UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

Commuting to Campus with Children: Is Biking a Feasible Option?

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Executive Summary

Active transportation, such as walking, biking, and public transit, is an important piece of a healthy city, and can increase people's physical activity levels while also reducing our carbon footprint. We wanted to look specifically at cycling as a means of active transportation for a particular group. In this research project, we used an online survey to reach out to parents who commute to the University of British Columbia (UBC) campus with children and ask them about how they currently commute to campus, how they get their kids to school, reasons why they may or may not bike, and solutions to barriers that prevent them from doing so. The UBC campus is unique in the fact that it runs similar to a small town, while also having the benefits of being next to a large city. Many people who work on the UBC campus also have children who they take to and from school.

The survey respondents currently use a variety of different transportation modes, including public transit, cars, carpools, walking, and bikes. While a large number of respondents said they rode their bikes to campus, less of them said their kids rode their bikes to school. There was also still a significant portion of people who drove to campus. A wide variety of barriers, or situations that prevent people from doing something, to biking were mentioned including: not owning a bike, kids not knowing how to ride a bike, lack of showers, too many hills, no safe places to lock up a bike, too far to ride, poor weather, and feeling unsafe on roads, with the latter two being the most common reasons. However, feeling unsafe on roads, poor weather, and other reasons were ranked first, second, and third for being the biggest barriers to commuting by bicycle. Some of the other barriers mentioned by participants included: lack of time, fears about crime/safety, lack of dry storage space, and lack of safe roads for bicycling.

We also asked the participants which of the following 3 solutions would benefit them the most: more secure bike storage (like bike cages), bicycle road safety courses, and more shower facilities. Half the participants said more secure bike safety storage would benefit them the most, and over a third said bicycle road safety courses. Participants were also given the opportunity to provide suggestions to eliminate the barriers that prevent them from cycling to campus. Common themes included more security cameras, more safe bike lanes/paths/roadways, and more shaded bike parking.

As a result of these findings, we make the following recommendations to UBC Campus and Community planning: the creation of bike cages at several key locations on campus, increasing the amount of security cameras at bike theft hot spots and areas where larger amounts of bikes are stored, creation of bicycle road safety courses for parents and children, and continued research of areas where bike lines and bicycle safety can be improved in areas on and around campus.

Introduction

For this research project, we have identified and examined the barriers that prevent parents who commute to the University of British Columbia (UBC) campus with children by cycling and the weight of these barriers on parents as a whole as well as the possible ways to limit barriers for the future. We worked with parents who commute with children in order to understand the barriers they experience which could include, but are not limited to, concerns of commute distance, road safety, and bike theft on campus. It is important to understand these barriers that prevent parents from cycling to the UBC campus with their children as they are a target demographic that has specific needs and barriers that prevent them from commuting in a more ecologically friendly and active way. By encouraging people to choose cycling as their way of commuting, this would help reduce carbon emissions and promote a healthy and active lifestyle for the whole family (Wong et al., 2011). The results of this project will go to UBC Campus & Community Planning in order to inform them of these barriers and provide information to help them with planning and decision-making for how to best encourage parents with children to use cycling as their primary mode of commuting to and from campus.

Literature Review

Active transportation (AT) for commuters is an area with a significant body of existing work given its relevance to both environmental and health-related issues. Larouche, Barnes, and Tremblay (2013), discussed solutions to overcoming the barrier of distance needed to be traveled being too far to commute via bike or foot. The solutions for barriers followed the social ecological theory, which is explained as highlighting the interactions between different levels of influence that can be addressed through parental experiences of their environment (Larouche et al., 2013). One suggestion that was made by Larouche et al.

(2013) was to have campaigns that target youth, providing them with the knowledge, competence, and opportunity to have an input in their method of transportation. A recent finding by Larouche et al. (2013) shows that only 25% to 35% of children regularly engage in AT, and only 5% meet the physical activity guidelines, but by allowing youth to have an input in their own activities, they are more likely to engage in AT. Furthermore, by expressing interest in AT and successfully navigating to and from a location, parents may be more likely to allow their child to actively transport to locations that were previously deemed too far, however in reality it is a walkable distance of less than two kilometers (Larouche et al., 2013).

