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1.0 Executive Summary

This project is headed by students from the Department of Environmental Studies at the University of Victoria in collaboration with the City of Victoria’s department of Communications and Civic Engagement, and the University of Victoria’s Office of Planning and Sustainability.

According to the City of Victoria’s Community Energy and Emissions Plan (CEEP) and the Official Community Plan (OCP), transportation behaviour change (TBC) accounts for over one third of the total 2020 greenhouse gas (GHG) reduction target, of 33%. In order to reach this target the CEEP projects that there will need to be a 5% to 15% increase in cycling and walking.

According to the University of Victoria’s Office of Planning and Sustainability, commuting by bicycle has remained stagnant over the past decade, increasing only 1% from 1996 to present (from 7% to 8%), despite substantial increases to both amenities and infrastructure.

In an effort to simultaneously facilitate the fulfillment of the City’s transportation behaviour change targets (and ultimately its 2020 GHG targets) and address the University’s decade-long cycling stagnation, it was decided in collaboration with these stakeholders to design and implement multiple focus group studies. The focus group studies are meant to offer much needed insight into the attitudes and perceived barriers to cycling within the student population.

The structure and questions of the focus groups were designed in consultation with the City’s Civic Engagement Advisor and the University’s Sustainability Coordinator so as to meet the needs and interests of all the parties involved.

The focus group questions were structured around the following topics: bicycle ownership, types of trips by bicycle, trip time and distance, preferred routes, desirability of common routes, level of interest, perceived incentives, perceived deterrents, and awareness of the available UVic amenities.

The results of a qualitative analysis of the focus groups have yielded informative and valuable recommendations for the successful implementation of future TBC initiatives, both for the City of Victoria and the University of Victoria. They show that a perceived lack of safety is the major barrier to increased cycling and that it can be overcome by increasing the number of bike lanes and paths that are separated from traffic, and through education and training programs.

These education and engagement programs are also meant to address the subjective (or perceived) factors participants cited as barriers to cycling for utilitarian purposes that did not correspond to the existing objective environmental factors available (including existing infrastructure and amenities).

The results from the focus groups largely corroborate the findings from the literature review. It will be only be through a simultaneous integration of three primary factors that substantive
shifts in TBC will result: (1) **built environmental factors** (e.g., infrastructure and amenities), (2) **pricing policies** and other **private motor vehicle disincentivization strategies**, and (3) **public education and engagement programs**. This is what has been occurring in areas of the Netherlands, Denmark, Germany, and other parts of Europe for decades.

### 1.1 Partners

This project has evolved out of a cooperative dialogue between ourselves (students from the **Department of Environmental Studies at the University of Victoria**), the **City of Victoria's Civic Engagement Advisor**, and the **University of Victoria's Office of Campus Planning and Sustainability**. In collaboration with these partners it was decided that gathering information on public attitudes and perceived barriers toward cycling, within the University student population, would be the most efficacious strategy and beneficial undertaking for all parties involved.

### 1.2 Stakeholders

Insofar as climate change is a global problem that threatens everyone, we would argue, **a fortiori**, that **everyone** is a stakeholder in **any** initiative that bears, positively or negatively, directly or indirectly, potentially or definitely, on this global issue.
2.0 Introduction

The City of Victoria, the University of Victoria, and the CRD have uniformly put forward goals to increase the proportion of cyclists on the roads. This desire comes from their respective commitments to reduce greenhouse gas (GHG) emissions within the region. Because the City of Victoria’s Bicycle Master Plan and the university’s Sustainability Action Plan are currently being updated, this is a particularly vital time for engagement.

The City of Victoria is seeking input to determine where its resources would be best spent, as the updated Bicycle Master Plan will outline a long-range plan for developing bicycle infrastructure to make cycling a safe, convenient and efficient transportation mode. This includes identifying the next priority cycling corridors for implementation over the next five to ten years, education, public outreach and other infrastructure changes.

Similarly, the University of Victoria’s Sustainable Transportation Goal is to increase bus use, walking, cycling, and carpooling to 70% of campus modal split by 2014 (University of Victoria, 2009). However, the proportion of utilitarian cycling at UVic has seen very little change over the past couple decades, with only a 1% increase above 1996 numbers.

With a population of approximately 25,853 (including staff, students, and faculty), the University of Victoria represents a significant target population for the fulfillment of both the City’s and University’s TBC goals. Engaging with the UVic community by attempting to increase utilitarian cycling on Campus, will therefore be integral to achieving these targets.

2.1. Background

2.1.1 Addressing the CEEP and the OCP

The City of Victoria has made a commitment to reduce community greenhouse gas (GHG) emissions by at least 33% below 2007 levels by 2020. According to the Community Energy and Emissions Plan (CEEP) “transportation” accounts for the majority (43%) of the City’s total GHG emissions. The “transportation targets,” as outline in the CEEP are to reduce GHG emissions from the transportation sector by 26% to 53% by the year 2020.

“Transportation Behaviour Change” (TBC) is concept that refers to increased cycling and walking as a percentage of the total mode split between all other types of transportation. Projected increases in TBC account for over a third of the CEEP’s total GHG reduction target and almost half of the targeted GHG emissions reductions for the entire transportation sector. In order to realize this goal, the CEEP estimates that there will need to be a 5% to 15% increase in cycling and walking by the year 2020.
The CEEP and the City of Victoria’s Official Community Plan (OCP) both recognize that large shifts in TBC are very challenging to achieve – particularly in relation to the goals set for the 2020 timeframe. It is therefore crucial to the fulfillment of the City of Victoria’s goals to understand what strategies and policies are most effective in instigating large scale TBC.

