2009 University of Calgary Commuter Cyclist Survey Report

By
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SUMMARY

The survey of commuter cyclists bound for the University of Calgary was conducted on-line in April 2009. Information was gathered from both current cyclists as well as potential cyclists. The report discusses these two types of respondents separately.

Cyclists

There appears to be a significant difference between the personal characteristics of student and non-student (faculty, staff, volunteers, visitors, and other people on campus) cyclists commuting to the University campus. While the characteristics of non-student cyclists were found to mirror those of downtown commuters, as found by the 2006 Downtown Commuter Cyclist Survey, the personal attributes of student cyclists were found to differ considerably. The majority of student cyclists were found to be men (approximately 55%), be between the ages of 18 and 27 (approximately 70%), be full-time students (92%), be employed (69%), but work less than 10 hours a week in addition to taking classes (52%), live away from home (74%), and earn less than $20,000 in personal income per year (52%). The average length of bicycle commute made by student cyclists is 6.5 kilometres and takes an average of 22.2 minutes. Typical non-student cyclists were found to be men (58%), be between the ages of 43 and 52 (30%), and earn more than $90,000 in personal income per year (21%). Non-student cyclists travel 7.0 kilometres on average to the University and this takes them an average of 25.0 minutes.

The top three reasons that student cyclist respondents gave for cycling were for exercise, for fun and enjoyment, and because cycling is faster than other modes of transportation. The largest number of student cyclists indicated beginning to commute by bicycle in 2008. A consistent increase was found in the number of student cyclist respondents that began to cycle in each year since 2006. The vast majority of student cyclists (94%) also use their bicycle for other journeys such as shopping and visiting friends. The top three reasons indicated by non-student cyclists for commuting by bicycle to the university were for exercise, for environmental benefit, and for fun and enjoyment. Nearly 60% of non-student cyclists began cycling before 2006. In each of the subsequent years, a steady increase was found in the number of non-student cyclist respondents that began to cycle each year. In addition, as with student cyclists, the majority of non-student cyclists (96%) use their bicycles for other journeys other than to the University.

There are many differences between the trip characteristics of student cyclists and non-student cyclists. When the length and duration of the bicycle trips made by commuters were analysed, non-student cyclists were found to cycle consistently further than student cyclists, although this difference was statistically significant only for the duration (as opposed to the length) of the commute. When male and female cyclists were analysed separately, the length and duration differences between the commutes of student and non-student cyclists were found to be much larger in male cyclists, and smaller in female cyclists. In fact, when the digital map distances were analysed, female non-student cyclists were found to cycle less distance than student cyclists were. Roads and pathways are the most commonly used facilities by both student and non-student cyclists. The third most commonly used facilities are sidewalks, which student cyclists are significantly more likely to use than non-student cyclists. Bicycling on a sidewalk is dangerous and is illegal in Calgary. The fact that people are still using them suggests that the other available facilities are not safe or attractive enough to encourage people to ride on them. The provision of

more bicycle lanes or pathways that allow people direct access to their destination may reduce the number of cyclists who ride on sidewalks.

The majority of cyclists bound for the University come from the northwest communities of Calgary. The destination on campus varies largely depending on whether the cyclist is a student or non-student. On average, the most frequently selected destination buildings for all respondents were the Science Complex, the Kinesiology building, and the Schulich School of Engineering. Because these are the most popular places for arrival on campus, special consideration should be given to these areas with regards to parking and other end of trip facilities. If showering and changing facilities were provided at another location on campus, the number of people heading for the Kinesiology complex may be reduced and more evenly distributed around campus.

The majority of cyclists do not use any other mode of transportation in combination with their bicycles during their bicycle commute to the University of Calgary (70% non-student cyclists, 65% student cyclists). Some cyclists use the LRT system, cars and buses in combination with their bicycles. More student than non-student cyclists indicated using public modes of transportation in combination with their bicycles.

In all four seasons, non-student cyclists drive alone significantly more often than student cyclists do, and student cyclists walk and take transit significantly more often than non-student cyclists do. This suggests that, most often, when student cyclists are not cycling they are still using a mode of transportation that is sustainable, while non-students are not. This finding is likely due to many factors such as access to a vehicle, commute distance, residential proximity to a train or bus station, financial situation, and possession of a U-pass[1].

There does not seem to be significant dissatisfaction with the bicycle parking on campus. The majority of student (about 75%) and non-student (about 55%) cyclists park their bicycles at racks around campus. Many non-student cyclists (28%) park their bicycles in an office on campus, which is currently against University regulation. The majority of cyclists either are satisfied with the current bicycle rack model used on campus, or have no preference between types of bicycle racks (55% of student cyclists and 53% of non-student cyclists). The third most frequently selected bicycle rack option was the U-rack model that is currently used in downtown Calgary. Approximately 20% of both student and non-student cyclists would like to see these racks available on campus. Currently, 32% of student cyclists and 16% of non-student cyclists do not change clothing when they reach the University. As with bicycle parking, many non-student cyclists (about 40%) use their office to change. If student cyclists change clothing once they reach the University, they were likely to indicate using a University shower or locker room (26%), or a University washroom (26%)

When respondents were asked about their potential use of the Bike Root, a facility on campus which is currently a repair shop, but is planning on expanding to other areas of cyclist service, both student and non-student cyclists indicated the highest likelihood of using the repair station service in contrast to the

[1] The U-Pass is a special validation sticker that entitles full time students to full access to available transit services during the applicable term(s). Currently, fees for the U-Pass are compulsory for all students and cost $85 per semester.

other facilities. Students more than non-students, and females more than males, were found to be the most interested in using the Bike Root's future facilities. The same groups indicated the highest potential frequency of Bike Root use. There is little interest in using the Bike Root's loan system, but this is likely because most people who currently cycle to the University already have access to a bicycle. Again, students and women were found to be more interested in the free, high-density parking that is currently being implemented in the Arts Parkade. Both student and women cyclists indicated a higher likelihood of using this parking.

Nearly 45% of University cyclists have experienced some type of theft while commuting by bicycle; 35% of these occurred while the bicycle was parked on campus. The majority of non-student cyclists have experienced a fall while commuting to the University (56%), while the majority of students have not experienced a fall while commuting to campus (52%). The majority of both student and non-student cyclists have not experienced a collision while bicycling to the University of Calgary (91% of students and 85% of non-students).

The on-route improvements that were most requested by student and non-student cyclists were the provision of more bicycle lanes on city roads, more pathways, and more direct cycle routes. The top three most requested destination improvements were bicycle lanes on campus roads, enclosed or caged parking available on campus, and improved bicycle rack location. Unlike on-route improvements, the requests for improvements at the University were somewhat evenly distributed. Bicycle lanes was still the top choice, but not by a wide margin. The next three choices all dealt with bike parking -- facilities, locations, or policies. With regard to the availability of routes during the winter months, the three items that were selected most often were snow clearing on roads, having more bicycle lanes, and snow clearing on pathways. The most frequently selected characteristics of a high quality signed on-street bikeway were wide shoulders, good connectivity to other bicycling facilities and low traffic volume. Marked bicycle lanes was the fifth most often selected characteristic, but that may be because Calgary currently does not have very many kilometres of marked bicycle lanes.

Possible Cyclists

The typical student possible cyclist was found to be a woman (57%), earning less than $20,000 a year in personal income (52%), be between the ages of 18 and 22 (51%), be a full time student (88%), working less than 10 hours per week in addition to taking classes (49%), and living away from home (58%). Typical non-student possible cyclists were found to be women (75%), earn between $30,000 and $75,000 a year in personal income (49%), and be between the ages of 38 and 52 (54%).

The majority of possible cyclists commute to the University from the northwest quadrant of Calgary. However, the there appear to be a considerable number of people in the other three quadrants, especially the southwest quadrant, who would consider beginning to commute by bicycle should conditions be improved. There was a large difference in the destinations selected by student and non-student possible cyclists. For students, the top three most often indicated destination buildings on campus were the Science Complex (including Science A, Science B, and Science Theatres), the Schulich School of Engineering, and the Haskayne School of Business. Non-student possible cyclists indicated travelling to the Administration Building, the Library, and the Physical Plant most often.

The mode of transportation most used by student possible cyclists in all four season is public transportation, which includes the LRT system and buses. The mode of transportation most commonly used by non-student possible cyclists is driving alone. There is a significant difference in the number of days per week student and non-student possible cyclists drive alone and use public transportation.

The three most commonly indicated barriers to beginning to commute by bicycle were: I do not know a safe route, I feel unsafe riding on the road, and there is a lack of secure parking on campus. Students were significantly more likely than non-student possible cyclists to indicate that the trip would be too far. Over 85% of student and non-student possible cyclists indicated that one of their top reasons for beginning to commute by bicycle would be for exercise. Environmental benefit, and fun and enjoyment were indicated second and third most often by student and non-student possible cyclists. There were no significant differences found between the motivations to begin cycling indicated by student and non-student cyclists.

As with current cyclists, possible cyclists did not indicate a strong preference in the type of bicycle racks that they would like to see available on campus. The majority of student cyclist indicated either having no preference in bicycle rack type (31%), or being satisfied with the model that is currently used on campus (24%). A large portion of non-student possible cyclists indicated having no preference in bike rack type (39%), but many also wanted the U-rack model on campus (23%), or a different type of bicycle rack (21%).

