Understanding a New Bike Share Program in Vancouver

2017 Vancouver Population Survey Results

Compared with Mobi Member Results Where Available

Summary Report Prepared for City of Vancouver and Mobi by Shaw Go Partners April 2018

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EXECUTIVE SUMMARY

Survey Development & Administration

A survey of the general Vancouver population was conducted in 2017, over a year after the public bike share launch, to characterize the uptake and integration of public bike share into travel behaviour. The survey tool was developed by the SFU research team with input from partners at the City of Vancouver and Mobi by Shaw Go. Question covered transportation patterns, cycling behaviour, awareness of the Vancouver public bike share program, perceptions and likelihood of using the program, perceptions of cycling safety, helmet use, crash/falls on bicycles, and demographics. In addition, all annual and monthly members of the Vancouver Public Bike Share program (Mobi by Shaw Go) as of September 19, 2017) were invited to participate in a similar survey, with data collection from September 22-October 6, 2017. This report provides select results for Vancouver Population Survey and makes comparisons to Mobi Member Survey results where available.

Description of Respondents

- The 2017 Vancouver Population Survey had a 16% response rate with N=907 valid respondents.
- The 2017 Mobi Member Survey had a 29% response rate with N=1400 valid respondents.
- In Fall of 2017, 42% of the Vancouver Population Survey sample lived inside and 41% worked inside the bike share service area.
- Age and sex targets as well as post-sample weighting (using Vancouver City census data) were used for the Population survey to produce a representative sample of the Vancouver population.
- When compared to census data, respondents from the Vancouver survey were more highly educated, more likely to be employed and more likely working full-time. Survey respondents also had slightly higher household incomes. For the Mobi member survey, it was also true that respondents were more likely to be more education and employed than the general population.
- Survey respondents were also more likely to be born in Canada (69%, Vancouver Population Survey and 65%, Mobi Member Survey) compared to Vancouver population (55% in the census data).

General Transportation Patterns

- Driving a personal motor vehicle was the primary mode of transportation for the Vancouver population, whereas walking was the top mode for Mobi members.
- Respondents reported having access to an average of 1.0 motor vehicle (0.8 amongst Mobi members) per household and 1.0 adult bicycles (1.7 amongst Mobi members) per household.
- 30% of the Vancouver population belonged to a car share and 67% of Mobi members.
- About 9 out of 10 had their driver's license (88%, Vancouver population; 92% Mobi members).
- In the week prior to completing the survey, 61% of the Vancouver population had walked for recreation, health or fitness while only 13% had cycled for recreation, health or fitness.

General Bicycling Behaviours & Perceptions

- 43% had travelled by bicycle in the past 12 months. In terms of frequency of bicycling, 20% of the population said they bicycled less than once a month, and 23% bicycled at least once or more.
- Of the 57% of the Vancouver population who had not used a bicycle in the previous year, 37% said they would consider using a bicycle in the future.
- Nearly half (48%) of all respondents (regardless of whether they had ridden in the past year) agreed that they would like to travel by bicycle more (14% strongly agreed and 34% somewhat).



Awareness & Perceptions on Public Bike Share in Vancouver

- Perceptions of a public bike share being a good idea for Vancouver slightly improved over time, with 70% indicating they thought such a program was a good idea when the program first launched in 2015 to 74% in 2017.
- Awareness of the public bike share program grew dramatically between 2015 and 2016 during implementation and has held steady in 2017 with 84% of all Vancouver residents having heard of a bike share program.
- 86% had seen a bike share station in Vancouver and 69% had seen someone riding a shared bicycle.

Bike Share Use

- In 2017, 6% had rode a public bike share bicycle in Vancouver at some point (up from 3% in 2016).
- Top motivators for using a bike share amongst the general Vancouver population included health/exercise (45%); stations being near their home (45%) and destination (37%); and not owning a personal bicycle (40%). Top motivators for Mobi members were distinct and included being able to ride one-way or for part of a trip (80%); finding the shared bikes faster, easier and more convenient than other modes (68%); and not having to worry about bike theft (68%).
- The top barriers to using Mobi for the Vancouver population related to participants' satisfaction with current transportation modes (e.g. 47% preferred to use their own personal bicycle, and 37% said modes other than bike share were more convenient). This was followed by environmental factors such a preference to not ride in the rain/bad weather (36%) nor in traffic (35%). Top barriers to using Mobi more for members was rain and bad weather (44%); not having stations near one's destination (34%); and steep hills along one's route (27%).

Perceptions of Safety, Helmet Use & Bicycling Crash/Falls

- Half (50%) of the Vancouver population thought that bicycling in Vancouver is safe (either very or somewhat), compared to 78% of Mobi members.
- A majority (84%) of the Vancouver population who cycled in the past year indicated that they wear a helmet when doing so, compared to 71% of Mobi members.
- 6% of the Vancouver Population Survey respondents (24 of those 386 who had cycled in the previous year) reported being in a total of 34 crashes or falls on a personal bicycle in the previous 3 months. 3% of Mobi members (42 out of 1400 respondents) reported being in a total of 54 crashes or falls that occurred on a Mobi bicycle in the previous 3 months.
- While the numbers of crashes or falls are few, details about circumstances and severity suggest:
 - The top cause for crashes or falls on both personal and Mobi bicycles were "hitting a hazard on the route" followed by "collision with a motor vehicle" for Vancouver Population Survey respondents on personal bicycles and, for Mobi Member Survey respondents on Mobi bicycles, "trying to avoid a collision".
 - 38% (13/34) of all crashes or falls resulted in injury and 21% (7/34) required a hospital visit.
 - o Most incidents were not reported to an official authority (i.e. police, ICBC or Mobi).