2.1.2 Synopsis of Literature Review on Transportation Behaviour Change

The literature on transportation behaviour change reveals that urban environments with high levels of cycling for utilitarian purposes typically manifest as a result of a combination of three primary factors:

1. **Built Environmental Features** (including infrastructure and facility improvements),

2. **Pricing Policies** or other **Private Motor Vehicle (PMV) Disincentives** (e.g., driving and parking monetary disincentives), and

3. **Education Programs** (e.g., clubs, school- or work-based programs, information campaigns, and personalized travel planning).

It is only through a *simultaneous integration* of these factors that substantive shifts in TBC will result. This is what has been occurring in areas of the Netherlands, Denmark, Germany, and other parts of Europe and has seen great success and large shifts to cycling as the primary mode of transportation.

The literature also reveals an important disconnect between “objective” and “subjective” environmental factors.

**Objective** environmental factors include climate and topography, land use (viz. location of origin and destination), and infrastructure (e.g., lanes, paths, shared roads, etc.), and support facilities (e.g., showers at work sites and racks on buses). When land use is combined with infrastructure, it determines the **objective** length of potential bicycle trips.

**Subjective** factors include perceptions of safety, convenience, cost, time valuation, exercise valuation, habits, attitudes and values, and peer group acceptance. The “National Bicycling and Walking Study” also includes distance as a subjective factor because each individual decides what distance is acceptable for bicycling.

An individual’s **subjective** perception of their environment and the infrastructure available to him or her, may not match the **objective** measures, and can therefore significantly influence transportation decisions. This finding suggests that the third primary factor, “education,” is of paramount importance for successful TBC.
2.1.3 Implications of Literature Review

The disconnect between objective and subjective perceptions of environmental factors highlights the tremendous significance of attitudes (e.g., pro-environment, disposition toward cycling, and perceptions of safety) and other psychosocial factors (e.g., social support, self-efficacy, and positive beliefs about physical activity) in spurring large-scale transportation behaviour changes.

The importance of this finding becomes even more salient when one considers the numerous empirical studies that show a disturbing, yet revealing, lack of correlation between increased infrastructure (e.g., bike lanes and paths) and increased levels of bicycling.

The three primary factors that instigate large scale TBC work synergistically. Increases in bicycling infrastructure must be accompanied by corresponding disincentives to private motor vehicle use (e.g., parking price increases, reduced speed limits, taxation, etcetera), and education programs/campaigns that function to shift individual attitudes, perceptions, and awareness of bicycling as a viable and practical form of utilitarian transportation.

2.2 Statement of Purpose

Given the goals of both the City of Victoria and the University of Victoria, the purpose of this project is to provide valuable insight into the habits, attitudes, and the perceived barriers to utilitarian cycling within the University student population.

As a direct result of these findings, a further aim of this project is to offer recommendations and future “Next Steps” that will increase the number of students choosing to cycle as their primary mode of transportation.

2.2.1 Vision

This project seeks to integrate itself within the policies and objectives of the CEEP, the OCP, and the University of Victoria's Sustainability Action Plan (SAP). All of these plans attempt to address the broader issues of climate change, with the recognition that climate change is a problem that requires fundamental changes to the ways in which individuals typically carry out daily their lives.

The vision of this project, then, is to reduce GHG emissions by affecting changes in student behaviour away from modes of transportation that contribute to emissions and encourage cycling as an alternative.
2.2.2 Goal

The ultimate goal of this project, together with its findings, is to guide substantive initiatives that will aid the City of Victoria and the University of Victoria in the realization of their GHG reduction targets.
3.0 Project Design

In collaboration with the City of Victoria’s Civic Engagement Advisor and the University of Victoria’s Sustainability Coordinator it was determined that multiple, small-scale, and intensive focus group sessions with university students would be the best means to acquire information about attitudes and perceived barriers to cycling within the student population.

In order to ensure that the focus groups included members representative of the student population, potential participants were asked to complete and submit a “screening form” (see Appendix C). As a result of the screening process we were able to select for a range of demographics, including gender, age, bicycle ownership, and frequency of cycling.

Two focus groups (“Group A” and “Group B”) were held at different times. Both groups were audio recorded, and each session had a facilitator as well as a note-taker.

Both sessions were structured around the same twelve questions, which were pre-established in consultation with the Civic Engagement Advisor and Sustainability Coordinator (see Appendix B). The sessions were, however, conducted in a relaxed manner with minimal interference from the facilitator. Participants were encouraged to answer each question, but were also encouraged to discuss all issues and topics they felt were important. Participants were awarded coffee card gift certificates (provided by the City of Victoria) for their participation.

The qualitative data used in the analysis was derived from the interview transcripts and audio recordings (see Appendix D and Appendix E). This data was imputed into “Fusion tables” (see section 4.0) for synthesis and analysis. Both the analysis and results of the interviews are qualitative.
4.0 Analysis

An analysis of the results from the focus group sessions conducted for this project are provided below. Where specific participant numbers are not provided, responses tended to be a consensus among respondents. For more detailed data regarding the numbers and/or types of responses, we encourage readers to refer to the focus group transcripts (see Appendix D and Appendix E), and the data from the Fusion Table created for this project.

The Fusion Table can be accessed through the following link:
https://www.google.com/fusiontables/DataSource?docid=1_W2nkohibfcwa_JtiKR0cCP15hFvsk-InAFVoonu

4.1 Analysis of Screening Form Data

4.1.1 Participant Demographics

Gender
The study consisted of two separate focus groups: Group A consisted of 6 participants and was comprised of 4 women and 2 men; Group B had 7 participants and was comprised of 4 women and 7 men (see Appendix A, Table 4.1).