Possible cyclists indicated much more interest in the services that are being planning at the Bike Root on campus. Student and female possible cyclists were especially interested in using the future services. The most popular of the future services was caged parking, followed by the repair station and day lockers. Student and female possible cyclists indicated the highest planned frequency of use. Their most often indicated frequency of use was 2 or 3 days per week. Student and female possible cyclists also indicated the highest likelihood of using the free, covered, high-density parking that is currently being developed in the Arts Parkade. The largest portion of non-student possible cyclists (about 30%) indicated being not at all likely to use the Arts Parkade parking.

The top three most requested on-route improvements were more bicycle lanes on city roads, more direct cycle routes, and more pathways. There were significant differences in the percentages of student and non-student possible cyclists who desired marked wide curb lanes, allowing bicycles on the LRT system at all times, stricter enforcement of bicycle rules of the road, and cyclist education. The only improvement of the four that was selected significantly more often by non-student possible cyclists was for marked wide curb lanes. The top three most requested destination improvements were: new shower and change rooms on campus, enclosed or caged bicycle parking, and improved bicycle rack location. Significant differences in the percentage of student and non-student possible cyclists who selected the improvement were found for four improvements: improving bicycle rack location, increasing the availability of bicycle maps and literature, allowing bicycles in campus buildings, and improving the conditions of bicycle racks on campus (lighting and covering). The only improvement selected significantly more often by non-student cyclists was allowing bicycles in campus buildings. The top three most important signed on-street bikeway characteristics were good connectivity to other bicycle facilities, wide shoulders, and low traffic volume. No significant differences were found in the important on-street characteristics selected by student and non-student possible cyclists.

Recommendations

Recommendations for the City of Calgary

Recommendation 1: Increase the kilometres of bicycle lanes on city roads

Recommendation 2: Increase the safety of commuting by bicycle

Recommendation 3: Improve the link between cycling and public transportation

Recommendation 4: Increase the amount of maintenance and snow clearing on roads and pathways leading to the University of Calgary

Recommendation 5: Support cyclists and cyclist initiative such as the Bike Root

Recommendations for the University of Calgary

Recommendation 1: Support the Bike Root initiative and create a bicycling culture

Recommendation 2: Allow bicycles in University buildings

Recommendation 3: Provide alternative showering, changing, and locker facilities

Recommendation 4: Improve bicycle parking on campus

Recommendation 5: Improve bicycle facilities on campus roads and pathways

Recommendation 6: Increase the availability of bicycling maps and literature

Recommendations for Further Research

Recommendation 1: A feasibility study of bicycle lane development near the University

Recommendation 2: A study to identify preferences for different aspects of bike lane design

INTRODUCTION

The City of Calgary is eager to decrease the amount of single occupant vehicle use in Calgary. This goal is being tackled in many different ways, one of which is by increasing the number of trips made by active modes of transportation such as walking and cycling. The University of Calgary is also interested in increasing the use of active forms of transportation for commuting to and from campus. This will reduce the ecological footprint of the campus and reduce the parking pressures on campus. In order to accomplish these goals, both the City and the University wanted to gain information from current and possible cyclists regarding the characteristics of their commute, their personal characteristics, and their desired City of Calgary and University of Calgary improvements. This report provides the results from the 2009 University of Calgary Bicycle Commuter survey, which was conducted in the spring of 2009. This information will be used to identify which improvements will best serve current cyclists, and what measures can be taken to encourage more people to commute by bicycle to the University of Calgary.

BACKGROUND

The City of Calgary

Calgary is a young, growing city of just over one million inhabitants. It is located at the base of the Rocky Mountain foothills and has topography that slopes relatively gently and is reasonably conductive to cycling. This is particularly true along the Bow and Elbow River Valleys. An extensive system of approximately 707 kilometres of off-street multi-purpose pathways connect the Bow and Elbow River Valleys, Fish Creek Provincial Park, Nose Creek, West Nose Creek, the Western Irrigation District Canal and the Glenmore Reservoir. In addition, there are currently 290 kilometres of signed on-street bikeways. During the winter months, 130 kilometres of the pathway system are cleared of snow to encourage year round cycling. Although the temperature can be extremely cold in the winter, the conditions are usually clear and sunny, and there are manageable amounts of snow. Chinooks blow into Calgary regularly throughout the winter, often raising the temperature above zero for days at a time. Summers in Calgary are moderately hot with little precipitation, and feature long days, with cool evenings and mornings.

Previous Research

The City of Calgary is working to reduce traffic congestion and other problems created by an automobile oriented transportation network by encouraging active transportation modes such as cycling. The City of Calgary conducted a Commuter Cyclist Survey in 1992, which was followed by the adoption of the Calgary Pathways and Bikeway Plan in July 2000. The goal of that plan was to develop strategies for designing, planning, and implementing a citywide pathway and bikeway system for cycling. Further research concerning commuter cycling was conducted in 2000, and resulted in the Downtown Commuter Cyclist Survey 2000 Report. In 2006, the City of Calgary carried out the 2006 Calgary Downtown Commuter Cyclist Survey in order to gain more information about the cyclists commuting to the central business district of Calgary. The goal of the survey was to gain a comprehensive understanding of the type of person commuting by bicycle, characteristics concerning their cycling such as the distance and frequency of their journey, the routes they were using to get to the CBD, improvements in cycling facilities that they deemed most important, and the frequency of collisions and thefts.

The findings from the 2006 Downtown Commuter Cyclist Survey suggested that the majority of bicycle commuters to the CBD are male (79% of respondents). The average distance travelled was found to be 10 kilometres, and the average time it took to make that journey was 28 minutes. The most commonly stated reason for commuting by bicycle was exercise (23% of respondents), followed by it being cheaper than the alternatives (16% of respondents), and environmental benefit (16% of respondents). The largest group of commuters earned more than $90,000 per year in personal income (45% of respondents), and were between the ages of 35 to 44 (31% of respondents), or 45 to 54 (30% of respondents). This current research concerning commuting by bicycle to the University of Calgary was done, in part, to fulfil two recommendations in the City of Calgary's 2006 Calgary Downtown Commuter Cyclist Survey Report.

> Recommendation 3 stated, "conduct further research into the female cyclist demographic. Two options are to conduct telephone surveys to get an overall view of the demographics of cyclists in the entire city, as opposed to simply downtown cyclists, or to conduct focus groups of female cyclists to determine their specific needs and criticisms of the current system"[2].
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> Recommendation 4 stated, "complete a survey of younger cyclists. Post-secondary students are known to be frequent cyclists and thus a survey of students at the University of Calgary, SAIT, ACAD and Mount Royal College should be considered. Due to the fact that postsecondary students are likely to be comfortable with computers, this survey could be conducted online for ease of completion and in order to minimize costs."[3]

In 2008, the University of Calgary's Office of Sustainability sponsored the University of Calgary Cycling Needs Design Charrette, which was organized by the Office of the University Architect and the Campus Bike Initiative. The aim of this event was to explore the current state of cycling on campus, identify the needs of the campus cycling community, locate problems with the existing cycling facilities on and off campus, and create a plan for a stronger cycling network and community. The "Cycling on Campus" Report that resulted from the Bike Charrette provided recommendations as to how the bicycle parking on campus, the availability of end-of-trip facilities, and the campus cycling culture could all be improved. Many of the recommendations were taken into account in the design of the 2009 University of Calgary Bicycle Survey. The Office of Sustainability was keen to learn which of the recommended improvements were most desired by campus cyclists.

Goals of the Survey

The underlying goal of the survey was to determine which efforts on the part of the University and the City of Calgary would most facilitate an increase in the modal share of cycling to the University of Calgary. The first objective was to determine who currently commutes by bicycle to the University of Calgary and investigate the characteristics of their commutes. In 2006, the City of Calgary found that the

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[2] The City of Calgary. *Calgary Downtown Commuter Cyclist Survey Report.* Page 24 www.calgary.ca/docgallery/BU/trans_planning/transportation_solutions/downtown_cyclist_survey_2007_p4of4.pdf. Accessed April 21, 2009.

[3]The City of Calgary. *Calgary Downtown Commuter Cyclist Survey Report.* Page 25 www.calgary.ca/docgallery/BU/trans_planning/transportation_solutions/downtown_cyclist_survey_2007_p4of4.pdf. Accessed April 21, 2009.

typical cyclist who commutes to the downtown business core was a middle-aged male who earned more than $90,000 a year. Because cyclists bound for the University are likely to be younger and are likely to earn less money, the intention is to determine whether these cyclists share similar trip characteristics and cycling needs with downtown commuters, or if they are somewhat different. In addition, because women accounted for such a small proportion of cyclists commuting downtown, another aim of this survey was to determine whether women account for a larger proportion of bicycle commuters bound for the University, and if not, how women could be encouraged to begin commuting by bicycle. The second objective is to gain information from people who self identify as potential cyclists. The personal characteristics of these people, the barriers that inhibit them from commuting by bicycle, the characteristics of their current commute, and their desired University and City improvements will be examined in order to determine which measures may increase their likelihood of bicycling.