SURVEY DEVELOPMENT & ADMINSTRATION

Survey Development

The SFU research team developed a survey to conduct before and after the public bike share program launch to characterize uptake and integration of such a program in Vancouver. The survey tool was developed by the SFU research team with input from partners at the City of Vancouver and Mobi. Questions covered the topics of typical transportation patterns, cycling behaviour and beliefs, awareness and perception of the Vancouver public bike share program, perceptions of using the program (good or bad idea, likelihood to use, motivators and barriers to use), perceptions of cycling safety, helmet use, crash/falls on bicycles, and demographics (refer to Appendix A for full question set).

Recruitment & Response

The SFU research team contracted Leger market research firm (Legerweb.com) to recruit and conduct this online survey of Vancouver residents through their online panel. Leger pulled a representative sample from their panel based on age, gender and region targets, and sent the request to participate in the study with a link to the online survey. Using this method, surveys were administered October 2015 (before the bike share launch), October 2016 (4 months after initial launch) and October 2017 (over a year after launch). October is optimal for several reasons: people will have had the opportunity to use the program through the summer when cycling is very common, they will be back in typical work and school routines, the weather is still conducive to cycling, and finally, and finally, October aligns with travel behaviour surveys that are conducted by the regional transportation authority (TransLink). The survey had a 16% response rate with N=907 valid respondents in 2017.

In addition, all annual and monthly members of the Vancouver Public Bike Share program (Mobi by Shaw Go) as of November 14, 2016 (N=4862) and September 19, 2017 (N=4762) were invited to participate in the survey at those two respective timepoints. Members received an email invitation with a link to the online questionnaire. The survey was hosted on the Fluid Survey platform and was open for two weeks (November 16-30, 2016 and September 22-October 6, 2017). In 2017, the survey had a high response rate of 29% with N=1400 valid respondents.

On the whole responses aligned closely in 2016 and 2017 across both the Vancouver Population and Mobi Member Surveys, showing consistency in demographic characteristics as well as the perceptions and behaviours relating to transportation patterns and bike share use.

This report provides select results from the 2017 Vancouver Population Survey. Earlier reports have provided 2015 and 2016 results. Where possible, results are also compared to Mobi Member Survey results for the same or similar questions and with 2015 and 2016 Population survey results where meaningful.

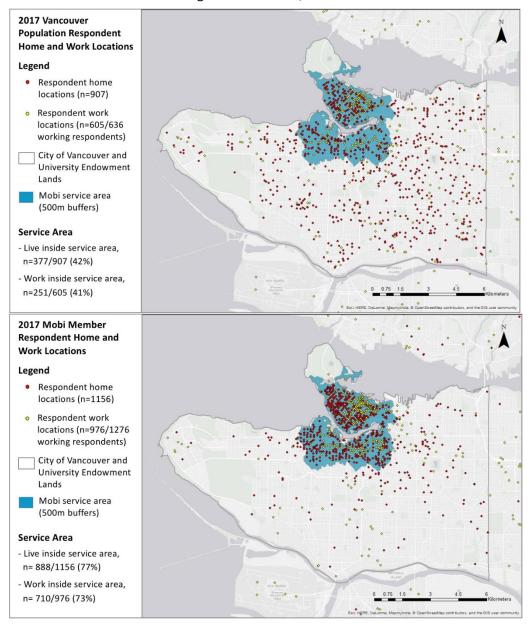
	Platform	Method of invitation	Incentive	Dates	# Invited to participate	# Final Sample- Valid Completes	Response Rate
		Email	\$1-4	T1: October 2015	5291	N=1028	21%
	Online Panel (Leger)			T2: October 2016	5023	N=917	20%
	(-8- /			T3: October 2017	6136	N= 907	16%
Mobi	Online	Email	Lottery to win 1 of 10 \$50 gift cards	T1: Nov 16- Nov 30, 2016	4861	N=1759	36%
Member Survey	(Fluid Survey)	EIIIdii		T2: Sept 22- Oct 6, 2017	4762	N=1400	29%



DESCRIPTION OF RESPONDENTS

Location & Household Description

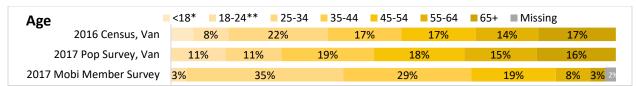
- Participants were asked the postal code, address or cross-street location of their home (Q25), as well as main place of work or study (if applicable, Q29). Valid addresses were geocoded and mapped and the Mobi service area defined within 500 m of a docking station (see shaded blue on Figure).
- In Fall of 2017, 42% and 41%, respectively, of Vancouver Population Survey respondents lived and worked inside the bike share service area. In comparison, 77% and 73% of Mobi Member Survey respondents lived and worked within the Mobi service area, respectively.
- Participants had lived in their current home residence for an average of 12.0 years.
- The average household had 2.0 adults, and 13.9% of households had children under 16 living at home. In Mobi households the average was 1.9 adults, and 22.3% had children.



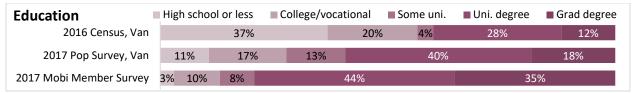


Demographics

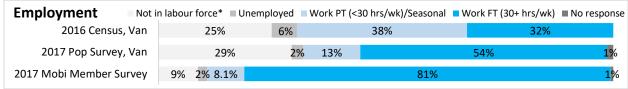
- Age and sex targets as well as post-sample weighting (using Vancouver City census data) were used for the Population survey to produce a representative sample of the Vancouver population.
- When compared to census data, respondents from the Vancouver survey were more highly educated, more likely to be employed and more likely working full-time. Survey respondents also had slightly higher household incomes. For the Mobi member survey, it was also true that respondents were more likely to be more education and employed than the general population.
- Survey respondents were also more likely to be born in Canada (69%, Vancouver Population Survey and 65%, Mobi Member Survey) compared to Vancouver population (55% in the census data) as well as identified with a North American ethnic origin. Those identifying with Asian and European origins were underrepresented amongst Mobi members.