Age
The majority of participants (7 total) were between the ages of 18 and 24. Three participants between 24 and 29 years of age, and three were 30 to 39 years of age. All of the 30 to 39 year old participants were in Group B (see Appendix A, Table 4.2).

District of Residence
Participants represented three communities within the Capital Regional District (CRD): Victoria (8), Saanich (4), and Oak Bay (1) (see Appendix A, Table 4.3).

4.1.2 Participant Cycling Behaviour

Bicycle Ownership
All but 2 of the 13 participants owned a bicycle, and 1 of the 2 non-bicycle owners indicated that he shares a bicycle with his father.

Wet Weather Riding
In order to account for Victoria’s wet winter months, our screening form asked participants about their cycling behaviour during the wet season as well as the dry season. During the
wetter and colder winter months, only 2 participants indicated they cycled daily. One participant indicated that they rode one or more times per week on average during the wet season. The remainder rode once a month or less, including 4 individuals who hadn’t ridden in either the last year or 2 years during the wet season (see Appendix A, Table 4.4).

**Dry Weather Riding**
As expected, riding was somewhat more frequent during the dry season. Eight of the 13 focus group participants rode daily, several times per week, or at least once per week. None of the participants indicated that they had not ridden a bicycle at least once or twice within the last 2 years and only 2 indicated they had not ridden within the past year during the dry season (see Appendix A, Table 4.5)

4.2. Analysis of Focus Group Data

4.2.1 Trip Distance
Six of our 13 group participants did not provide a response or were unable to estimate average bicycle trip distance. Of the remaining 7 participants, 3 indicated an average trip distance of under 5 km. Of the remaining 4, 2 estimated their average bicycle trip to be between 6-10 km, one indicated 10-20 km, and one indicated more than 20 km. Everyone who indicated their average trip was greater than 5 km indicated they rode at least several times per week during the summer. During the winter months 2 indicated they rode an average of once per month and 2 indicated they still rode daily (see Appendix A, Table 4.6)

4.2.2 Types of Trips
The types of trips people indicated they used a bicycle for were highly variable. Two gave no response, 3 indicated “commuting to school,” 3 indicated “recreational use,” 2 indicated “commuting to work,” and 1 indicated “errands.” Of the other 2 respondents, 1 indicated that she preferred to ride her bicycle in residential areas, although type of trip was not clear, while the other respondent indicated that he rode both recreationally and for commuting to work (see Appendix A, Table 4.7).

4.2.3 Route and Riding Preferences
The following is a summary of participant route and riding preferences:

- Direct routes
- Routes with designated biking lanes
- Routes that engender a sense of security
- Routes with marked bike lanes
- Routes that are flat or avoid hills
- Trails as opposed to roads
- Routes with clear signage or designated bike routes
Specific routes participants mentioned that they would like to ride but do not currently, include:

- Shelbourne
- Mackenzie
- Blenkinsop

Multiple participants mentioned that they would like to ride on trails such as the Galloping Goose, but felt that these trails were not easily accessible from their places of residence.

4.2.4 Common Routes
The following is a summary of the most common routes that participants mentioned:

- The Galloping Goose
- Blanshard
- Fort Street
- Foul Bay Road
- Mackenzie
- Seaside Route
- Haultain
- Finnerty
- Shelbourne

4.2.5 Interest in Cycling
Of the people who responded to this question, 5 indicated they cycle often, but would like to cycle more; 3 indicated they did not cycle often, but would like to cycle more; and, 1 indicated no interest in cycling.

4.2.6 Incentives
A number of different possible incentives that would motivate people to either begin riding or to ride more often were mentioned during the course of our two focus group sessions. These
ranged from additional amenities specifically targeting cyclists to various programs and personal reasons. Among incentives listed by the participants were:

- Covered bicycle parking
- Increased health and fitness gains (personal improvement)
- More secure bicycle parking
- The “Buddy Program”
- Longer bike to work week programs
- “Recyclistas”-style bike courses
- Separate riding trails
- Eliminating the helmet requirement
- More direct paths to school
- Shower facilities

4.2.7 Deterrents
The question regarding deterrents to utilitarian cycling provoked a great deal of discussion among focus group participants, with only 3 of the 13 participants not mentioning anything in this regard.

Of the remaining 10 participants, the following list is a summary of common concerns:

- **Weather**
- Perception of **Safety**
- Perceived lack of a secure bicycle parking
- Perceived lack of showers, change-rooms, and lockers
- **Carrying/transporting school supplies** and other belongings
- Perceived lack of bike paths/lanes separated from traffic
- Perceived lack of wayfinding and/or signage
- Perceived lack of existing bike lanes/routes that go to desired destinations
- **Helmet laws**
- Perception that cycling is slower/less convenient than alternatives
- Perception of unsafe motorists (especially concerns related to a perception of an older demographic of unsafe motorists)

Other, less common, deterrents also included:
- Individual’s partner prefers the car over riding
- Being too tired
- UVic bus pass

4.2.8 Benefits of Cycling
**Health and enjoyment** was by far the most common benefit of cycling cited by group participants. Seven of the group participants either mentioned health directly or provided a response like, “a good workout”.

The **environment** was also mentioned by 3 participants as a major concern.
Low cost was also included as a benefit of cycling by 3 respondents.

All other benefits were mentioned by only 1 respondent. These included speed and fostering community (see Appendix A, Table 4.8).

4.2.9 Perception of Cycling Amenities at UVic
The primary amenity participants were familiar with the air pumps available at various “Bike Kitchens” located on the UVic campus. However, most participants expressed a lack of familiarity with existing amenities both on and off the UVic campus.