Report Outline

This report begins with a description of the survey methodology, and summary numbers on responses received. The results of the analysis are reported in two separate sections. Firstly, responses from people who currently cycle to the University were analysed in order to determine:

- personal attributes such as age, gender, and income;
- trip characteristics such as duration and length of commute, facilities used, start point, end point on campus, and other modes of transportation used;
- end of trip facility use such as the type of parking used and preferred, showering and changing facilities used, and use of the on-campus bicycle club "The Bike Root";
- the occurrence of incidents such as falls and collisions on route, and thefts and stripping of bicycle parts while parked on campus; and
- the desired on-route and destination improvements.

Secondly, responses from people who identified themselves as possible cyclists were analysed to determine:

- personal attributes such as age, gender, and income.
- trip characteristics such as start point, end point on campus, and other modes of transportation used.
- barriers to commuting by bicycle
- most important motivation factors to begin cycling
- the desired on-route and destination improvements

Survey Methodology

The survey questionnaire was modelled on the questionnaire used for the City of Calgary's 2006 Downtown Commuter Cyclist Survey. Several questions were altered, omitted, or added in recognition of the different characteristics of the university and to deal with the group we have called possible cyclists. In addition to the questionnaire, the survey incorporated a section to gain information about routes cycled. Respondents had the choice of using an online mapping site, www.maps.live.com (© Microsoft)[4], to

[4] Note that this software appears to have changed its name and site to http://www.bing.com/maps .

digitally trace their route, or describing their route in words. A draw for a gift certificate valued at $150 to Bowcycle, a cycling store in Calgary, was offered as an incentive to complete the survey.

The survey was pretested on a convenient sample of people at the University of Calgary before being released for data collection. Through the pretesting several improvements were made to the survey to make it easier to complete. Because many of the pre-test participants had difficulty tracing their route using www.maps.live.com (© Microsoft), an option was added of explaining their route in a text box instead of tracing it on-line. The length of the survey was also reduced, and many questions were slightly altered to make them clearer and easier to answer.

The survey was conducted online. Through the valuable assistance of the Office of the Student Experience at UofC, we were able to use the StudentVoice site, which is explicitly designed for such surveys. Access to the StudentVoice site was through a University of Calgary web space created for the study. A copy of the survey appears in Appendix A to this report. Because the survey was on-line, the branching to different sets of questions based on specific responses was invisible to the respondents, but is necessarily explicit in the survey in Appendix A.

An invitation to complete the survey was sent to the student body via an email from the Registrar's office. This email reached approximately 22,500 undergraduate students and 5,500 graduate students. Roughly 5,500 members of the university faculty and staff received notice of the survey through the UToday online news source. UToday was also available to anyone visiting the University of Calgary website. News articles about the survey containing a link to it were posted on the main University of Calgary webpage, the Office of Sustainability's webpage, Bowcycle's website, the campus Bike Root's webpage, and in the U of C Zine online magazine. In addition to online publicity, 65 11x17 posters were pinned up on public bulletin boards around campus, and waterproof posters were placed at ten of the major bike racks on campus. Business cards containing an invitation to the bicycle survey webpage were taped to the handlebars of bicycles parked on campus on two particularly warm days during the data collection period when bicycle ridership was high.

The survey was conducted for a three-week period from April 13th, 2009 to May 1st, 2009. Because the survey was distributed electronically, and because respondents were asked to think of their cycling throughout the year, not just on the day they were filling out the survey, the weather was not expected to have an effect on the number of participants. Tracking of the responses by date confirmed that the response frequency was unrelated to the weather. The exam period at the University of Calgary ran from April 20th to April 30th, which likely had an effect on the response rate to the survey. However, approximately 90% of the respondents had completed the survey before April 20th, and the response rate had already started to slow after the first week that the survey was open. In addition, because responses were received from approximately 85% of the estimated number of cyclists on campus (a calculation that is explained below), the timing of the exam period was not thought to overly reduce the response rate. It is possible that more responses would have been obtained if the survey had been done in September when students and staff might have more free time, and when there are more good weather days.

Survey Response Rate

There were 1128 respondents to the survey, of whom 498 (44.1%) were women, 548 (48.6%) were men, and 82 (7.3%) did not disclose their gender. Although the response rate of 3.4% is low, the number of

respondents is very close to the number of cyclists estimated in a 2008 report[5]. That report estimated that 10.4% of 1,731 faculty members, 3.7% of 2,990 staff, and 3.2% of 24,238 students commute by bicycle to the University, making 1066 cyclists in total. Considering that 209 possible cyclists responded to the survey, the remaining 919 current cyclist respondents account for over 85% of the estimated commuter cyclists on campus. This high proportion suggests that the web-based survey was quite successful in reaching the majority of the targeted population in the university community.

Access to the survey was not restricted in any way. Although the University population was targeted, anyone could access and complete the survey via the University website. This allowed people to take the survey more than one time, if they so desired. Although an effort was made to deal with this possibility by removing multiple responses from the same email address, a person could have used different email addresses to take the survey multiple times. The e-mail address was obtained from all respondents who completed the on-line map, which had to be e-mailed to the investigators. E-mail addresses were also obtained from all those who wished to enter the draw for the $150 gift certificate, in order to allow us to contact the winner. It was also possible for people who do not cycle and have not even considered cycling to take the survey, but they would have likely indicated this in the first question, and not been asked any further questions.

RESULTS AND ANALYSIS

In this section of the report, the question that was asked in the survey will be shown first, followed by the analysis that was done using the responses to that question. The questions will not be analysed in the order that they were presented in the survey, but rather in groups with common themes. In some cases, more than one question will be used in the same analysis in order to compare responses from different groups of cyclists. The question numbering from the survey is shown here; the preceding questions can be seen in Appendix A if one wishes to identify the context.

In addition to the analyses contained in the body of this report, Appendix B contains a paper that was submitted to the Transportation Research Board for consideration for presentation in the TRB 2010 Annual Meeting, and for possible publication. The paper is entitled “Latent Bicycle Commuting Demand and the Effects of Gender on Commuter Cycling and Accident Rates” and is based on findings from this University of Calgary survey that were analysed by gender and age.

Responses to the Survey

Type of Cyclist

Question 2: Which statement best describes your use of cycling as a means of transportation to the University of Calgary?

This question allowed for respondents to be classified as current or possible cyclists and was also a major branching question in the structure of the questionnaire. There were 1128 people who responded to this question; the distribution of the responses is displayed in Figure 1.

[5] Gomes, J.T., T. Richards, and J.D. Wright. *University of Calgary Sustainability Survey, 2008: Report on Highlights of Findings.* Office of Sustainability. University of Calgary. 2008.

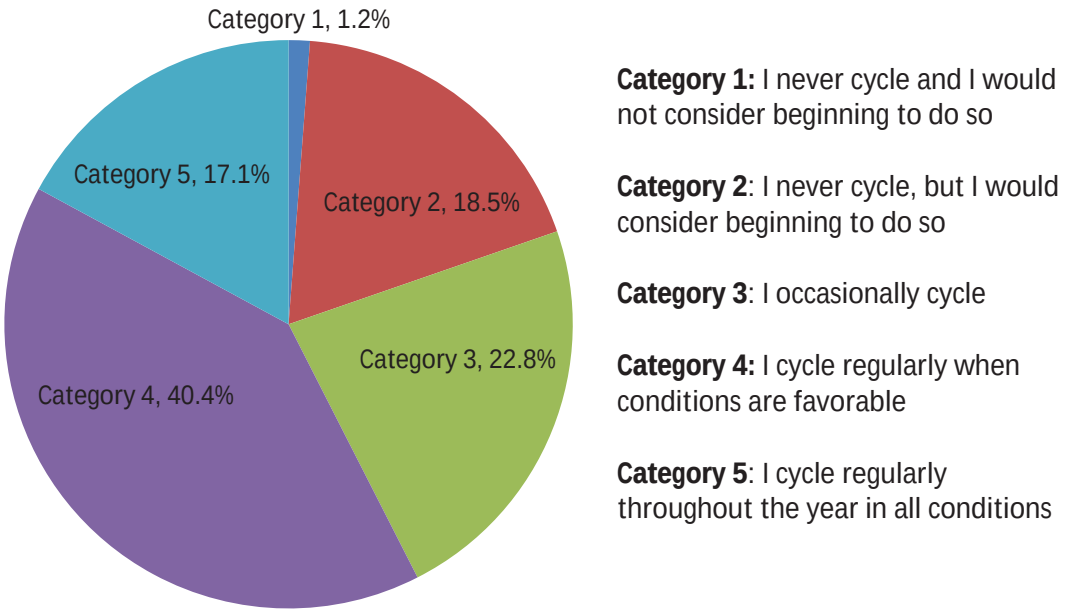

FIGURE 1: Type of Cyclists Bound for the University of Calgary

Respondents who selected Category 1 were classified as non-cyclists with no potential of becoming cyclists. These respondents were asked questions pertaining to their personal characteristics, but were excluded from the majority of further analysis. Those respondents who selected Category 2 were classified as possible cyclists, and were asked a series of questions to determine which measures could encourage them to begin cycling. Those respondents who selected categories three, four, or five were classified as current cyclists with varying degrees of cycling frequency, and were asked questions concerning their cycling experience and desired improvements. The group of current cyclists is discussed first in the report followed by the possible cyclists.

Gender of Respondents

Question 132

The number and percentage of men and women who responded to the survey are shown in Table 1. There were slightly more male respondents than female respondents, even though there are more women on campus. The nearly even gender split contrasts markedly with the gender split for downtown commuter cyclists, 79% of whom were male.