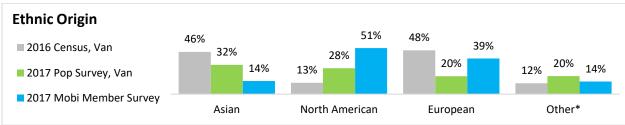
Notes: Based on survey question "What year were you born?" *age <18 was 15-19 for Census **age 18-24 was 20-24 for Census. Refer to Appendix B for details.



Notes: Based on survey question "What is the highest level of education you have completed?" Refer to Appendix B for details.



Notes: Based on survey question "What best describes your current employment status?" *Not in the labour force includes Homemaker + Student + Retired. Refer to Appendix B for more details.



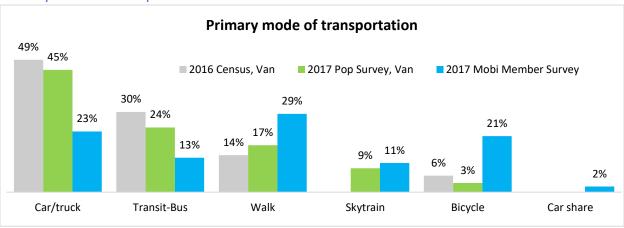
Notes: Based on survey question "Vancouver residents come from many different backgrounds. How would you describe yourself? (Select up to two options)". The sum of the ethnic groups in this table is greater than the total population estimate because a person may report more than one ethnic origin in the census. * *Other includes: Indigenous Peoples of Canada, Oceanic, African, Middle Easters, Latin American, prefer not to answer, Other-please specify. Refer to Appendix B for more details.



GENERAL TRANSPORTATION PATTERNS

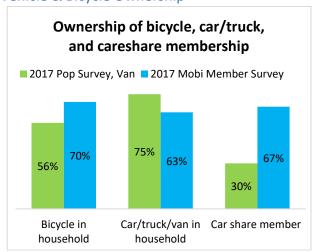
- Driving a personal motor vehicle was the primary mode of transportation for the Vancouver population, whereas walking was the top mode for Mobi members.
- Respondents reported having access to an average of 1.0 motor vehicle (0.8 amongst Mobi members) per household and 1.0 adult bicycles (1.7 amongst Mobi members) per household.
- 30% of the Vancouver population belonged to a car share and 67% of Mobi members.
- About 9 out of 10 had their driver's license (88%, Vancouver population; 92% Mobi members).
- In the week prior to completing the survey, 61% of the Vancouver population had walked for recreation, health or fitness while only 13% had cycled for recreation, health or fitness.

Primary mode of transportation



Notes: Based on Vancouver Population Survey Q1. "Overall, which mode of transportation do you use most often to get around?" 2017(N=907). Sex and age targets were used during recruitment, and data has been weighted to Census population standards. Mobi Members Survey 2017 (N=1400). No weights. Refer to Appendix B for details.

Vehicle & Bicycle Ownership



Average # vehicles per household

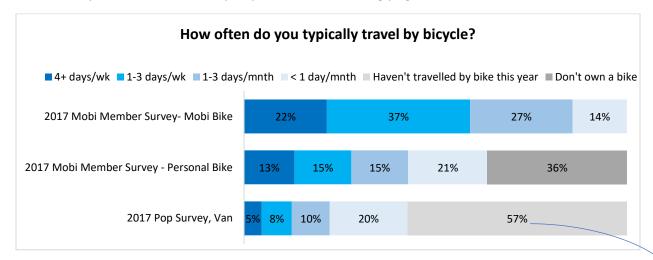
	2017 Pop Survey, Van	2017 Mobi Member Survey
Bicycles for adults	1.0	1.7
Bicycles for children	0.2	0.2
Cars, vans, or trucks	1.0	0.8
Motorcycles	0.1	0.1

Notes: Based on Vancouver Population Survey Q21. "How many of the following vehicles are kept in your household? a) Bicycles for adults, b) Bicycles for children, c) Cars or vans, d) Motorcycles," and Q22. "Are you a member of a car share?" 2017(N=907). Sex and age targets were used during recruitment, and data has been weighted to Census population standards. Mobi Members Survey Q25. 2017 (N=1400). No weights



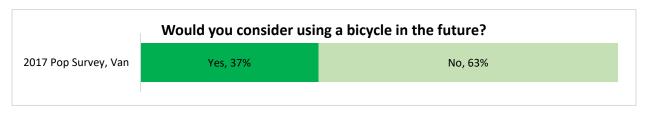
GENERAL BICYCLING BEHAVIOUR & PERCEPTIONS

- 43% had travelled by bicycle in the past 12 months. In terms of frequency of bicycling, 20% of the population said they bicycled less than once a month, and 23% bicycled at least once or more.
- Of the 57% of the Vancouver population who had not used a bicycle in the previous year, 37% said they would consider using a bicycle in the future.
- Nearly half (48%) of all respondents (regardless of whether they had ridden in the past year) agreed that they would like to travel by bicycle more (14% strongly agreed and 34% somewhat).



Notes: Based on Vancouver Population Survey Q12a. "How often do you typically travel by bicycle?" 2017(N=907). Sex and age targets used during recruitment in this survey, and data weighted to population standards. Mobi Member Survey Q3/4. "In the past 3 MONTHS, how often did you typically travel using a Mobi by Shaw Go bicycle/ your own bike?" 2017 (N=1400).

Future Bicycle Use



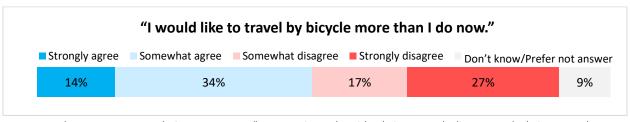
Notes: Based on Q13. "Would you consider using a bicycle in the future?" Asked of the subsample who said No to Q12 (had NOT rode a bike in the previous 12 months), 2017 (n=521).

Who are these "potential cyclists"?