Another solution identified by Larouche et al. (2013) was aimed at the interpersonal level of AT; if parents model active behaviour, youth are more likely to engage in personal physical activity and AT. Parents could model AT by accompanying their child to school via bike, or by driving their child to a point of interest near the desired location and encouraging them to bike the remainder of the route. If possible, registering the child in a school that is close to their house would also reduce the barrier of distance, making the idea of active transportation more reasonable and "walkable" for children (Larouche et al., 2013). At a community level, schools could reduce safety concerns by reducing traffic levels through school areas by providing parents with the ability and freedom to park their car at a nearby location and escort their child actively the remainder of the route, and additionally, buses could drop children off at a set point near the school, encouraging AT to make up the remainder of the trip (Larouche et al., 2013). The recommendations given by Larouche et al. (2013) would give parents a favourable environment to let their children participate in independent and active transport on bike or foot.

Another influential factor to consider for cycling is the structure and topography of the environment needed to travel throughout the city. Recent findings suggest that living in a dense city with high connectivity of streets typically means shorter transit routes, which would encourage AT, but conversely these dense cities generally have high rates of automobile traffic, increasing road safety concerns, resulting in mixed reviews (Panter, Jones, Van Sluijs, & Griffin, 2010). Panter et al. (2010) found that a well-connected network of sidewalks in quiet neighbourhoods facilitated an increase in active transportation and cycling regardless of the distance.

A study done by McLaren (2016) found that the surrounding areas to the UBC campus are affluent households who rely mostly on private-car commuting due to lower density neighbourhood structure in these communities compared to the downtown core density. Parents of children in the surrounding suburbs have the notion that commuting by car allows for faster and more convenient travel from the starting to the finishing point in the city of Vancouver (McLaren, 2016). The barriers that are discussed throughout the study focus on time of the commute, the amount of belongings that are associated with children, and the distance of the desired destination; therefore parents have the preconceived ideology that commuting by car will help save time and be more safe than having their children walk or bike to school (McLaren, 2016).

Further research by Wong, Faulkner, Buliung, & Irving (2011) investigated the prevalence of active transport to and from school in Ontario students grades 7 through 12. Active School Transport (AST) was defined as walking, biking or other (Wong et al., 2011). For students in both elementary and high school it was found that less than half of students reported active transport to and from school. There was a slightly higher prevalence of AST in elementary students than high school students. A significant number of students were

found to be “mode shifters”, meaning they would choose to walk or bike to school in the morning and then switch to passive transportation in the afternoon to get home (Wong et al., 2011, p. 3). These mode shifters are believed to be a good target group when trying to influence children to use AST in both morning and afternoon because this is mainly due to having parents who already allow them to use active transportation on their own (Wong et al., 2011). Factors contributing to choosing to walk or bike to/from school included, parents schedule, urban vs. rural and having input in the decision (Wong et al., 2011). Students were found to be more likely to use active transport when their parents do not commute to work, they live in an urban setting and they have input in the decision (Wong et al., 2011). Active transport in children is important to understand since they make up half of the equation of parents commuting with children.

An article by C. Bruntlett and M. Bruntlett (2017) highlighted the common myths surrounding bike transportation in Vancouver and why Vancouverites use the main deterrents as reasons not to commute by bike. The most notable deterrents and myths discussed include: distance, weather, bike safety, transportation time, and the difficulty of cycling with children (Bruntlett, C., & Bruntlett, M., 2017). The safety barrier comes from the idea that sharing the road with large, fast moving vehicles is far too dangerous of a situation to put yourself in. The best solution to this barrier is to select routes that are more traffic-calm and have protected bike lanes, as well as the importance of following traffic signals and to make yourself visible to those the bicyclists are sharing the road with.

The myth that biking is too slow to get you from the first to the last destination in time is often broken by the fact that any combination of transit can be slower, especially during rush hour in the city. An event called “Share the Road Challenge” where travellers in cars, transit and on bikes go from their home to their office in rush hour to see who arrives first has

found that those travelling by bike have been first 75% of the time, making biking the more efficient way of travel in the city (Bruntlett, C., & Bruntlett, M., 2017, p.1). Another barrier found in Vancouver is cycling with children, as it is often thought to be too difficult and much easier to just transport by car or bus, however, it can be as simple as teaching children to follow traffic rules and riding responsibly while on major traffic routes (Bruntlett, C., & Bruntlett, M., 2017). Children often jump at the chance to have some freedom and show some independence, and if they are not at the age to ride on their own bike, parents have the ability to rely on cargo bikes or bike trailers available.