Table 1: Gender Distribution of Respondents

		Respondents
Male	Number	548
	Percentage	*52.4%*
Female	Number	498
	Percentage	*47.6%*

Position at the University and Purpose of Trip

Question 135: What is your position at the University of Calgary?

Respondents were asked to indicate their position at the University so that they could be classified as students or non-students. Respondents in the non-student category include faculty, staff, visitors, and all other respondents. Classifying respondents in this manner allowed for distinctions to be made between the characteristics and needs of a university student population, and a population of working people. There were 1050 people who responded to this question, with a distribution as shown in Figure 2. The largest group of respondents was students, and they accounted for 73.5% of responses. This is slightly low considering that students make up approximately 84% of the campus community. Staff accounted for 15.6% of respondents and faculty accounted for 8.8%, both of which are higher than their respective proportions on campus of 10.3% and 8.2%.

Question3: What is the purpose of your usual trip to the University of Calgary?

Respondents were earlier asked to indicate the purpose of their trip to the University of Calgary. They were instructed to selected all the purposes that applied to them throughout the year. The distribution of responses is shown in Figure 3. The most common purpose of commuting to the University is for class or studying with 808 respondents selecting this option. The likely reason for the higher number of people commuting for class than the number who indicated being students is because of the dropout rate that occurred through the survey. There were fewer people who answered question 135 than question 3. It is common survey practice to put demographic and personal questions toward the end, when it is more likely to be clear to respondents why these questions are being asked. Considering that more people come for work than the total of staff and faculty, it appears that many students cycle to campus for reasons in addition to class or studying.

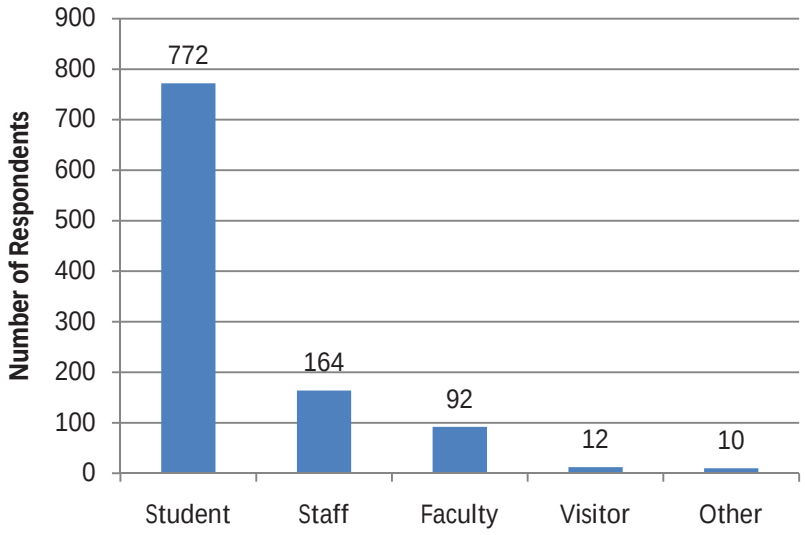

FIGURE 2: Position at the University of Calgary

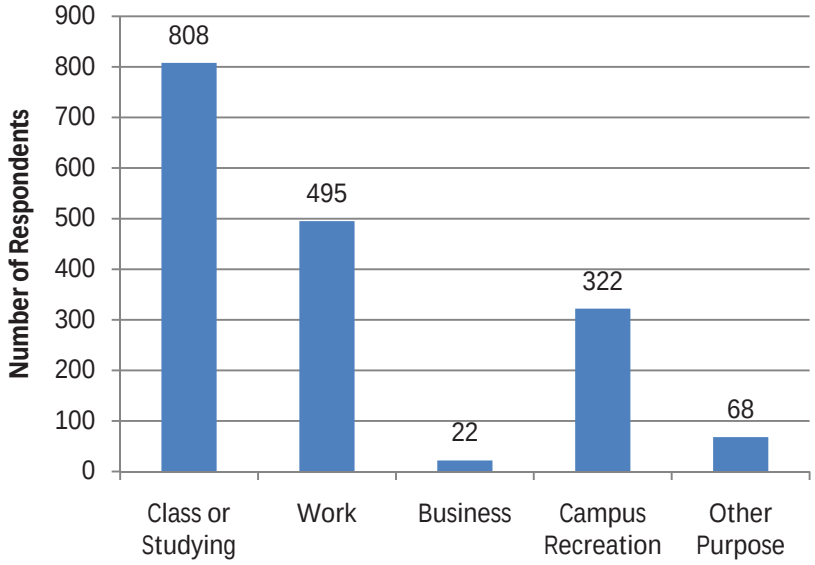

FIGURE 3: Purpose of Trip to the University

Gender and Type of Cyclist

The respondents were further categorized by gender in order to determine if there was a significant association between the gender of the respondent and the type of cyclist. Women were found to account for 44.3% of the current cyclist respondents. This is considerably higher than the 21% female cyclists that responded to the 2006 Calgary Downtown Commuter Cyclist Survey. This higher percentage of women allows for an analysis of the characteristics and needs of female cyclists, as recommended in the 2006 Calgary Downtown Commuter Survey Report. In congruence with the City's findings, men were found to account for the majority of respondents in the two regular cyclist categories, when conditions are favourable, or throughout the year in all conditions. Female respondents were found to be more likely to belong to the possible or occasional cyclist groups. This is true both when student respondents (Figure 2) and non-student respondents (Figure 3) were analysed separately. Both analyses showed a significant association between gender and type of cyclist[6].

[6] 'Significant' in this context refers to statistical significance, at the 0.05 level. That can be interpreted to say that the particular value of the statistic used would arise less than 5% of the time if there was in fact no relationship between the two variables. In this case, and many instances in the report, the Chi-square statistic was used. In other cases it is a Student's t-test for the difference of means.