Potential cyclists are framed as those who had not cycled in the past year (57%, n=521/907) but would consider using a bicycle in the future (37%, n=194/521), and compared to the overall survey sample (N=907, refer to page 7 for overall sample demographics), were:

- Younger: 58% aged 18-44 years, vs 41% of all respondents.
- *Slightly less educated*: 50% university degree or higher vs 58% of all survey respondents—although this may be due to this subsample also being younger.
- About equally employed: 57% working full time vs 54% of all survey respondents.





Notes: Based on Vancouver Population Survey Q44. "On a 4-point scale, with 1 being strongly disagree and 4 being strongly agree, how much would you agree with the following statement: 'I would like to travel by bicycle more than I do now.'" 2017 (N=907). Sex and age targets were used during recruitment in this survey, and data weighted to population standards.

Who are the respondents expressing a desire to cycle more?

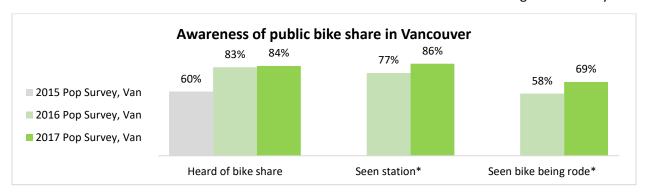
Those that that agreed they would like to travel by bicycle more than they do now (48%, n=463/907), compared to the overall survey sample (N=907, refer to page 7 for overall sample demographics), were:

- Younger: 46% aged 18-44 years vs 41% of all respondents.
- *More highly educated*: 63% university degree or higher vs 58% of all survey respondents—although this may be due to this subsample also being younger.
- More likely to be employed: 59% working full time vs 54% of all survey respondents.
- Slightly more likely to be Canadian born: 74% vs. 69% of all survey respondents.

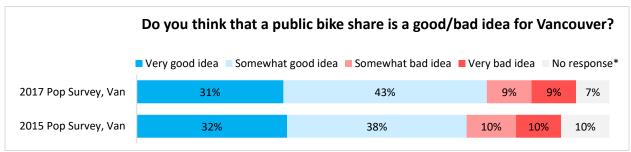


AWARENESS AND PERCEPTIONS OF BIKE SHARE IN VANCOUVER

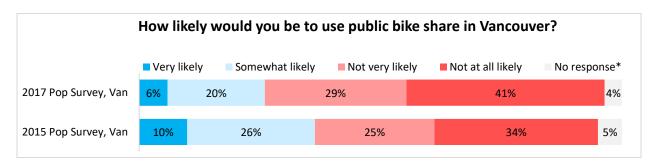
- Perceptions of a public bike share being a good idea for Vancouver slightly improved over time, with 70% indicating they thought such a program was a good idea when the program first launched in 2015 to 74% in 2017.
- Awareness of the public bike share program grew dramatically between 2015 and 2016 during implementation and has held steady in 2017 with 84% of all Vancouver residents having heard of a bike share program.
- 86% had seen a bike share station in Vancouver and 69% had seen someone riding a shared bicycle.



Notes: Based Vancouver Population Survey questions "Have you ever (Q14) heard of a public bike share program? (*Q34) seen a public bike share station in Vancouver?" and (*Q35) seen anyone riding a public bike share bicycle in Vancouver?" 2015 (N=1028), 2016 (N=917), 2017(N=907). Sex and age targets used during recruitment and data weighted to population standards. *Question not asked in 2015 before program launch.



Notes: Based on Vancouver Population Survey Q15. "Do you think that a public bike share program is a good or bad idea for Vancouver?" 2015 (N=1028), 2017(N=907). Sex and age targets used during recruitment, and data weighted to population standards.



Notes: Based on Vancouver Population Survey Q16. "How likely would you be to use public bike share in Vancouver at some point in the next year, given that station locations are accessible to you?" 2015 (N=1028), 2017(N=907). Sex and age targets used during recruitment, and data weighted to population standards.



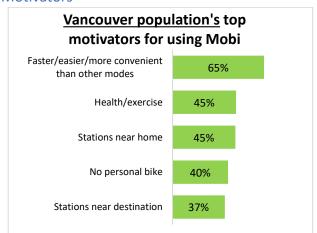
BIKE SHARE USE

In 2017, 6% had rode a public bike share bicycle in Vancouver at some point (up from 3% in 2016). Top motivators for using a bike share amongst the general Vancouver population included health/exercise (45%); stations being near their home (45%) and destination (37%); and not owning a personal bicycle (40%). Top motivators for Mobi members were distinct and included being able to ride one-way or for part of a trip (80%); finding the shared bikes faster, easier and more convenient than other modes (68%); and not having to worry about bike theft (68%).

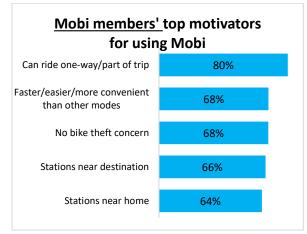


Notes: Based on Vancouver Population Survey Q36. "Have you ever ridden a public bike share bicycle in Vancouver?" Question not asked in 2015 as bike share program not yet implemented; 2016 (N=917); 2017(N=907). Sex and age targets used during recruitment in this survey, and data weighted to population standards.

Motivators



Notes: Based on Vancouver Population Survey Q17A. "Which of the following influence your decision to use the Vancouver public bike share? (select all that apply)." Asked of 2017 subsample who selected "Very" or "Somewhat likely" in Q16 (likelihood of bike share use), (26% n=236 of 907 respondents). Sex and age targets used during recruitment, and data weighted to population standards.



Mobi Member Survey Q13." Which of the following motivated your decision to use Mobi?" (select all that apply), 2017 (N=1400).