4.2.10 Participant Recommendations
Group participants had a number of recommendations they were eager to offer, some of them quite creative. Among the suggestions offered were the following:

- Better signage
- Better/more open communication with the city
- Opportunities/forums to provide feedback for the city
- Advertisements on buses/near bike racks to promote awareness of existing amenities, infrastructure, and city plans
- Wallet-sized cards for students and/or community members listing amenities already available
- Identification of bicycling “hot-spots” that might serve as hubs for services and connections,
- A “Bike Share” program for Victoria/CRD,
- Bicycle workshops for safety and basic bicycle maintenance
- Phase-out private motor vehicles from the downtown core
5.0 Results

5.1 Barriers Identified

5.1.1 Safety
Safety concerns were expressed by almost all members of the focus groups, and even arose a major factor in (seemingly) unrelated questions. Safety concerns centered around riding in or close to traffic, with no concerns expressed with regards to riding bicycles per se.

Traffic related concerns ranged from not having a designated bike lane, to having to ride non-traffic-separated bike lanes. Concerns were also raised with regards to riding past parked cars, as most non-traffic-separated bike lanes are located between parked cars and moving traffic. Riding near or past buses was another common safety concern as; participants who cited this concern mentioned the propensity of buses to be constantly passing in-and-out of designated bike lanes. In general, exposure and proximity to cars was the primary concern.

5.1.2 Infrastructure
By and large concerns regarding infrastructure were closely related to concerns about safety. Many participants said that they would not ride on roads, or bike routes, without designated bike lanes. While only a few participants said that they would not ride even in non-traffic-separated bike lanes. All participants agreed that traffic-separated bike lanes, paths, or trails, were preferable. Other common infrastructure barriers were a perceived lack of convenient and ubiquitous wayfinding signage.

5.1.3 Bike Parking and Security
Concerns around bike theft were raised in both groups and by many participants. These concerns were both about secure bike storage on campus and in the city. Some participant concerns were the result of non-personal anecdotes, others were the result of personal experience. Most participants were unaware of the secure parking spaces in City owned parkades, or the bike lockers available at UVic.

5.1.4 Weather
All participants identified weather as a limiting factor, even participants that indicated that they were avid cyclists on the screening form. Riding on rainy days was a limiting for the following reasons: potentially feeling wet for a portion of the day, having to store their bikes in the rain, the wear of the water on their bike or getting muddy.
5.1.5 Topography
Many participants cited “hills,” as a major consideration and potential deterrent to commuting by bicycle. Wherever possible, participants felt bike routes should avoid major hills. However, it should be noted that this sentiment was not shared by all participants due to the exercise benefits of riding up hills (e.g., one participant even expressed his fondness of hills).

5.1.6 Amenities
Some participants identified the lack of showers and lockers at their destination as a restriction. Many were unaware of the existing shower and locker facilities available to them at UVic.

5.1.7 Speed and Convenience
Many participants said that they would be more likely to choose cycling over other options if it were faster than other alternatives. Furthermore, if their trip exceeded a certain amount of time, they were less willing to use their bicycle. Transporting belongings, an absence of convenient signage/wayfinding infrastructure, and a lack of direct routes were also factors commonly cited as perceived inconveniences.

5.1.8 Traffic Congestion
Closeness and proximity to cars was identified as a major deterrent to cycling. Many participants expressed fear in riding on high-volume traffic roads, even those with bike lanes. Traffic in general, and especially high-volume traffic-congestion, were primary deterrents cited by students considering cycling a primary mode of utilitarian transportation.
6.0 Next Steps and Recommendations

6.1 Next Steps

6.1.1 Survey
As this project focused specifically on students, both the city and the university will need to widen their information field. The university will need to understand the habits and barriers to staff coming to and from campus. The city, will need to continue to seek input from its constituents as a whole. Both groups might consider implementing a widely administered survey with questions similar to those that were asked during the focus group to gather a more comprehensive data set.

6.2 Recommendations

A major issue identified in the focus groups was the lack of knowledge with regard to available infrastructure and amenities. It is therefore recommended that both the City and the University focus on public awareness and promotion of the available infrastructure and amenities, in addition to corresponding initiatives vis-a-vis cycling itself.

6.2.1 Infrastructure
With regards to infrastructure, the consensus among participants from the focus groups was a desire for bike lanes separated from traffic. Participants did not feel safe even roads with designated bike lanes, particularly when in close proximity to passing buses and parked cars. It is therefore recommended that bike paths be separated from roadways where possible. If this is not possible then the bike lane should be as removed from traffic as possible. Suggestions include: raised pavement, physical barriers, rumble strips, and/or more visible signage.

6.2.2 Amenities
It is recommended that the City and the university increase showers for cyclists, and that these amenities are well advertised and are accessible. Lockers should also be made available where appropriate for those who wish to use the showers regularly.

6.2.3 Bike Parking and Security
Many participants expressed concerns about bike theft, both on campus and in the Victoria area. Bike parking should be convenient, preferably covered, widely available, and completely secure. Despite bike locks, bicycle theft is a problem; secure bike lockers may be part of the
solution, as well as guarded bike lock up areas. Further, there needs to be better/more public awareness initiatives (e.g., advertisements) with regards to the currently available secure bicycle parking spots downtown and at the University.

6.2.4 Focus on Health
Many participants expressed that the primary reason that they do (or would) cycle for utilitarian purposes is for health and enjoyment. Many, if not most, students do not cycle for emissions reduction purposes, at least as their primary reason. This report recommends that initiatives for public participation and encouragement must focus the health benefits of cycling.