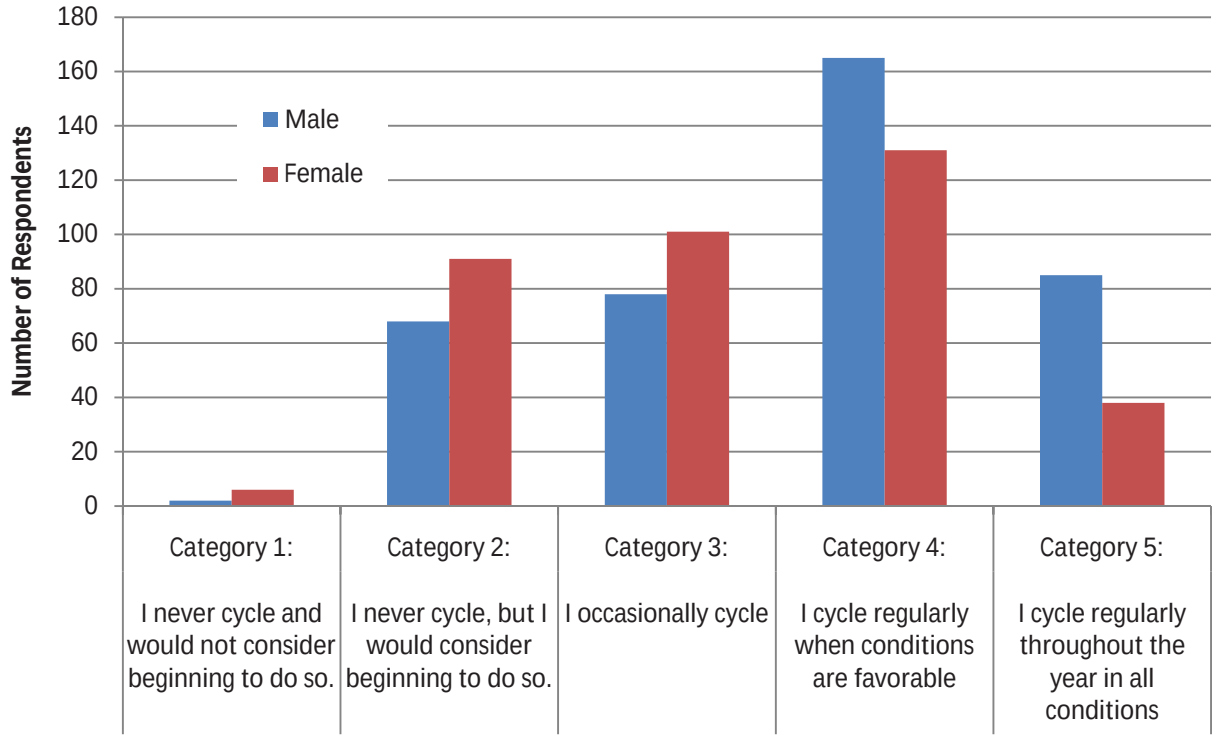

FIGURE 4: Students: Type of Cyclist by Gender

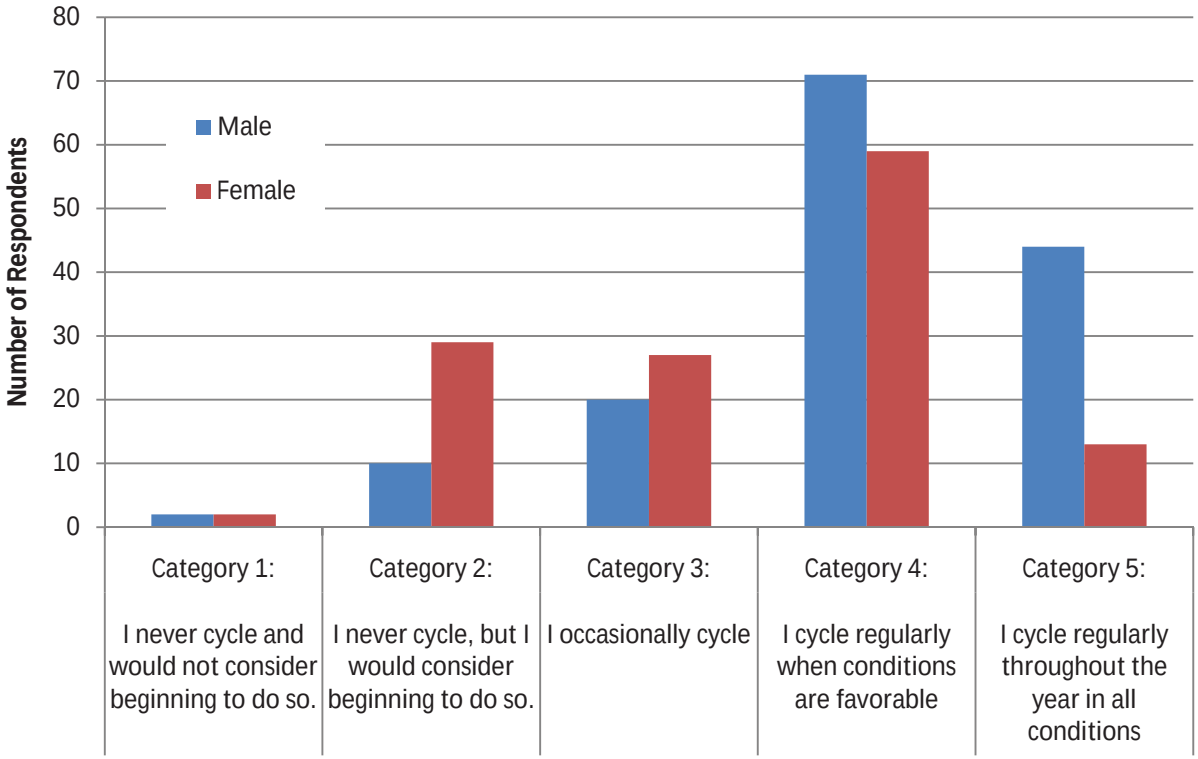

FIGURE 5: Non-students: Type of Cyclist by Gender

CURRENT CYCLISTS

This section of the report focuses on all the respondents who indicated belonging to categories 3, 4, and 5, a total of 906 respondents. The number of respondents to each of the specific questions will at times be lower than this total.

Current Cyclist Characteristics

Age of Cyclists

Question 133: Please select your age range.

The first noticeable feature of the age distribution chart of current cyclists (Figure 6) is that women account for a smaller portion of cyclist respondents in all age categories. This is especially noteworthy in the 33 to 37 and the 43 to 52 year categories. The largest group of cyclists bound for the University is between the ages of 18 and 27. The apparent jump in the number of cyclists who are between the ages of 43 and 52 is due to the fact that the categories changed from five year intervals to ten year intervals at 42 years of age. The age distribution of current cyclists to the university confirms that information was gathered from a young, student cycling population specific to the University, as recommended in the 2006 Downtown Commuter Cyclist Survey Report. Information was also gathered from an older, work oriented group that may be similar in characteristics to the group of cyclists commuting downtown.

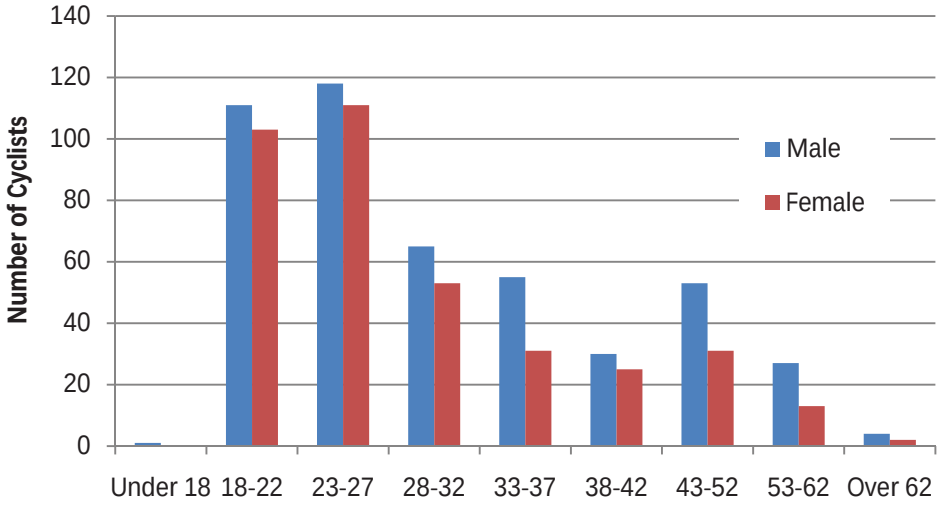

FIGURE 6: Gender and Age Distribution of Current Cyclists

Income

Question 138: What is your approximate annual personal income before taxes?

Figure 7 shows the income distribution of student and non-student cyclists bound for the University of Calgary. The 2006 Calgary Downtown Commuter Cyclist Survey found that the largest proportion of cyclists commuting to the downtown core earned $90,000 a year or more. The income distribution of the respondents to this survey (Figure 7) shows two very different stories depending on whether students or non-students are analysed.

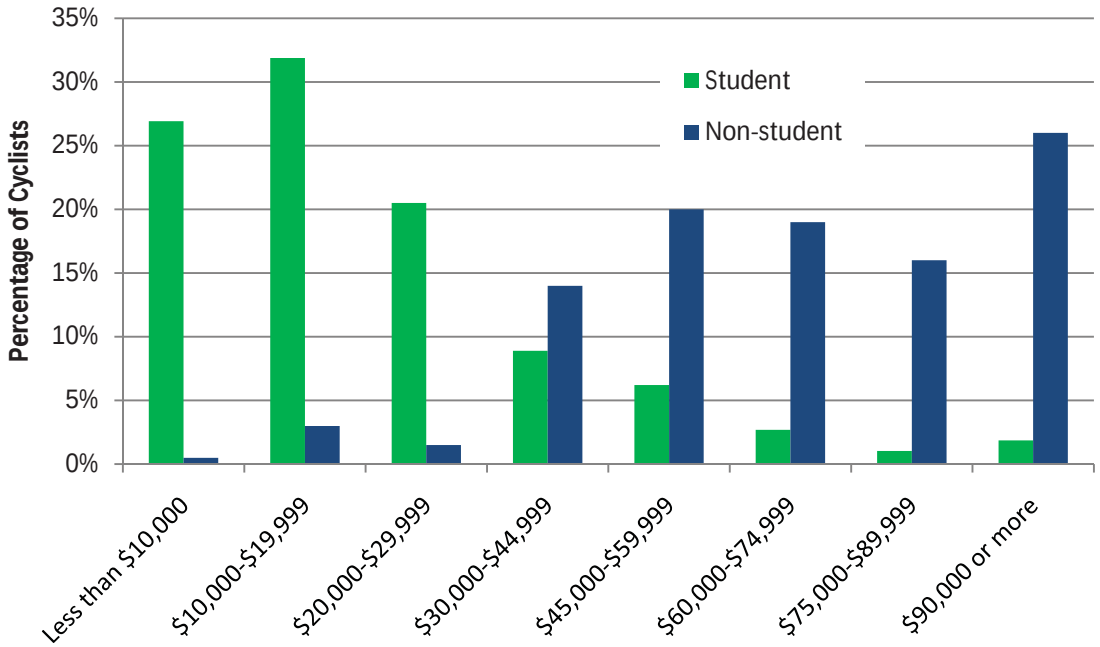

FIGURE 7: Income Distribution of Cyclists

It is logical that student cyclists earn less money on average than non-student cyclists considering that students often do not have an opportunity to work many hours in addition to attending class. The majority of student cyclists earn less than $30,000 a year. As the City study found for downtown commuters, the largest number of non-student cyclists earns $90,000 or more per year. Approximately 25% of non-student cyclists chose not to disclose their income. This might have had a considerable effect on the income distribution if they had indicated a value. Note that the income categories provided to respondents ran at increments of $10,000 of personal income per year until $30,000 per year, at which point, the increments increased to $15,000 per year.

Gender

Question 132

Men were found to account for a larger proportion of both student and non-student cyclist respondents than women, as shown in Table 2. The percentage of male cyclists is slightly higher in non-student cyclists than it is for student cyclists, but this difference is not significant at the 0.05 confidence level. Although there are more men cycling to campus than women (both student and non-student), the percentage of women University cyclists is nearly double the percentage of female cyclists commuting downtown.

Table 2: Gender Distribution of Cyclist Respondents

		Student	Non-student
Male	Number	328	135
	Percentage	*54.8%*	*57.7%*
Female	Number	270	99
	Percentage	*45.2%*	*42.3%*

Special Characteristics of Student Cyclists

Current Student Status (Full-time or Part-time)

Question 136: Are you a full-time or part-time student?