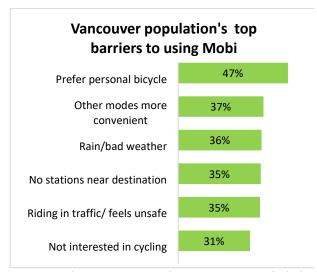
ALL MOTIVATORS	2017	2017	ALL MOTIVATORS	2017	2017
	Pop	Mobi		Pop	Mobi
	Survey	Member		Survey	Member
Faster/easier/more convenient vs other modes	65%	68%	No bike theft concern	9%	68%
Health/exercise	45%	45%	Environmental concerns	5%	34%
Stations near home	45%	64%	Can ride one-way/part of trip	5%	80%
No personal bike	40%	32%	Auto parking is difficult/expensive	3%	31%
Stations near destination	37%	66%	Free ride time with membership	3%	55%
Fun riding Mobi bicycles	32%	44%	Discounted/free membership	1%	15%
Inexpensive transportation choice	31%	38%	Employer benefit	*	5%
Helmet provided	24%	*	Want to support the program	*	52%
System easy to use	9%	53%			

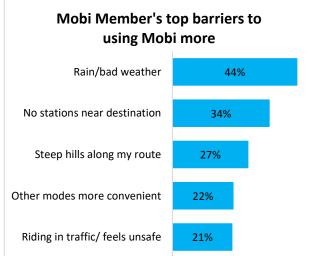
Notes: *Not asked on this survey



Barriers

The top barriers to using Mobi for the Vancouver population related to participants' satisfaction with current transportation modes (e.g. 47% preferred to use their own personal bicycle, and 37% said modes other than bike share were more convenient). This was followed by environmental factors such a preference to not ride in the rain/bad weather (36%) nor in traffic (35%). Top barriers to using Mobi more for members was rain and bad weather (44%); not having stations near one's destination (34%); and steep hills along one's route (27%).





Notes: Based on Vancouver Populations Survey Q17B. "Which of the following reasons influence your decision to not use the Vancouver public bike share? (select all that apply)." Asked of 2017 subsample who selected "Very" or "Somewhat likely" in Q16 (likelihood of bike share use), (26% n=236 of 907 respondents). Sex and age targets used during recruitment, and data weighted to population standards.

Mobi Member Surveys: Based on 14. "In general, which of the following reasons prevent you from using Mobi more often? (Select all that apply)" 2017 (N=1400).

ALL BARRIERS	2017 Pon	2017 Mobi	ALL BARRIERS	2017 Pon	2017 Mobi
	Pop Survey,	Member		Pop Survey,	Member
	Van	Survey		Van	Survey
Prefer personal bicycle	47%	14%	My destinations too far to bike	2%	19%
Other modes more convenient	37%	22%	Time limitations are not ideal for me	2%	11%
Don't like to ride in rain/bad weather	36%	44%	Don't like having to wear a helmet	1%	12%
No stations near destination	35%	34%	Don't live here/visitor	1%	*
Riding in traffic/ feels unsafe	35%	21%	Mobi bikes have maintenance problems	*	16%
Not interested in cycling	31%		Not enough cargo space	*	15%
None -Happy with how much I use it	23%	6%	Helmet fit/ sanitation	*	14%
I fear injury from a crashes/falls	23%	7%	No separated bike lanes along my route	*	13%
Too expensive	21%	5%	Bikes uncomfortable/the wrong size	*	6%
Bikes are too heavy	5%	19%	Gearing doesn't work on Van. terrain	*	6%
No station near home	4%	19%	Stations not working	*	6%
There are steep hills along my route	4%	27%	Stations are often moved	*	4%
Not enough bikes at docking stations	4%	16%	Bike sign out and in takes too long	*	3%
Maintenance problems	3%	*	Inconvenience of bicycling in work attire	*	1%
maintenance problems	370		meente en bieyemig in work attire		1/0

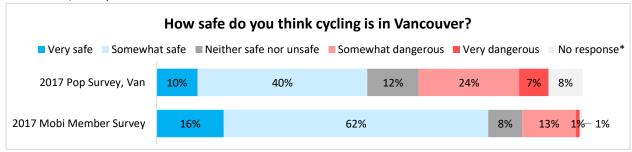
Notes: *Not asked on this survey



PERCEPTIONS OF BICYCLING SAFETY, HELMET USE & CRASH/FALLS

Perceptions of Bicycling Safety in Vancouver

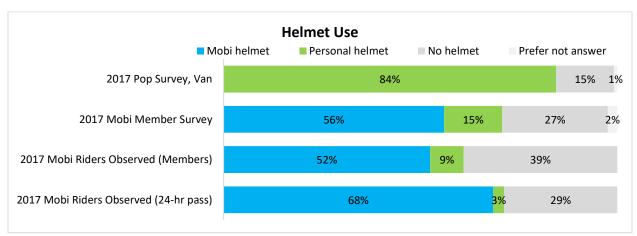
Half (50%) of the Vancouver population thought that bicycling in Vancouver is safe (either very or somewhat), compared to 78% of Mobi members.



Notes: Based on Vancouver Population Survey Q11. "Overall, how safe do you think cycling is in Vancouver? 2017(N=907). Sex and age targets were used during recruitment in the population survey, and data weighted to population standards. Mobi Member Surveys 2017 (N=1400).

Helmet Use

- A majority (84%) of the Vancouver population who cycled in the past year indicated that they wear a helmet when doing so, compared to 71% of Mobi members. In our related intercept survey work we interviewed Mobi riders in person at stations and found that 61% of monthly and annual members were wearing a helmet, and 71% of 24-hour pass users were.
- Top reasons cited for not wearing the share Mobi helmet amongst Mobi members were sanitary concerns with a shared helmet (33%), not usually otherwise wearing a helmet (23%), not needing a helmet for riding slowly and in quiet areas (17%), and poor fit (10%).