6.2.5 Events and Education Campaigns
A further recommendation is to use events as a form of promotion and awareness. There are a number of events that could be held in promotion of utilitarian cycling. The research found that it is easier to change the habits and behaviours of individuals new to a city. The University of Victoria should therefore aggressively target first and second years students, in their TBC initiatives.

It is our recommendation that the University, potentially in partnership with the University of Victoria Students Society (UVSS), create an event or campaign during the “weeks of welcome” celebrations to highlight all of the great infrastructure available on campus and to promote cycling as a mode of utilitarian transportation.

For the City, it is our recommendation to more aggressively promote and advertise existing infrastructure; and of course, wherever possible, improvements and additions to cycling infrastructure should aim to be removed from traffic as much as possible. Education and awareness campaigns should focus on the health aspect of cycling. Visible and ubiquitous signage should be a major priority, not only for the promotion of fast and convenient wayfinding, but as a way of raising public awareness and ultimately fostering a cycling community. As a strong cycling community begins to develop, the literature shows that both subjective perceptions and objective measures of safety, will significantly improve.
7.0 Conclusions

The results of the focus groups corroborate the findings from the preliminary review of the literature. The “three primary factors” for the instigation of large scale transportation behaviour change suggested in the literature were echoed in both focus groups.

The first primary factor for large scale TBC is “built environmental factors,” or “infrastructure.” Infrastructure refers to everything from bike lanes to cycling amenities such as showers and lockers. Central to the concerns of participants from both groups was “safety,” and increases in designated, and ideally traffic separated, bike lanes. Participants also called for more bike lanes to destinations not currently safely or conveniently accessible by bicycle. Increased signage for general awareness and convenient wayfinding, along with more amenities for cyclists once they reach their destinations (e.g., showers, lockers, towels, etc.) were also desires expressed by participants.

“Pricing policies” and other private motor vehicle disincentives is the second primary factor for TBC. These include increases to parking prices, decreases in parking spaces, and traffic calming measures; traffic calming includes reduced speed limits, narrower roads, speed bumps, and “cyclist and pedestrian priority” streets. While a desire for private motor vehicle disincentives was not as universal as calls for infrastructure improvements, participants in both groups did express concerns with regards to traffic congestion and traffic safety. These concerns often corresponded with a desire to see private motor vehicle traffic, specifically within the downtown core, disincentivized or even phased out completely. It should be noted, however, that not all participants agreed, especially those who were not cyclists.

The third primary factor is “public education and engagement.” Perhaps with the exception of concerns over safety, this was the factor most frequently cited by participants as crucial to increasing levels of cycling. Participants pointed out that existing amenities and infrastructure are not adequately made aware to the public. Focus group members had numerous suggestions as for education campaigns, including advertising on buses and near bicycling parking. Similarly, participants largely agreed that fostering a cycling community through programs like “Bike to Work Week” and the University of Victoria’s SPOKES program is an effective way to entice more individuals to consider commuting by bicycle.

In general the results from the focus groups corroborated the disconnect between subjective and objective factors, as revealed in the literature review. Most participants’ subjective perception of the cycling infrastructure and amenities available to him or her did not correspond to the objective environmental factors. While increases and improvements to infrastructure (e.g., more separated and safe bike lanes) do appear to be a major incentive, without a concerted effort to change public attitudes toward cycling for utilitarian purposes and increase awareness of the infrastructure and amenities already available, increases in infrastructure will not see proportional increases in usership.
8.0 References


Miller, Nicole, and Duncan Caven. “City of Victoria Community Energy and Emissions Plan.” *City


Appendices

Appendix A - Focus Group Tables and Figures

Tables on Screening Form Data

Table 4.1 Gender

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Table 4.2 Age

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Table 4.3 District

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<td>8</td>
</tr>
</tbody>
</table>

Table 4.4 Wet Weather Riding

<table>
<thead>
<tr>
<th>Wet weather riding</th>
<th>Group A</th>
<th>Group B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry weather riding</td>
<td>Group A</td>
<td>Group B</td>
<td>Total</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Daily</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Once per week</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Several times per week</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Once every two weeks</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Once a month</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Once or twice every two or three months</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Less than once or twice every two years</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Did not ride in past year</td>
<td>1</td>
<td>1</td>
<td>2</td>
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</table>
### Tables on Focus Group Data

#### Table 4.5 Bicycle Owners

<table>
<thead>
<tr>
<th>Bicycle owner</th>
<th>Group A</th>
<th>Group B</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
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<td>6</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
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<td>1</td>
<td>2</td>
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#### Table 4.6 Trip Distance

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<th>Count</th>
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<tr>
<td>1 - 3 Kilometers</td>
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<td>3 - 5 Kilometers</td>
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<tr>
<td>6 - 10 Kilometers</td>
<td>2</td>
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<tr>
<td>10 - 20 Kilometers</td>
<td>1</td>
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<tr>
<td>More than 20 Kilometers</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Table 4.7 Types of Cycling Trips

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuting to School</td>
<td>3</td>
</tr>
<tr>
<td>Commuting to Work</td>
<td>2</td>
</tr>
<tr>
<td>Recreation</td>
<td>3</td>
</tr>
<tr>
<td>Errands</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Table 4.8 Benefits of Cycling

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>7</td>
</tr>
<tr>
<td>Cost</td>
<td>3</td>
</tr>
<tr>
<td>Environment</td>
<td>3</td>
</tr>
<tr>
<td>Speed/Convenience</td>
<td>1</td>
</tr>
<tr>
<td>Getting to know city</td>
<td>1</td>
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</tbody>
</table>
Appendix B - Questions for Cycling Focus Group

1. Do you own a bike? If no, what are the barriers to purchasing a bike?

2. What types of trips do you cycle for?

3. How long is your average trip distance and time?

4. What do you like about the routes you currently ride most often?

5. Where would you like to ride that you don’t currently (and why don’t you?)

6. What cycling routes do you use regularly?

7. What is your current interest in cycling?

8. What factors, conditions, or incentives encourage you and others to cycle?

9. Are there deterrents?
   Follow up questions to this: If the destination is too far, or time is the barrier, have you investigated all the routes? Is there a path or route that’s missing? If you don’t feel safe, why? Have you seen someone get hurt?