In addition, Chen (2014) wrote an article to focus on how Vancouver as a city can improve their biking commuter rates not just in the city, but throughout the suburbs surrounding the downtown core. This article focussed on four main areas that would help to improve commuter mentality for the future; this included "training for cycling from an early age" which is a main barrier for parents looking to commute who have children (Chen, 2014, p.1). Parents who educate their children how to commute safely by walking and biking from a young age are more likely to use the same type of transportation as they get older, although this can be limited depending on the age of the children and the distance they would be willing to commute alone or with a parent (Chen, 2014). Another key influence, explored by Chen (2014), that affects the number of bikers commuting on the road is the infrastructure that is put in place to allow for an efficient and safe commute from start to end. Chen (2014) encouraged Vancouver to improve the bike lanes, which they have since this article was written, however improvement can always be made to ensure drivers and bikers can co-exist together on the roads. The condition and terrain of the roads can be a major influence that may restrict parents from taking their children on select roads due to a lack of bike lanes and safety infrastructure.

Methods

This study will focus on identifying barriers that currently exist and exploring the areas where improvement can be made in order to increase Active Transportation (AT) of parents with children to and from the University of British Columbia (UBC) Point Grey campus. For the purposes of this study, we will be conducting surveys using the Qualtrics software to collect our data. The chosen method of data collection was surveys as they do not require a long time commitment to complete and can be done on the participant's own schedule. Additionally, the surveys can be accessed online, potentially increasing the number of participants that take part in the study due to the overall accessibility. The survey questions will ask participants to identify the age and number of children in the household, as well as their biking access and competency. Specific questions regarding barriers are identified in the survey for participants to respond to and choose which barriers affect their decision most to use biking as their main source of commuting. The survey also includes a portion where the participants can offer suggestions on what may alleviate these barriers or identify a different barrier, as they may be experiencing a barrier that is not visible to the general population. The data was analyzed with the goal of identifying the most prominent barriers and most applicable participant recommendations. By identifying the largest barriers to this population it will be possible to make recommendations that will influence the greatest increase in parents cycling to campus with children. Additionally it will be beneficial to identify barriers that do not offer as large a potential gain in the number of cyclists. This is equally important given that the resources required to address these barriers are not endless and must be divided wisely and efficiently.

Important extraneous variables that will not be identified by this survey but could have significant influence on parent's decisions to cycle with their child/children include:

socioeconomic status, health status and any physical or mental disabilities. People of lower socioeconomic may not have the means or time to cycle with their child as well as those with certain restricting medical conditions. Thus, it is important to recognize that there may be more factors at play than those identified by this survey.

Data was collected via surveys from March 10th to March 30th 2020, and was used to determine what barriers prevent the chosen demographic, this being parents with children under the age of twelve, from actively commuting to the UBC Point Grey campuses. The data found will exemplify the type of transportation used based on proximity to the school (see Figure 3), which will conclude if time and distance are a contributing factor when parents are getting their children to school in the morning (Yeung, Wearing & Hills, 2008)

Rationale

Although there is no concrete age on when children are 'ready' to commute alone, the general consensus amongst parents is approximately ten to twelve years old, therefore for the purposes of this study, the focus will be primarily on parents with children under the age of twelve (CareZen Family Solutions Inc., 2019). The study will focus specifically on parents commuting to UBC, in which parents can be from single or multiple person households. There will be acknowledgement of both those that commute via bicycle and those that do not (via public transportation or automobile), aiming to increase the amount of people transporting to UBC via bicycle. Surveys were centered around discovering people's reasons for not commuting via bicycle and some potential barriers they may be exposed to. It is expected that the primary obstacles preventing parents with children from using active transport to campus will be weather and time to commute, which is largely dependent on distance. This is believed to be the case because these are factors over which participants would have no control. Parents who live closer to campus are expected to be more likely to

use active transport when commuting. Parents with infants (birth to 4 years old) are expected to be less likely to use active transport due to the increased amount of care required and the safety precautions that would need to be taken.