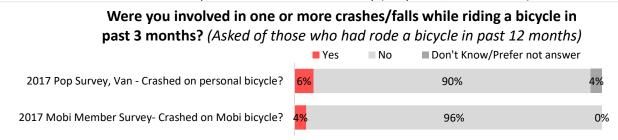


Notes: Vancouver Populations Survey Q12b. "On your last trip by bicycle, did you wear a helmet?" Asked of the subsample who said YES to Q12 (had rode a bike in the previous 12 months). 2017(n=386). Sex and age targets were used during recruitment in this survey, and data has been weighted to population standards. Mobi Member Survey Q9. "Which of the following best describes your TYPICAL helmet use when riding a Mobi bicycle?" 2017 (N=1400). "Mobi Riders Observed" data from Intercept Survey observations: Members (N=141) and 24-hr pass users (N=73)



Crashes & Falls

- 6% of the Vancouver Population Survey respondents (24 of those 386 who had cycled in the previous year) reported being in a total of 34 crashes or falls on a personal bicycle in the previous 3 months. 3% of Mobi members (42 out of 1400 respondents) reported being in a total of 54 crashes or falls that occurred on a Mobi bicycle in the previous 3 months.
- While the numbers of crashes or falls are few, details about circumstances and severity suggest:
 - The top cause for crashes or falls on both personal and Mobi bicycles were "hitting a hazard on the route" followed by "collision with a motor vehicle" for Vancouver Population Survey respondents on personal bicycles and, for Mobi Member Survey respondents on Mobi bicycles, "trying to avoid a collision".
 - o 38% (13/34) of all crashes or falls resulted in injury and 21% (7/34) required a hospital visit.
 - Most incidents were not reported to an official authority (i.e. police, ICBC or Mobi).



Notes: Based on Vancouver Population Survey Q18. "How many times in the past 3 months have you been involved in a crash or fall while riding your bike?" Asked of the subsample who said YES to Q12, had rode a bike in the previous 12 months: 2017, n=386. Sex/age targets used during recruitment, and data weighted to population standards. Based on Mobi Member Survey 21. "How many times in the past 3 months have you been involved in a crash or fall while riding a Mobi bike in the city?" 2017, N=1400.

Crash/Fall Details	2017 Pop Survey, Van	2017 Mobi Member
Cycled in the past year	386	1400
Had a crash/fall (last 3 months)	on a personal bicycle:	on a Mobi Bicycle:
	24 (6%)	42 (3%)
# crash/falls (last 3 months)	34	54
Crash/ Fall Details (select all that apply)	% of N=34 crash/falls	% of N=54 crash/falls
Hitting a hazard (train track, pothole, curb, slippery surface)	10 (29%)	15 (28%)
Collision with a motor vehicle	8 (24%)	5 (9%)
Trying to avoid a collision	7 (21%)	12 (22%)
Being distracted	7 (21%)	9 (17%)
Collision with vehicle door being opened	7 (21%)	3 (6%)
Collision with a pedestrian	5 (15%)	3 (6%)
A mechanical issue (brakes, gears, pedals)	5 (15%)	6 (11%)
Collision with another bicyclist	3 (9%)	2 (4%)
Incident caused injury	13 (38%)	17 (31%)
Visited a hospital emergency and/or admitted	7 (21%)	4 (7%)
Reported to authority (police or ICBC)	5 (15%)	3 (6%)
To Mobi	[not asked]	5 (9%)

Notes: Based on Vancouver Population Survey Q19. "We would like more information about your crashes or falls in the past 3 months. ... please provide information on up to the 5 most recent incidents". Asked of the subsample who said YES to Q12 (had rode a bike in the previous 12 months- N=386). Mobi Member Survey 2017: N= 42/1400 respondents provided information about 45 crashes/falls that occurred on Mobi bicycles. All data in this table unweighted due to small numbers.

-End of Report-



More detailed analyses have been completed on questions included in this summary report as well as others from the survey.

Please contact mwinters@sfu.ca with specific inquires.

APPENDIX A: VANCOUVER POPULATION ONLINE PANEL SURVEY QUESTION INVENTORY

Questions and 2017 survey results reported on in this document noted with an Asterix (*)

SCREENING QUESTIONS

- SO Where in British Columbia do you live?
- S1. What neighbourhood do you live in?
- * S2. What year were you born? (* reported as age)

TRAVEL BEHAVIOUR

- *Q1. Overall, which mode of transportation do you use most often to get around?
- a. How often did you make such a journey over the last 7 days? AND
- b. How much time in total over the last 7 days did you spend travelling ... by:
 - Q2. to and from work. (e.g. travel to and from your place of work, accompanying your spouse to and from their work).
 - Q3. <u>For business</u>, by which we mean any journeys in the course of your work or on employer's business (e.g. travel to and from meetings, making deliveries, etc.)
 - Q4. to and from <u>a place of study</u> (e.g. travel to and from your university or college) or to and from school (e.g. if you accompany a child to and from school).
 - Q5. <u>for shopping and personal business</u> (e.g. food shopping, non-food shopping, window-shopping, visiting a doctor, bank, solicitor or estate agents, visiting a relative in hospital, or accompanying someone else to a doctor, hospital etc.).
 - Q6. to <u>visit friends and relatives and for other social activities</u>. (e.g. a journey to and from the cinema or other entertainment facilities).
- *Q7. In the last 7 days, did you do any walking for recreation, health, fitness (including walking dog)? How many times? Please estimate the total time
- *Q8. In the last 7 days, did you do any cycling for recreation, health or fitness? How many times? Please estimate the total time
- *Q9. In the last 7 days, did you do any moderate to vigorous intensity physical activities in your leisure time? This could be any activity that made you sweat, such as jogging, playing sports, or the gym. How many times? Please estimate the total time
- *Q10. In the last 7 days, did you do any moderate to vigorous intensity physical activities as part of your job? This could be any activity that made you sweat, such as jogging, playing sports, or the gym. How many times? Please estimate the total time