Figure 8 shows the distribution of full-time, part-time and other current cyclist students. The majority of students that cycle to the University of Calgary are full-time students. When men and women were analysed separately, the distribution of full-time and part-time students remained quite similar.

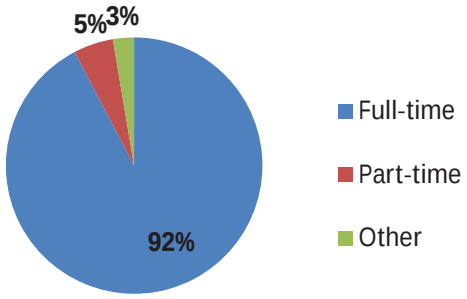

FIGURE 8: Full-time or Part-time Status of Student Cyclists

Work in Addition to Studies

Question 137: How many hours do you work per week for pay in addition to taking classes?

The distribution of hours worked in addition to attending classes is shown in Figure 9. Most of the students that cycle to the University work less than 20 hours per week, with the largest group of student cyclists not working at all in addition to taking classes. The percentage of male and female cyclists who work more than 1 hour per week in addition to taking classes is roughly equal at about 70%.

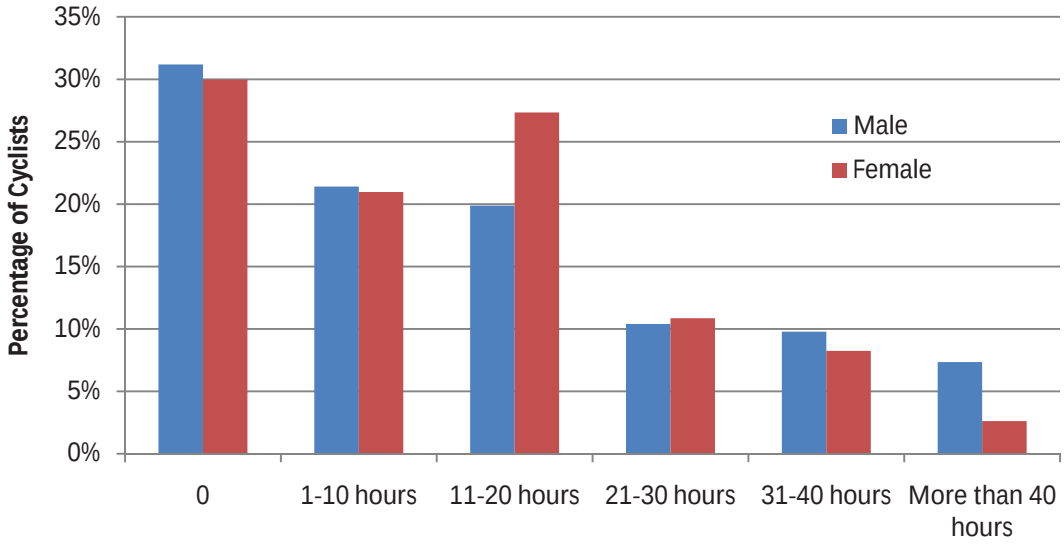

FIGURE 9: Distribution of Hours Worked by Student Cyclists

Living Situation

Question 139: Do you live with your parents?

The majority of students who cycle to the University do not live with their parents (Figure 10). When male and female cyclists were analysed separately, the percentages of each gender that live with their parents was virtually identical.

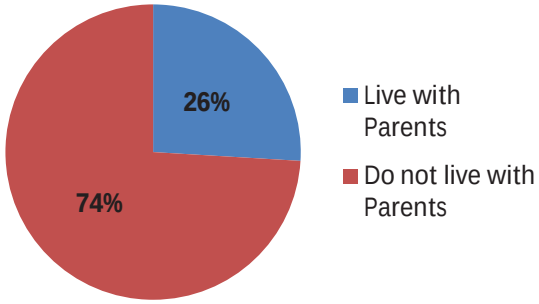

FIGURE 10: Percentage of Student Cyclists Who Live with Their Parents

Trip Characteristics of Cyclists Bound for the University

Trip Duration

Question 41: What is the average time of your one-way journey when you travel by bicycle?

Respondents were asked to select the appropriate time category for their bicycle commute from a list of six provided categories. The categories ranged from less than 5 minutes as the shortest option, to more than 45 minutes as the longest option. There were 829 respondents who indicated the duration of their commute. For analysis, the midpoint of each category was used to calculate the mean number of minutes travelled by each sub-group of cyclists. If 45 minutes or more was selected, 50 minutes was used because it would be the midpoint of the next category had the pattern continued. Although this method of using the midpoints and imposing a maximum commute time of 50 minutes introduces considerable error, the mean values that have been calculated give a rough estimate as to the duration of commute made by different groups of University cyclists (Table 3). The averages have been calculated to the nearest tenth of a minute. Because the respondents were asked to indicate the approximate time of their commute to the nearest whole minute (in groups of 5 minutes), it is actually not correct to claim this degree of precision. This was done however in order to better compare the averages between different groups of cyclists.

Table 3: Commute Duration for Student and Non-student Cyclists

Analysis Category		Average Time (min)
All	*Student*	22.2
	Non-Student	25.0
Men	*Student*	21.7
	Non-Student	25.1
Women	*Student*	23.1
	Non-Student	24.8

*shaded boxes indicate a significant difference

A significant difference was found in the duration of commutes made by students and non-students both when all cyclists were analysed together and when male cyclists were analysed separately. In both cases, non-students were found to cycle significantly longer than students were. The difference is especially noteworthy in male cyclists, with a difference in mean commute times of 3.4 minutes.

Trip Distance

Question 144: What is the distance of your one-way journey to the University of Calgary?

Information about the trip distance was gathered in the same way as it was for trip duration. Respondents were asked to indicate which category from a list corresponded to the approximate length of their commute in kilometres. The shortest provided category was from 1 to 5 kilometres, and the longest category was more than 20 kilometres. The midpoint of the category was used to calculate the mean distance commuted in each subgroup of commuters. If 20 kilometres or more was selected, 22.5 kilometres was used as it would be the midpoint of the next group should the pattern have been continued. Both of these methods introduced error to the findings, but allowed for the approximate mean distances between subgroups of cyclists to be compared (Table 4).

Only respondents who chose to describe their route in a text box were asked to indicate the length of their commute from the categories. The commute distance of people who traced a digital map was taken from the map that they submitted, and was manually entered into the appropriate distance category. There were a total of 534 respondents who either selected an appropriate trip length category or submitted a useable digital map. As with the duration calculations, the average distances have been calculated to the nearest tenth of a minute even though the data gathered does not support this level of precision.

Table 4: Commute Distance of Student and Non-student Cyclists from Distance Categories

Analysis Category		Average Distance (km)
All	*Student*	6.5
	Non-Student	7.0
Men	*Student*	6.6
	Non-Student	7.3
Women	*Student*	6.5
	Non-Student	6.6

Although non-students were found to travel consistently further in all three analysis, the difference was not significant at the 0.05 confidence level for any of the three analyses. As found in the duration of commute, the largest difference in the length of commute is between students and non-students when men were analysed separately.

Mapping Distance

From the maps that were submitted by respondents who chose to create a digital map, it was possible to extract the distance of the traced route. These distances were used to calculate the mean travel distance of the various cyclist subgroups. Because no midpoints or maximum distance values were used, this method

provided the most accurate results. The distances could be extracted from only 186 of the submitted digital maps, which provides a much smaller sample size than the previous distance and duration calculations. Distances taken from the digital maps were accurate to the 10 meters. The calculated averages were rounded to the nearest 100 meters in order to account for errors made in map tracing. The findings from the digital mapping distances (Table 5) are somewhat different from those calculated using the distance categories.

Table 5: Commute Distance of Student and Non-student Cyclists from Digital Maps

Analysis Category		Average Distance (km)
All	*Student*	6.9
	Non-Student	7.3
Men	*Student*	7.0
	Non-Student	8.7
Women	*Student*	6.9
	Non-Student	5.4

Non-students were found to cycle further than students when all cyclists were analysed together, and when male cyclists were analysed separately. However, when female cyclists were analysed separately, female student cyclists were found to cycle further on average than female non-student cyclists. None of these findings were significant at the 0.05 confidence level. However, the difference between male non-student cyclists and female non-student cyclists is statistically significant.

Facilities Used

Question 54: What type of surfaces do you cycle on during your journey to the University of Calgary?

The percentage of respondents that indicated using each facility during their commute is shown in Figure 11. Currently, it is not possible to get to campus entirely using pathways, and therefore cyclists must use another facility at some point during their commute, even if they would prefer not to.