The population demographic of parents commuting with children has been chosen for a variety of reasons; the first being that the endowment lands in which UBC is located is also home to three schools within the University Hill Family of Schools. This includes Norma Rose Point School (Kindergarten to Grade 8), University Hill Elementary School (Kindergarten to Grade 6), and University Hill Secondary School (Grade 8 to Grade 12). This is a significant application for our studies as it can be assumed that a vast majority of the students attending the above mentioned schools likely commute to school with their parents based off of the age group of these children. Although the catchment area for the University Hill Family of Schools primarily encompasses those already living within the endowment lands (see Figure 2), the school board allows students outside the catchment area to attend these schools if their parent is a UBC employee, a UBC student, or a visiting professor to UBC regardless of where their permanent residence is located (Vancouver School District School Plan for University Hill Elementary School Year 2 (2019) of 3 Year Plan, 2018 - 2020, 2019).

In addition to the schools located on the endowment lands, UBC also offers a wide variety of recreation programs on campus for youth. Some of the programs offered include but are not limited to; half or full-day camps, drop-in swimming or swimming lessons, family hockey, public skating or skating lessons, Junior Thunderbirds hockey program, tennis lessons, Thunder baseball program, and Junior Thunder rowing program (UBC Recreation, 2020). It can also be assumed that the children in this age group would be commuting to UBC campus with an adult as the age for the programs can range from infancy to 18 years old.

These activities are important reasons to target the population demographic of parents commuting to campus with children, due to the high volume of youth commuting to and from the university campus daily, presumably with an adult. By targeting this population demographic, a significant decrease in the amount of passive transportation via automobile or public transportation can be made, as well as an increase in the awareness and amount of active transportation (AT) that can take place at UBC.

Social media posts, printed flyers, and word of mouth were the primary methods of recruiting participants for this study. In order to reduce challenges in data collection and recruitment, the participants schedules were taken into account and worked around as much as possible. The primary focus was to ensure the surveys were relatively quick and easy to understand. There was no incentive provided for participants and there were minimal risks associated with participating in this specific study. The primary risk is the psychological risk of parents being judged for their parental habits and decisions regarding their children and their children's safety. Confidentiality and anonymity of responses will be maintained to provide participants security in their responses. Potential benefits associated with this study could be an increase in knowledge of resources available to parents cycling with children, as well as parents potentially examining and reflecting on their own decisions to bike or not to bike as a method of transportation on a daily basis. Participants were provided with an informed consent form to sign with the objective of informing them about the potential risks and benefits associated with participating in this study.

Results & Findings

Our study revealed that, according to survey respondents, the most common barriers to parents commuting with their children by bike include poor weather, feeling unsafe on roads, and it being too far to ride. As seen in Table 1, the biggest barriers based on how

respondents ranked them, include feeling unsafe of roads (25% of respondents ranked it the biggest barrier, 56.25% ranked it in their top 3), poor weather (68.75% ranked it in their top 3), and other barriers (37.5% ranked it in their top 3). Other barriers participants mentioned included: they didn't have time in the mornings, there wasn't covered bike storage at home or at their destination, not feeling confident enough to put their infant in a baby seat, no safe bike path after University Blvd, and lack of storage space at home. In Table 2, participants ranked the smallest barriers which included not owning a bike (37.5% of people ranked it last) and lack of showers (50% ranked it in their bottom 2).

While some natural environment barriers such as long distance and poor weather may not have direct solutions, built environment barriers, such as lack of safe cycle paths, and social environment barriers such as school policy, crime, and social norms can be more directly impacted with practical solutions. We asked survey respondents which of the following potential solutions to barriers would benefit them the most: more secure bike storage (e.g. bike cages), bicycle road safety courses, or more shower facilities on campus. As seen in Table 3, secure bike storage was the most popular with 50% of people saying it was the most beneficial. Bicycle road safety courses ranked second with 38.89% of respondents selecting it. More shower facilities ranked last with only 11.11% of respondents saying it would be the most beneficial to them. We also asked respondents for other ways UBC could help make biking to campus easier; these suggestions included designated bike lanes for safety, creating a culture of biking with an infrastructure to support it, covered bike parking, and security cameras at bike parking, with the suggestion of covered bike parking and increased security cameras being mentioned by multiple participants. The study also gathered insight into how parents currently get their kids to school which is shown in Table 4, these results showed that 33.33% said their kids bike to school, 28.57% get their kids to