CYCLING BEHAVIOUR

- *Q11. Overall, how safe do you think cycling is in Vancouver? Would you say it is...
- *Q12. In the previous 12 months, have you used a bicycle?
- *Q12 a. How often do you typically travel by bicycle?
- *Q12. b. On your last trip by bicycle, did you wear a helmet?
- *Q13A. Would you consider using a bicycle in future? (Note: Only for those who have not used bicycle in past year.)
- *Q44. On a 4-point scale, with 1 being strongly disagree and 4 being strongly agree, how much would you agree with the following statement: "I would like to travel by bicycle more than I do now." (Note: Asked in 2017 only) Q45_A. Have you walked or bicycled on the new Arbutus Greenway in the past 12 months? (Asked in 2017 only) Q45b_B. Have you walked or bicycled on the Point Grey Road Seaside Greenway in the past 12 months? (Asked in 2017 only)

PERCEPTIONS OF VANCOUVER'S PUBLIC BICYCLE SHARE (called "MOBI by Shaw Go")

- *Q14. Have you ever heard of a public bike share program?
- *Q15. Do you think that a public bike share program is a good or bad idea for Vancouver?
- *Q34. Have you seen a public bike share station in Vancouver? (Note: asked in 2016 and 2017 only)
- *Q35. Have you seen anyone riding a public bike share bicycle in Vancouver? (Note: asked in 2016 and 2017 only)
- *Q36. Have you ever ridden a public bike share bicycle in Vancouver? (Note: asked in 2016 and 2017 only)
- *Q16. How likely would you be to use public bike share in Vancouver at some point in the next year, given that station locations are accessible to you? [If Q16 = 1 or 2] then ask Q17A.
- *Q17A. Which of the following reasons influence your decision to use the Vancouver public bike share? [check all that apply] [If Q16 = 3 or 4] then ask Q17B.
- *Q17B. Which of the following reasons influence your decision to not use the Vancouver public bike share? [check all that apply]

PUBLIC BICYCLE SHARE USERS [ONLY THOSE WHERE Q36=1; bike share users]

- Q37. On average, how many times per day, week, month or year do you use a public bike share bicycle?
- Q38. On average per trip, how many minutes or hours do you use a public bike share bicycle?
- Q39. When you use public bike share bicycles, what type of trip does it TYPICALLY involve? [check all that apply]
- Q40. When you use public bike share bicycles, which of the following modes of transportation do you TYPCIALLY integrate into your travel? [check all that apply]
- Q41. What type of transportation would you have used to make these trips IF public bike share was not available? [check all that apply]
- Q42. Which of the follow best describes your TYPICAL helmet use when riding a public bike share bicycle? (Fill out one box only) Q43. What is your main reason for not always using a helmet when riding a public bike share bicycle? [please do not fill out or check more than one box.]

SOCIAL PARTICIPATION (THIS SECTION ADDED IN 2017)

- Q46. How would you describe your sense of belonging to your local community? Would you say it is:
- Q47. How often do you.... (Enter # of times per week or month or year for each) a) say hello to a neighbour? B) stop and have a chat with a neighbour? c) visit a neighbour, or receive a visit from a neighbour? d) go somewhere (e.g., to a shop; restaurant), together with a neighbour? e) ask help/advice from or do you help/give advice to a neighbour yourself?
- Q48. If you lost a wallet or purse that contained two hundred dollars, how likely is it to be returned with the money in it, if it was found by: A) someone who lives close by? B) a complete stranger?

CYCLING INCIDENTS [ONLY THOSE WHERE Q12=1; cyclists]

*Q18. How many times in the past 3 months have you been involved in a crash or fall (for any reason) while riding your bike in the city?



- *Q19. We would like more information about your crashes or falls in the past 3 months. If you have had more than 3 crashes or falls in the past 3 months, please provide information on the 5 most recent incidents:
 - a. Month of crash or fall
 - b. Was it reported to ICBC?
 - c. Was it reported to police?
 - d. Were you injured?
 - e. Did you visit a hospital emergency department because you were injured?
 - f. Were you admitted to hospital? (overnight stay in a depart. other than emergency)

Did your crash or fall involve any of the following?

- h. Collision with a vehicle door being opened
- i. Other collision with a motor vehicle (including car, SUV, truck, bus, motorcycle)
- j. Collision with another cyclist
- k. Collision with a pedestrian
- I. Hitting a hazard on the route (e.g. train track, post, pothole, curb, slippery surface)
- m. A fall when trying to avoid a collision
- n. You being distracted
- p. A mechanical issue (brakes, gears, pedals)
- q. Did this crash occur while you were riding a Vancouver Public Bikeshare bike?

DEMOGRAPHIC INFORMATION

- *Q20. Do you have a drivers' license?
- *Q21. How many of the following vehicles are kept in your household? Bicycles for adults, Bicycles for children, Cars or vans, Motorcycles
- Q22. What car share services are you part of? (Select all the apply)
- *Q23. How many people, including yourself, live in your household? Children aged under 5, Children between 5 and 15, Adults aged 16 and over (including yourself)
- *Q24. How long have you lived in your current home residence?
- *Q25. What is your postal code of your home? OR If you do not know the postal code, please give the address, or nearby cross-streets of your home.
- *Q26. Are you ...? Male Female
- *Q27. What is the highest level of education you have completed?
- *Q28. What is your current employment status?
- *Q29. What is your postal code of your main place of work or study? Or, If you do not know the postal code, please give the address, or nearby cross-streets of your place of work or study.
- *Q30. Were you born in Canada?
- *Q31. Vancouver residents come from many different backgrounds. How would you describe yourself? (Select up to 2 options)
- Q32. In general, for someone your age, would you say that your health is:
- Q33. Which of the following best describes your total annual household income before taxes?



APPENDIX B: DEMOGRAPHIC CENSUS COMPARISON NOTES

Survey respondent sample compared with Vancouver census population on pages 6-8 of this report by demographics of sex, age, birthplace, ethnic origin, education attainment, occupational status and household income with 2016 Vancouver population census.