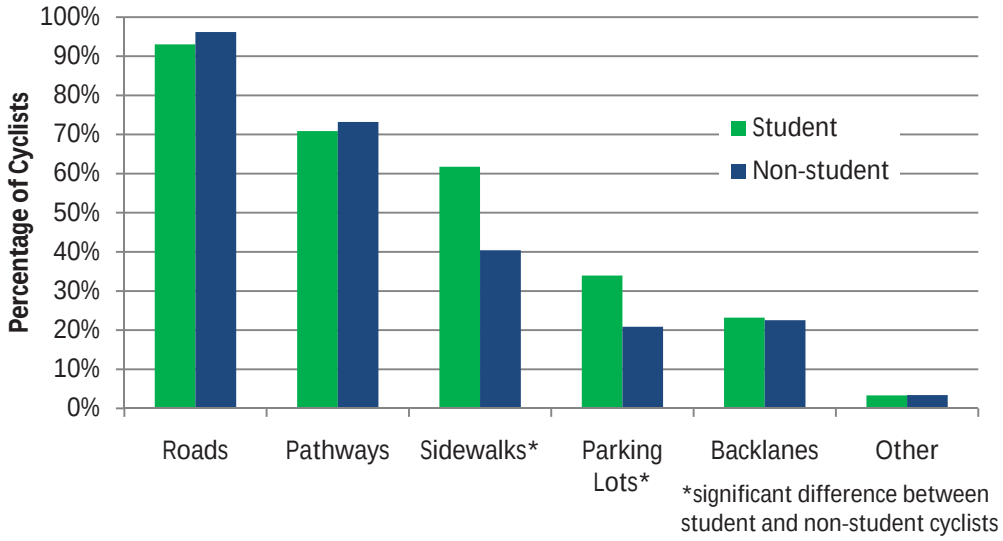

FIGURE 11: Facilities Used by Current Cyclists

Roads are the most commonly used facility, both by student and non-student cyclists, followed by pathways and sidewalks. A significant difference in the percentage of student and non-student cyclists that use each facility was found for the use of sidewalks and parking lots. In both cases, students indicated using the facility significantly more often than non-student cyclists did. Previous studies have found that sidewalks are dangerous facilities for cyclists to use, both for the cyclist themselves and for pedestrians using the sidewalk. In addition, it is currently against the law in Calgary for cyclists to ride on sidewalks. Considering both of these facts, it is troubling that over 60% of student cyclists are using sidewalks to get to campus.

Journey Start Point

Question 29: Where do you start your journey to the University of Calgary (nearest intersection or landmark)?

From the information gained from this question, the quadrant of the city that cyclists begin their commute was determined. The results are displayed in Figure 12. As the University is located in the northwest quadrant of the city, it is expected that most of the cyclists would come from this quadrant. This was indeed found to be the case, with nearly 75% of both student and non-student cyclist respondents coming from the northwest section of Calgary. The starting points of commuter cyclists bound for the University are important to consider in order to provide facilities in locations where they will be highly used. On the other hand, more facilities reaching to the southwest, northeast, and southeast may encourage more people in those areas to commute by bicycle.

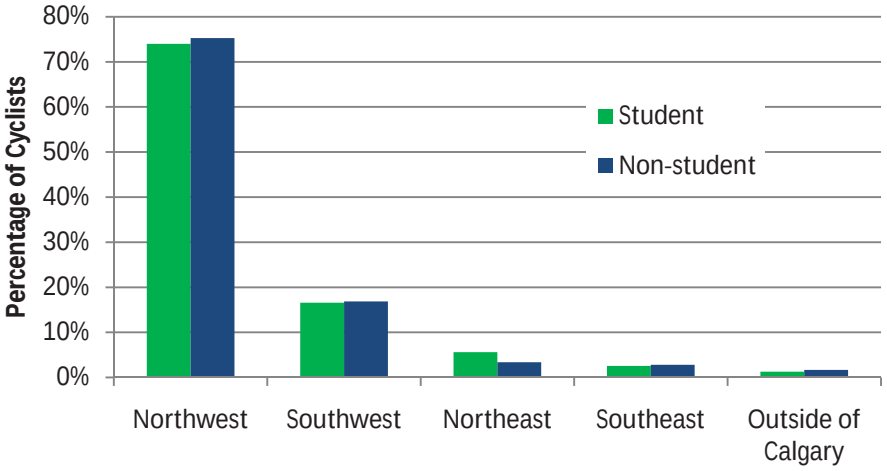

FIGURE 12: Starting Quadrant of University Cyclists

Destination on Campus

Question 30: Where on campus does your journey end (which building on campus)?

Determining which buildings on campus are most frequented by cyclists can help to construct bicycle parking in places that are most useful to cyclists. The distribution of responses is displayed in Figure 13. The chart is ordered by the average percentage of all cyclists that indicated each building as their destination on campus. According to the response to the survey, the largest proportions of cyclists are bound for the Science Complex (including Science A, Science B, and Science Theatres), the Kinesiology

building, and the Schulich School of Engineering. The large number of people that park at Kinesiology might be because the only showering and locker facilities on campus are located in this building. If there were alternative showering and changing facilities available on campus, there may not be as many cyclists destined for the Kinesiology building. There is a large disparity in the destination buildings of students and non-students. The top three destination buildings for students are the Sciences Complex, the Kinesiology building, and ICT. For non-students, the top three destinations are the Kinesiology building, the Foothills Medical Center, and the MacKimmie Library. These destination differences are likely because students are destined for buildings where classes are held, or where they can study or socialize, while faculty, staff, and volunteers are more likely to be bound for buildings on campus where people work.

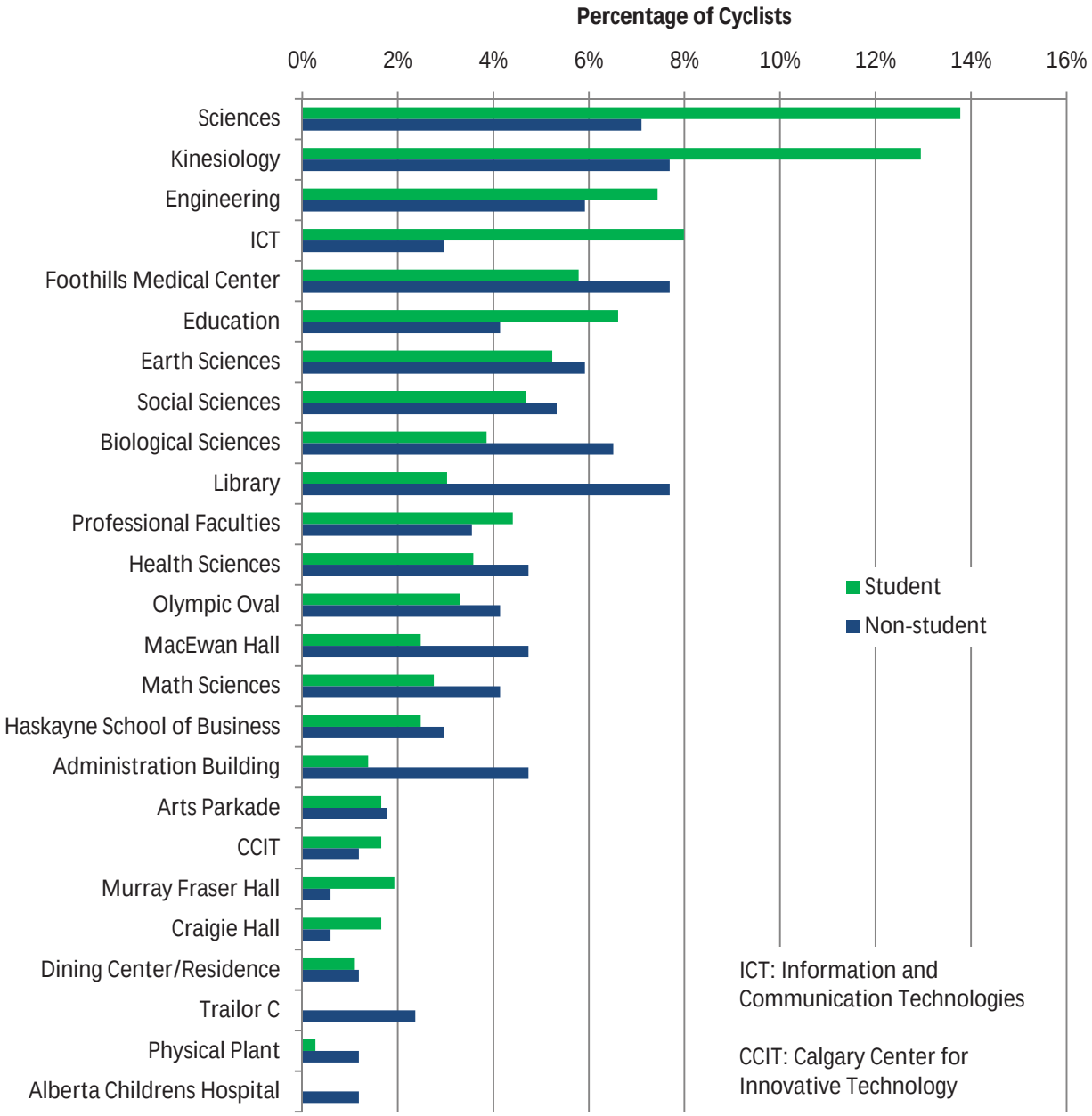

FIGURE 13: Destination of Cyclists on Campus

Other Modes of Transportation Used in Combination with Cycling

Question 42: Which other modes of transportation do you use in combination with cycling for your journey to the University of Calgary?

The majority of the cyclists bound for the University do not use any other mode of transportation in combination with cycling during their commute (Figure 14). However, there are a considerable number of students that use the LRT system or buses in combination with their bicycle. This finding suggests that if LRT policy was adjusted to allow bicycles on trains at all time, or if bicycle racks were available on more buses, students may bicycle more often. If non-student cyclists indicated using another mode of transportation in combination with their bicycles, it was most often their car.

