P-value	0.49

Table 8:
Willingness to spend on accessories (n=48)

Average Willingness to spend in entry data	$59.9
Change	$6.8
P-value:	0.328