Source: Statistics Canada. 2017. Vancouver, CY [Census subdivision], British Columbia and Canada [Country] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017.

More specific notes on this sample match comparison here:

Sex

Based on "Sex/gender" survey variables.

- Population Survey Q26 (respondents: 2015, N=1028; 2016, N=917; 2017, N=907). Sex and age
 targets were used during recruitment in the population survey, and data weighted to Vancouver
 census population standards.
- Mobi Member Survey Q27 (respondents: 2016, N=1759; 2017, N=1400)
- 2016 Vancouver census population aged 15+ (Respondents: N=560,960)
- Other includes "Other gender identity" and "I prefer to not answer" response categories.

Age

Based on survey question "What year were you born?"

- Population Survey screening question S2 (respondents: 2015, N=1028; 2016, N=917; 2017, N=907). Sex and age targets were used during recruitment in the population survey, and data weighted to Vancouver census population standards.
- Mobi Member Survey Q28 (respondents: 2016, N=1759; 2017, N=1400)
- 2016 Vancouver census population aged 15+ (respondents: N=560,960).
 - *age <18 was 15-19 for Census
 - **age 18-24 was 20-24 for Census

Born in Canada

Based on survey question "Were you born in Canada?"

- Vancouver Population Survey Q30 (respondents: 2015, N=1067; 2016, N=917; 2017, N=907). Sex and age targets were used during recruitment in the population survey, and data has been weighted to Vancouver census population standards.
- Mobi Member Survey Q33 (respondents: 2016, N=1759; 2017, N=1400)
- 2016 Vancouver census immigrant status (respondents: N=587,940)
 - O In figure, no=immigrant, yes=non-immigrant



Ethnic Origins

- Based on survey question "Vancouver residents come from many different backgrounds. How would you describe yourself? (Select up to two options)".
- Vancouver Population Survey Q31 (respondents: 2015, N=1028; 2016, N=917; 2017, N=907). Sex and age targets were used during recruitment, and data weighted to Vancouver census population standards.
- Mobi Member Survey Q34 (respondents: 2016, N=1759; 2017, N=1400)
- 4% prefer not to answer in population and member surveys.
- 2016 Vancouver census population based on "ethnic origins" characteristics (respondents: N=618,210). Census characteristics matched with <u>Vancouver Population and Mobi Member Survey</u> categories as follows:
 - Other North American origins = <u>North American;</u>
 - European origins = European;
 - Asian origins (less "West Central Asian and Middle Eastern origins") = Asian;
 - o Latin; Central and South American origins = <u>Latin American</u>;
 - West Central Asian and Middle Eastern origins= Middle Eastern;
 - Oceania origins = Oceanic;
 - African origins = African;
 - North American Aboriginal origins = <u>Indigenous People of Canada.</u>
- Note from Census: The sum of the ethnic groups in this table is greater than the total population
 estimate because a person may report more than one ethnic origin in the census. 'Ethnic origin'
 refers to the ethnic or cultural origins of the person's ancestors. An ancestor is usually more distant
 than a grandparent. For additional information on the collection and dissemination of ethnic origin
 data refer to the Ethnic Origin Reference Guide Census of Population 2016.

Education

- Based on survey question "What is the highest level of education you have completed?"
- Vancouver Population Survey Q27 (respondents: 2015, N=1028; 2016, N=917; 2017, N=907). Sex and age targets were used during recruitment in the population survey, and data weighted to Vancouver census population standards.
- Mobi Member Survey Q29 (respondents: 2016, N=1759; 2017, N=1400)
- 2016 Vancouver census "Highest certificate; diploma or degree for the population aged 15 years and over in private households" (respondents: N=547,835). Census categories matched with <u>Vancouver</u> <u>Population and Mobi Member Survey categories</u> as follows:
 - No certificate; diploma or degree + Secondary (high) school diploma or equivalency certificate = <u>High school or less</u>
 - Apprenticeship or trades certificate or diploma + College; CEGEP or other non-university certificate or diploma = <u>College/vocational/technical school</u>
 - University certificate or diploma below bachelor level = <u>Some university</u>
 - Bachelor's degree + University certificate or diploma above bachelor level = <u>Graduated</u> university
 - Degree in medicine; dentistry; veterinary medicine or optometry + Master's degree + Earned doctorate = <u>Graduate degree</u>

Employment



- Based on survey question "What best describes your current employment status?"
- Vancouver Population Survey Q28 (respondents: 2015, N=1028; 2016, N=917; 2017, N=907). Sex and age targets were used during recruitment in the Population Survey, and data weighted to Vancouver census population standards.
- Mobi Member Survey Q31 (respondents: 2016, N=1759; 2017, N=1400)
- 2016 Vancouver census population aged 15 years and over by "Labour force status 25% sample data" (respondents: N=547,845). Census categories matched with Vancouver Population and Mobi Member Survey categories as follows:
- Worked full year; full time = Work full-time (>= 30 hours/week);
- Worked part year and/or part time = Work part-time (<30 hours/week) + Seasonal Work (categories combined);
 - Not in the labour force = Homemaker + Student + Retired (categories combined);
 - Unemployed = Unemployed

Primary Mode of Transportation

Based on survey Q1. "Overall, which mode of transportation do you use most often to get around"

- Respondents:
 - Vancouver Population Survey 2015 (N=1028), 2016 (N=917), 2017(N=907). Sex and age targets were used during recruitment, and data has been weighted to Census population standards
 - Mobi Members 2016 (N=1759) and 2017 (N=1400). No weights
 - 2016 Census Profile data for Vancouver (CY census subdivision) uses characteristic "mode of transportation" for "total employed population aged 15 years and over with a usual place of work or no fixed workplace address by mode of transportation" (N=315325)
 - o "car/truck" category "private motor vehicle" for Mobi survey and combination of "Car, truck or van as a driver" and "Car, truck or van as a passenger" for Census.
 - o "car share" category provided on Mobi survey only
 - o "skytrain", "categories not available for Census.