school by car, 19.05% by walking, 9.52% use multiple modes, 4.76% carpool, and 4.76% use public transit as their regular method of transportation. Whereas 40.91% of respondents said they (the parents) commuted to campus by bike everyday, while 9.01% said often, 18.18% said sometimes, and 31.82% said never (Table 5).

Discussion

From the eight potential barriers examined in this study, it was determined that poor weather, feeling unsafe on roads, and biking distance were the three primary barriers, which accounted for over 50% of all identified responses, preventing people from cycling to campus with their child or children. This result corresponds with results from other similar studies, like the one done by van Bekkum, Williams, and Morris (2011). Addressing these barriers would likely yield the largest increase in participation from cycling families. The large scale of the city of Vancouver and the cold wet climate of British Columbia are reflected in these barriers. In order to approach these obstacles, it is important to understand that things such as the distance people live from campus and the poor weather of Vancouver are out of the control of potential strategies to promote cycling. The increase in understanding the barriers will help shift the focus away from areas that are outside the sphere of influence of our partner and into secondary factors that will help reduce the effects of these overarching barriers. Specifically, the focused efforts on factors affecting cycling could help combat these non-variable barriers and have the possibility for a large impact on participation given our findings for this population demographic. Examples such as programs in bike safety, that identify areas of high accident frequency to help people feel more confident on busy Vancouver roads, sheltered bike lock up areas to minimize exposure to poor weather conditions, and potential incentives/rewards based on distance traveled to promote those with longer commutes would be an excellent use of resources; further information on this is

presented in depth in the recommendations section of our research paper. Continuing on the suggestion made by Larouche et al. (2013) of having campaigns that target youth, providing them with the knowledge necessary to help influence their family's decision regarding transportation methods. Getting children excited and confident about biking to school may be one of the best ways to improve participation of both children and adults in cycling as a primary mode of transportation. As previously stated by Panter et al. (2010), a well-connected network of sidewalks facilitated an increase in active transportation and cycling regardless of the distance. This model can certainly be applied to our city and campus with the creation of designated bike lanes for cyclists not only on city streets but within the campus itself. This would combat both safety concerns as well as cut down on travel times addressing two barriers simultaneously. The scope of this study can be most useful in identifying which solutions and strategies proposed in other areas such as the previous two are most applicable to our campus population regarding the barriers they face.

The primary challenge faced with this study was finding participants within our target population, especially with the COVID-19 outbreak which shut down schools and most of the university, limiting our ability to directly connect and contact our target group, which resulted in a relatively low number of responses obtained. This challenge was overcome by assistance provided by Dr. Bundon as the survey was forwarded to parent groups and colleagues within her connections. Given the small sample size, the external validity of this study is in fact quite small and may not carry the desired weight in terms of identifying barriers and recommendations, however one thing it may have achieved is identifying areas that deserve further investigation on a larger scale. A limitation is that the specific population of parents commuting to campus with children makes up a small portion of the total population that commutes to campus. The small scope of this study does not present a

problem so long as the scope of this study is not oversold and over-generalized to the larger population of the cyclist community. It will be interesting to compare which barriers and factors were identified amongst the different population of cyclists across UBC. Future studies might identify the common area between all cycling populations in order to identify the most effective large-scale intervention to the general population of UBC cyclists.

Recommendations

Based on the data provided by survey respondents, we would make recommendations for the following: the creation of bike cages at several key locations on campus, increasing the amount of security cameras at bike theft hot spots and areas where larger amounts of bikes are stored, creation of bicycle road safety courses for parents and children, and continued research of areas where bike lines and bicycle safety can be improved in areas on and around campus.