10. What would you identify as the major benefit to cycling?
    - health, low cost, low emissions, etc.

11. Do you know about the cycling amenities and activities that UVic offers?
    - SPOKES
    - The Bike Kitchen
    - The Bike Centre
    - Free day use lockers and showers in Mackinnon building, and showers in most buildings on campus.
    - UVic Cycling Club (does beginner road rides, lessons, and more)
Appendix C - Cycling Focus Group Screening Form

Cycling Focus Group Screening Form

Name _________________________

Email __________________________

Please indicate your gender
● Male
● Female
● Transgender
● Other

My Age is:
● 18 – 24
● 25-29
● 30-39
● 40-49
● 50-59
● 60 +

I am a resident of:
● Victoria
● Saanich
● Esquimalt
● Oak Bay
● View Royal
● Langford
● Colwood
● Metchosin
● Sooke
● Other (please specify):

Which of the following best describes how often you cycle in the wet weather season?
● Daily
• Once per week
• Several times per week
• Once every two weeks
• Once a month
• Once or twice every two or three months
• Less than once or twice every two years
• Did not ride in past year

Which of the following best describes how often you cycle in the dry weather season?
• Daily
• Once per week
• Several times per week
• Once every two weeks
• Once a month
• Once or twice every two or three months
• Less than once or twice every two years
• Did not ride in past year
Appendix D - Focus Group A Transcript

Question 1: Do you own a bike? If not, what are the barriers to obtaining a bike?

H: yes
C: yes
M: yes
L: no
- just moved here
- bought a car instead
F: yes
W: yes

Question 2: What types of trips do you cycle for? (commuting, recreation, etc.)

H:
- commute to work
- occasional fun ride
- its just the mode of transportation that I choose to use

C:
- In victoria I don’t need to have a car
- don’t need to commute because I live quite close
- end up riding a lot

M:
- Ride recreationally in the summer

L: N/R

F:
- commuting
- recreation

W:
- Recreational
- impractical to get to where I need to go
- difficult to find safe and quick route

**Question 3: How long is your average trip distance and time?**

**H:**
- between 5-10min under 20min

**C:**
- 30min - hour

**M:** N/R

**L:** N/R

**F:**
- 10-15min to ride one way to school
- longer to get home because uphill

**W:**
Time is important
will take bus if too long

**Question 4: What do you like about the routes you currently ride most often?**

**H:**
- bike lanes ("my route goes right up foul bay road")
- Direct routes
- Designated biking lane for me it is my space and it is designated for me so if something happens then I can say “I was in the bike lane”,
- Sense of security

**C:**
- Frustrated when cars are parked in bike lane
- “I’m most afraid of parked cars [opening their doors]”
- Bike lanes often force you to be close to parked cars
- I like to avoid big climbs when I’m in a hurry

**M:**
- “anything that is a trail is better than the road”

**L:** N/R
F:
- Don't feel safe when on a bike route but no designated bike lane
- Go off the bike route because feel it is safer
- Been run off the road
- Like the galloping goose
- not practical
- there is nothing I like about the route that I take
- like the Galloping Goose
- afraid of parked cars opening their doors

W: N/R

**Question 5: Where would you like to ride that you don’t currently (and why don’t you?)**

H: N/R

C: N/R

M: N/R

L: N/R

F:
- it would be nice to have more designated lanes and signs that show you how to get to places, like the Galloping Goose.

W:
- I’m new to the city so I don’t know where any of the trails are
- I would like to be able to get to the Galloping Goose

**Question 6: What cycling routes do you use regularly?**

H:
- Fort
- Blanchard
- Foul bay

C:
- Mackenzie
- Seaside route, but there is no specific bike lane
M:
- Fort
- Foul bay

L: N/R

F:
- Not allowed to ride where people walk, which is where I like to ride (where there is a nice path)
- Blanchard
- Richardson

W:
- Very few routes: Discourage from bike theft and Safety on the roads

**Question 7: What would you say your current interest in cycling?**

**Heike:**
- Interested in cycling more

**Cole:** N/R

**M:**
I would cycle more than I do now

**L:**
In my hometown I cycled more; I don’t feel comfortable here yet
- not really interested in cycling more
- not very comfortable riding in Victoria yet

**F:**
- Having a concrete map of where the cycling routes are and where they go; - “I will being riding down the street and will discover bike routes without ever knowing”
- more signage
- I would cycle more if this information was more readily available
- If it was more user friendly more people would cycle.