The creation of secure bike cages, where only people who sign up and pay a small fee to store their bikes there, have access via a personal keycard could reduce bike theft by keeping track of who has access to that area could also allow some people some peace of mind when storing their bikes on campus (Martin & den Hollander, 2009). Further research would need to be conducted in order to find the optimal places for these bike storage facilities and what individuals would be willing to pay to store their bikes there. Adding security cameras would also be a solution, as it would deter bike thieves who would fear being caught, as well as allow authorities to apprehend them if bike thieves still attempt to steal. These cameras should be placed in bike theft hot spots, as well as areas that there are more bikes or are less supervised. The creation of bicycle road safety courses would be a good solution to parents who feel uneducated or unsure if riding on the road with their children is a good idea, as well as learning valuable safety skills (Mandic et al, 2016). Ideally, they could be held at

local schools and educate both parents and children on the rules of the road for bikes, bike safety and maintenance, as well as how to act in an emergency. Our final recommendation is to continue research on problem and accident-prone areas for bicycles on or around campus. By researching areas that could cause problems for bicycles, Campus and Community planning will have a better view of how to potentially fix those problem areas to reduce safety risks for bikes. Although changing the built and social environment through increasing bike security and road safety would be the easiest to enact and see significant change, individual behaviours like attitudes towards bicycling being a safe, reliable, and easy option can also be changed through the inclusion of parent-child bicycle road safety courses. Like one of our respondents said, we need to create a culture of bicycling at UBC. Overall, we believe that by implementing some or all of these potential solutions will make the idea of commuting by bike with children a feasible solution to parents that work on campus.

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Appendices & Figures

Table 1

Barriers to Biking to Campus	% of Respondents
Don't own a bike	2.70%
Kids don't know how to ride a bike	5.41%
Lack of showers at destination	5.41%
Too many hills	8.11%
No safe place to lock up bike	8.11%
Too far to ride	13.51%
Feel unsafe on roads	16.22%
Poor weather	27.03%
Other	13.51%

Table 2

Ranking of Barrier Barriers	1	2	3	4	5	6	7	8
Unsafe on roads	25%	6.25%	25%	18.75%	18.75%	0%	6.25%	0%
Poor weather	18.75%	18.75%	31.25%	12.5%	6.25%	0%	0%	6.25%
Other barriers	18.75%	12.5%	6.25%	0%	6.25%	0%	0%	12.5%
No safe place to lock bike up	12.5%	6.25%	6.25%	12.5%	0%	25%	12.5%	25%
Kids don't know how to ride a bike	12.5%	6.25%	12.5%	6.25%	12.5%	12.5%	12.5%	6.25%

Too far to ride	6.25%	18.75%	6.25%	6.25%	18.75%	31.25%	6.25%	6.25%
Too many hills	6.25%	18.75%	6.25%	6.25%	25%	12.5%	18.75%	0%
Lack of showers	0%	6.25%	6.25%	18.75%	0%	12.5%	43.75%	6.25%
Don't own a bike	0%	6.25%	0%	18.75%	12.5%	6.25%	0%	37.5%

Table 3

Potential Solutions	**Percent of Respondents**
More secure bike storage	50%
Bicycle road safety courses	38.89%
More shower facilities on campus	11.11%

Table 4

How Do Your Kids Currently Get to School

#	Answer	%	Count
1	School Bus	0.00%	0
2	Public Bus	4.76%	1
3	Walking	19.05%	4
4	Car	28.57%	6
5	Carpool	4.76%	1
6	Bike	33.33%	7
7	Multiple	9.52%	2

8	My kids are in charge of taking themselves to/from school	0.00%	0
	Total	100%	21

Table 5

Do you currently commute to campus by bike?

#	Answer	%	Count
1	Every day	40.91%	9
2	Often	9.09%	2
3	Sometimes	18.18%	4
4	Never	31.82%	7
	Total	100%	22

Figure 1

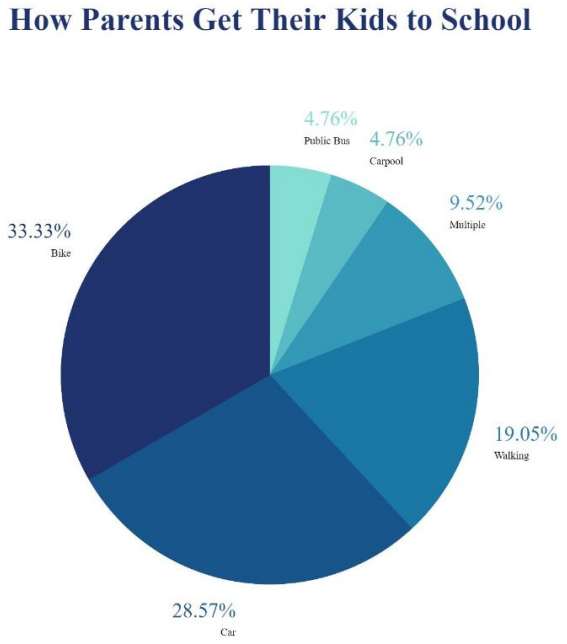


Figure 2

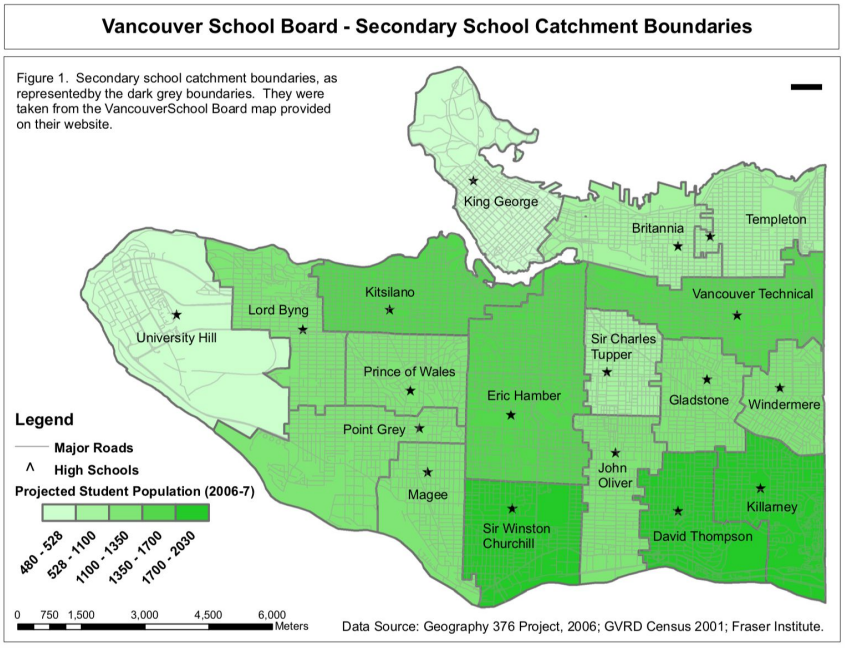
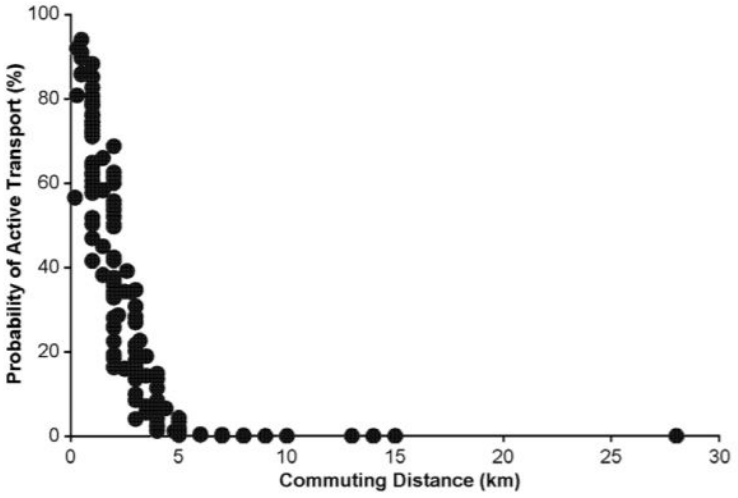


Figure 3



Probability of children using active transportation to travel to school as a function of commuting distance.

Figure 4

Sample Survey

KIN 464: Health Promotion and Physical Activity

Participant Consent Form for Class-based Projects

Biking to Campus While Commuting with Kids
Group #26

Principal Investigator:
Dr. Andrea Bundon (Assistant Professor, School of Kinesiology, Faculty of Education)

The purpose of the class project:
To gather knowledge and expertise from community members on biking to campus while commuting with kids.