**W:**
- I’d cycle a lot more if not for the deterrents
- bike has a flat tire and too lazy to fix it

**Question 8: What factors, conditions, or incentives would encourage you and others to cycle?**
H:
- Covered bike parking makes a big difference
- noticing fitness gains is a huge incentive

C:
- Lights stolen
- Park parking where only a few people have a key, and it is much safer
- Theft is an issue – if you have a decent bike; would rather take the bus then take a clunker
- covered bike parking; bicyclists all cram into the areas that are covered
- “If your going to be wet might as well start dry”
- Recyclista offers courses bike mechanics
- Volunteering at spokes is cool because it engages you
- I also find that bike to work week it was great because the whole office was biking in, and got more people out; bringing in people that normally would not bike
- Buddy program
- Too bad that bike to work week is only a week long
- more programs and a community around cycling
- I like it its fun
- Have to get over the fear of riding in traffic
- If you can get past all that it can be worth while

M:
- Can park bikes in parkade, which are monitored by security

L:
- I wouldn’t ride to school because all of my school stuff (laptop, books); especially if it is raining
- maybe if there were a direct bike path
- if it is faster than the bus
- signage

F:
- Market square has security monitoring bike parking but it closes of
- start shutting down parking downtown
- Make it less accessible for cars to park downtown
- Systematically take out cars
- Would create more incentive for people to bike to work downtown
- It is scary to ride downtown with all the traffic

W: N/R

**Question 9: What are the major deterrents for cycling?**

H:
- My partner is not into it: he would rather take the car; I want to cycle more but partner is deterrent
- How tired am I
- How ready am I to tackle foul bay hill

C:
- Traffic
- Buses passing in and out of bike lane (everyone agrees)
- Being all sweaty when you get to your destination
- theft/security

M:
- Helmets: I like my hair looking nice

L:
- A lot of old and bad drivers in Victoria
- Would like a separate path
- Would like a designated bike lanes separate from buses
- Hills

F:
- Parked cars
- Lack of bike lanes
- Very little visibility
- No visibility
- Gaps in routes
- Bad drivers, old people
- Barriers and high risk areas
- Have bike lanes separate from bike routes
- Downtown government street is not either bike or traffic friend

W:
- Safety
- Obscurity of certain routes
- I’m lazy when it comes to looking for routes
- There should be more/safer routes
- Would like to have a separate path away from motorists
- Would like elevated pavement to create barrier between traffic
- Takes too long/route too far

Is weather a deterrent?

H:
- Big deterrent
Are a lack of showers a deterrent?

H:
- Not a deterrent

C:
- Use them, its nice, but is not a deterrent
- Not too many places to store toiletries/towels/gear/etc.
- If they have shows they should places to store things
- You basically have to live at school if you want to use them

M:
- yes

L:
- yes

F:
- yes

W:
- yes

Question 10: What would you identify as the major benefit to cycling? Health, cost, environment, etc.?

H:
- all of the above
- It is nice to make eye contact with people
- good way to foster community
- Cars seal you off from everyone else; way more engaged with what is going one
- research shows that tying climate change to health there are more tangible positive results
- Riding to school creates a healthy “warmth” feeling; on days that I don’t ride I feel cold all day long
- noticeable increases in fitness

C:
- Good workout
- I only knew city based on bus routes, so it was a great way to explore the city and get to know it better
- Now I understand spatially where I am much better; you don’t get that same sense otherwise
- A great way to get to know the city

M:
- Health is number one reason to ride

L:
- Health aspect

F:
- all of the above
- Getting office workers informed on mental health benefits
- vitamin D; reducing muscle ache/atrophy from sitting in an office all day

W:
- When you don’t own a car to don’t have weight of guilt

**Question 11: Do you know about all the cycling amenities and activities that UVic offers?**

H:
- bike kitchen,
- bike pumps,
- spokes programs,
- bike parking centre,
- bike to work program
- Bike lockers

C:
- Showers
- Bicycle Bursaries: get a bike for free for a year
Question 12: Any last thoughts?

H:
- More communication: better/more signage that tells where bike lanes are
- Should be a place where I can give feedback about where I want more bike lanes etc. or to thank the city for current initiatives

C:
- What they do have is really nice (e.g. bike lanes)
- having the bike kitchen is great to have
- All of that is really great, and helped me get into it more
- A lot of people don’t know that they want it yet

M: N/R

L: N/R

W: N/R

Appendix E - Focus Group B Transcript

Participants: D, M, K, N, R, E, B

Question 1: Do you own a bike? If not, what are the barriers to obtaining a bike?

D: Yes

M: Sort of. Shares with father and hasn’t ridden in past year.

K: Yes

N: Yes
R: Yes
E: Yes
B: Yes

**Question 2: What types of trips do you cycle for? (commuting, recreation, etc.)**

D: health and recreation, mountain biking

M: N/R

K: N/R

N: commuting to school

R: N/R

E: get to work

B: to run errands, recreation

**Question 3: How long is your average trip distance and time?**

D: preferably less than 20KM (average 10-15km)

M: up to an hour and a half

K: 20-35 km

N: less than 10k

R: N/R

E: N/R

B: N/R
Question 4: What do you like about the routes you currently ride most often?

D: None. Hates riding in traffic.

M: Hillside and Finnerty. Like because he doesn’t have to think about it.

K: Residential.
- If it’s rainy and dark will avoid the big streets.
- Got hit by car up McKenzie and Shelbourne
- Would like to ride on Shelbourne but not safe
- Back roads like Cedar Hill
- Haultain is nice

N: doesn’t like Shelbourne, but it’s flat

R: nature and away from traffic is ideal
- Usually ride on roads, but not rush hour

E: Haultain is really nice

B: bike lanes

Question 5: Where would you like to ride that you don’t currently (and why don’t you?)

D: Away from traffic. Most of the major routes are not safe right now.

M: N/R

K: Would like to ride on Shelbourne more, but doesn’t feel it’s safe. Back roads like Cedar Hill.

N: Agrees with K. Doesn’t like Shelbourne, but it’s flat.

R: Would like to ride more in nature. Get away from traffic. Usually rides on roads, but never during rush hour.