Study Procedures:
With your permission, we are asking you to participate in a survey. With the information gathered, students will critically examine how different individuals understand or engage in health promoting activities or health promotion initiatives.

Project outcomes:
The information gathered will be part of a written report for the class project. The written report will be shared with campus partners involved with the project. Summaries of findings will also be posted on the following websites. ***No personal information/information that could identify participants will be included in these reports or shared with campus partners.***

UBC SEEDS Program Library:
https://sustain.ubc.ca/courses-degrees/alternative-credit-options/seeds-sustainability-program/seeds-sustainability-library

Potential benefits of class project:
There are no explicit benefits to you by taking part in this class project. However, the interview will provide you with the opportunity to voice your opinion on your experiences with health promoting activities or initiatives in a broad sense and will provide the students with an opportunity to learn from your experiences.

Confidentiality:
Maintaining the confidentiality of the participants involved in the research is paramount, and no names of participants will be collected.

At the completion of the course, all data (i.e. notes) and signed consent forms will be kept in a locked filing cabinet in Dr. Andrea Bundon's research lab (1924 West Mall) at the University of British Columbia. All data and consent forms will be destroyed 1 year after completion of the course.

Risks:
The risks associated with participating in this research are minimal. There are no known physical, economic, or social risks associated with participation in this study. You should know that your participation is completely voluntary and you are free to **withdraw from the study** and there will not be negative impacts related to your withdrawal. If you withdraw from the study, all of the information you have shared up until that point will be destroyed.

Contact for information about the study:
If you have any questions about this class project, you can contact Andrea Bundon by phone at 604-822-9168 or by email at andrea.bundon@ubc.ca

Research ethics complaints:
If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or e-mail RSIL@ors.ubc.ca . or call toll free 1-877-822-8598.

Consent:
Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time.

BY CLICKING THE "NEXT PAGE" ARROW YOU ARE CONSENTING TO PARTICIPATION IN THIS STUDY

→

THE UNIVERSITY OF BRITISH COLUMBIA

THE UBC SURVEY TOOL

Powered by Qualtrics

How many children do you have?

- ○ 1
- ○ 2
- ○ 3
- ○ 4+

What level or levels of school are your children in?

- ☐ Pre-k
- ☐ Elementary School (Grades K-7)
- ☐ High School (Grades 8-12)

How do you currently get your kids to school?

- ○ School Bus
- ○ Public Bus
- ○ Walking
- ○ Car
- ○ Carpool
- ○ Bike
- ○ Multiple
- ○ My kids are in charge of taking themselves to/from school

Do you currently commute to campus by bike?

- ○ Every day
- ○ Often
- ○ Sometimes
- ○ Never

← →

What are barriers that prevent or discourage you from commuting with your kids by bike?

- [ ] Lack of showers at destination
- [ ] Feel unsafe on roads
- [ ] Don't own a bike
- [ ] Kids don't know how to ride a bike
- [ ] Too far to ride
- [ ] Too many hills
- [ ] No safe place to lock up bike
- [ ] Poor weather
- [ ] Other

Rank the relative weights of the barriers that prevent you from biking to campus (1 being the biggest barrier)

Lack of showers

Unsafe on roads

Don't own a bike

Kids don't know how to ride a bike

Too far to ride

Too many hills

No safe place to lock up bike

Poor weather

Other barriers that I will talk about in the next question

What are other barriers that prevent you from biking to campus?

If all barriers were removed, would you be more likely to commute to campus by bike?

- ○ Yes
- ○ Maybe
- ○ No

Which of these potential solutions to barriers would benefit you the most?

- [ ] More secure bike storage (like bike cages)
- [ ] Bicycle road safety courses
- [ ] More shower facilities on campus

What are some ways UBC could help make biking to campus easier?

← →

Thank you for your participation in this survey!
To be entered to win one of two $25 gift cards to the UBC Bookstore or a LuluLemon Yoga Mat, please use the link below. You will need to enter your name, an email or phone number that you can be contacted by, as well as our group #(26). Last day to enter is April 2nd

https://ubc.ca1.qualtrics.com/jfe/form/SV_6PToAHxBCyf4rkh

← →