E: N/R

B: N/R

Question 6: What cycling routes do you use regularly?
D: N/R

M: Hillside and Finnerty. Likes these because he doesn’t have to think about it.

K: Likes to ride in residential areas currently. Doesn’t ride if it’s rainy or dark and avoids big streets.

N: N/R

R: N/R

E: Likes Haultain and would like to ride on it more.

B: N/R

Question 7: What would you say your current interest in cycling?

D: like to cycle more

M: N/R

K: like to cycle more

N: N/R

R: like to cycle more

E: N/R

B: N/R

Question 8: What factors, conditions, or incentives would encourage you and others to cycle?

D: N/R

M: separated bike lanes could be safer but they help

K: if it is faster than walking or taking the bus  
  - Nice weather  
  - UVic does have bike facility, but it hasn’t been well advertised.

N: hills are okay if you don’t have a backpack
R: most of commuting experience is in Calgary
- Hazard aspect is a big thing – almost hit a few times
- Would like a place to put bike and shower at destination

E: affordability

B: connecting paths with bike lanes would really be great
- doesn’t like hills.

Question 9: What are the major deterrents for cycling?

D: N/R

M: N/R

K: Weather
- time
- distance

N: having to bus somewhere else and then come back and get your bike.

R: showers and facilities

E: Weather

B: N/R

Question 10: What would you identify as the major benefit to cycling? Health, cost, environment, etc.?

D: UVic should have an incentive like a card that gets punched

M: bikes less while in class because he has the free bus pass

K: feels the construction has really discouraged a lot of her friends from riding her bike to school

N: It’s free
- Can be faster too
- Ride to school right now is through a construction zone. That’s a pain.
- Seen people having to walk their bike through the mud.

R: values health
- It’s better for the planet

E: bikes less while in class because she has the free bus pass

B: Health

**Question 11: Do you know about all the cycling amenities and activities that UVic offers?**

D: None
- pocket size cards with amenities actually listed would be nice

M: SPOKES

K: SPOKES

N: None

R: SPOKES

E: pump up tires
- A facility to store the bike
- Bike kitchen (didn’t know what it was called but knows about it)

B: None

**What initiatives do you think are most effective in reaching students?**

D: advertisements on buses

M: advertise near the bike racks
- directional signage as people actually bike onto campus
- there are two parts to it: (1) make people who bike all the time aware and (2) inform those who don’t bike so much

K: a cycling day/events

N: advertise near the bike racks
- word of mouth will help once bikers know about
- after daylight savings in autumn someone was standing around campus handing out likes to people riding bicycles

R: most of the stuff he finds out is from his department’s list serve
E: only knew about them by walking by them
- only scan over those email initiatives
- her lights get stolen all the time

B: N/R

Is security a concern?

D: N/R

M: how much does security matter

K: security definitely matters when downtown
- Need a good spot and having a good lock is key

N: N/R

R: loves his bike so security is a concern
- Puts a lot of money into his bike “I love my bike”.

E: N/R

B: N/R

Question 12: Any last thoughts?

Did anyone know that you can park your bikes in parkades?

D: No

M: No

K: No

N: Yes
- also, facilities under the Bay Centre

R: No

E: No
B: No

What facilities would help you and others bike more?

D: hotspots
   - they still design our cities for cars

M: driving to school has plateaued
   - workshops on bike safety and bike maintenance. However, they often just attract people that are already interested in biking. Lots of possibility to work with students during first week. Message or spin that bikes are cool. Target people that have no experience with commuter biking and then provide them with concrete skills.
   - Spokes doesn’t have an active workshop

K: Yes, provided the trip wasn’t too long
   - will be interesting to see what happens with regard to driving to school once new parkade is built
   - something along the major arteries
   - bike lanes are too often an after thought
   - new road developments – road had a bike lane, but then it disappears when new town homes go in
   - No bike lanes to get to connectors or Galloping Goose
   - Spokes doesn’t have facilities
   - Pixie station (look up). Not your bike so you don’t have to worry about it. Helmets are a potential deterrent to a similar program in Victoria.

N: a lot of students can walk or live on bus route
   - more routes between UVic and downtown
   - hills typically avoided
   - focus on flatter routes
   - make bike lane separate from both pedestrians and cars
   - Raised up bike lane
   - bike lanes are still scary
   - If traffic is moving slowly people will actually talk to you as you’re riding your bike in the lane. It can be terrifying when the buses pass you
   - sometimes drivers are scary
   - workshops are a really good idea.

R: incentive isn’t enough to make me take bike, but just a recreational user
   - Langford and newer corridors have more bike lanes than they used to
   - “It’s not rocket science: Where are most of the cars during rush hour? That’s where we should be focusing.”
   - some cyclists are also scary
- need a little bit of everything; need to think big picture; a lot of it is cultural; in Copenhagen everything is centred around the pedestrians and cyclists; they even have heated walkways
- some bike routes don't even have streetlights
- University of Calgary had a subsidized mechanical repair workshops. About $10. Tire maintenance and lube, etc.

E: if the bus takes me right to my destination, especially if it is raining, it is preferable
- more bike lanes on with lights
- Ottawa is very bikable: just spent a lot of money on new bike lanes that are painted bright green and very visible; a lot of people use them as a result
- wearing dark clothing or no lights; that frustrates drivers
- access to cheap bikes. For $50 or whatever get one
- in Montreal you can buy a month pass and pick up a bike and then leave the bike wherever you are going and then just get one when you need one. (Pixie station)

B: driving to school has plateaued
- lots of staff bikes during the summer
- perception: some people are not afraid
- SPOKES