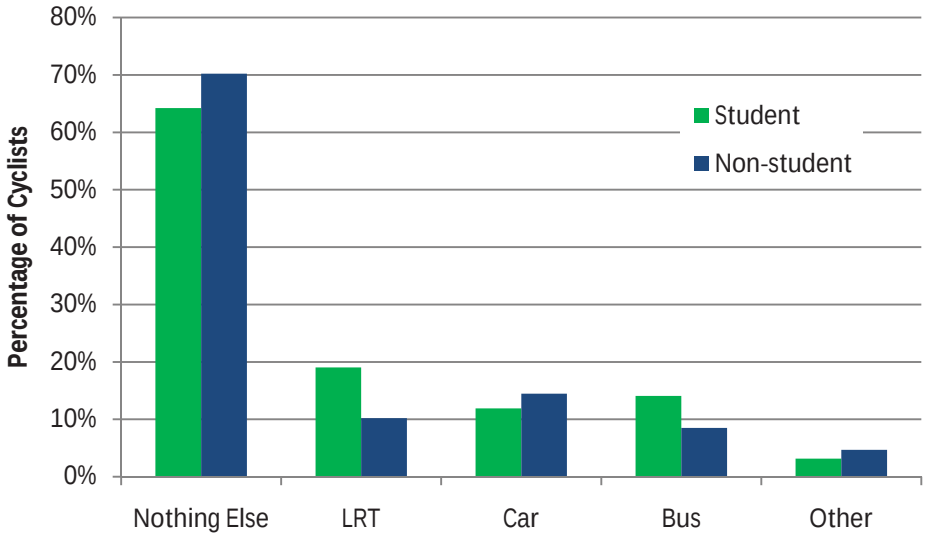

FIGURE 14: Modes Used in Combination with Bicycling

Modes of Transportation Used by Cyclists

Question 4 to Question 27: Thinking of your weekly commute during the various seasons of the year, how many days a week do you travel to the University of Calgary by the following methods?

Cyclists were asked to indicate the number of days per week that they used each of six modes of transportation in each of spring, summer, fall, and winter separately. The months belonging to each season were not specified in the questionnaire and respondents were allowed to define the seasons as they saw fit.

Spring Transportation:

During the spring months, both student and non-students cyclists use their bicycles to commute to campus more days per week on average than any other mode of transportation (Figure 15). Considering the other modes of transportation used during the spring, there is considerable difference between the modes used by students and those used by non-students. If student cyclists are not using their bicycles to commute, they are likely to be taking transit (LRT or buses) or walking to campus. Non-student cyclists are most likely to drive alone or walk if they are not

cycling to campus. Significant differences were found in the average number of days per week students and non-students drive alone and take transit during the spring months. The average total number of days per week respondents came to campus was 5.79 for students and 5.31 for non-students.

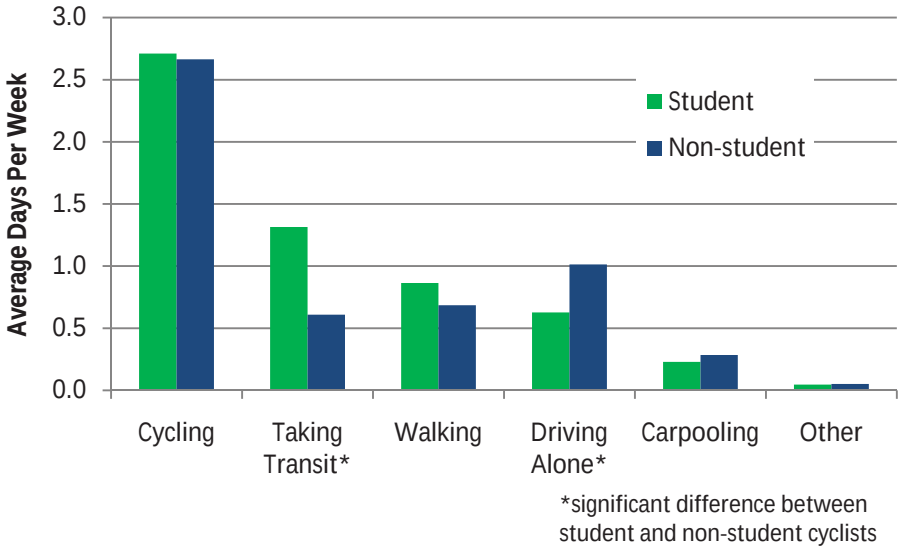

FIGURE 15: Modes of Transportation used by Cyclists in the Spring

Summer Transportation:

There are significant differences between student and non-student cyclists in the average number of days travelled to campus by bicycle, transit, and driving alone in summer (Figure 16).

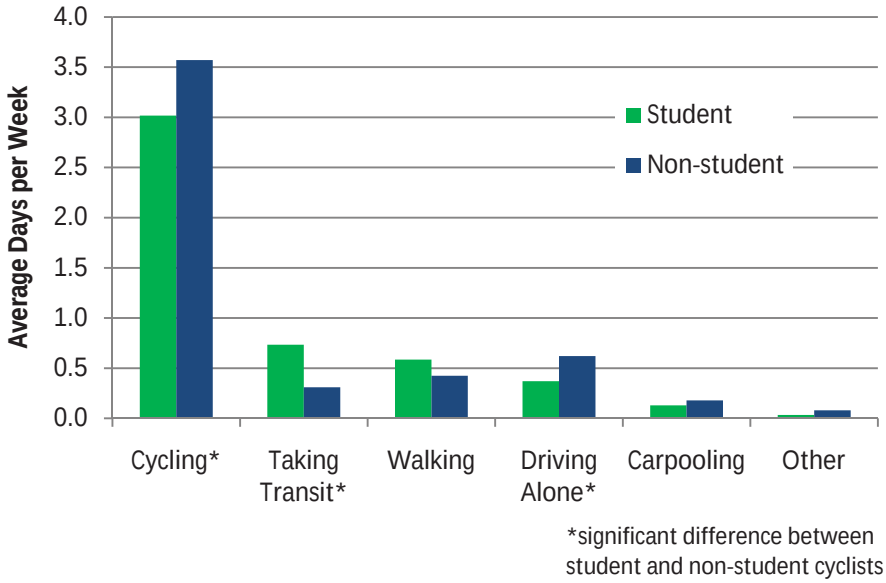

FIGURE 16: Modes of Transportation used by Cyclists in the Summer

Summer is a unique time at the University because there are considerably fewer students on campus due to summer break. This could account for the higher numbers of non-student cyclists

bicycling. Students continue to take transit more than non-students do, and non-students continue to drive alone more often than student cyclists do in the summer. The average total number of days per week respondents came to campus in summer was 4.87 for students and 5.19 for non-students, a reduction in both cases from the Spring numbers.

Fall Transportation:

Figure 17 displays the average number of days student and non-student cyclists use various forms of transportation for their commute to the University of Calgary in the Fall. There are significant differences in the number of days student and non-students cyclists take transit, drive alone, and walk to get to campus. As with spring and summer commuting, student cyclists are more likely to take transit, and non-student cyclists are more likely to drive alone. In addition, student cyclists walk significantly more days per week than non-student cyclists do. The average total number of days per week respondents came to campus in Fall was 5.89 for students and 5.11 for non-students

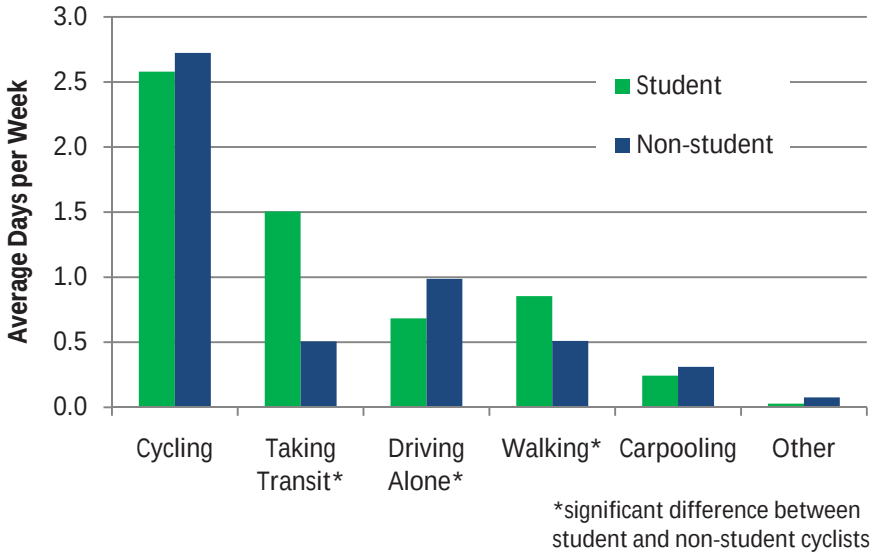

FIGURE 17: Modes of Transportation used by Cyclists in the Fall

Winter Transportation:

Winter is the only season of the year when cycling is not the most used form of transportation to campus by student or non-student cyclists (Figure 18). Students are more likely to use city transit or walk to campus than cycle during the winter months. Non-students are more likely to drive alone or take transit than cycle to campus during the winter months. There is a significant difference in the number of days commuted by taking transit, driving alone, and walking between student and non-student cyclists. Student cyclists are more likely to take transit or walk, while non-student cyclists are more likely to drive alone. The average total number of days per week respondents came to campus in winter was 5.76 for students and 5.05 for non-students

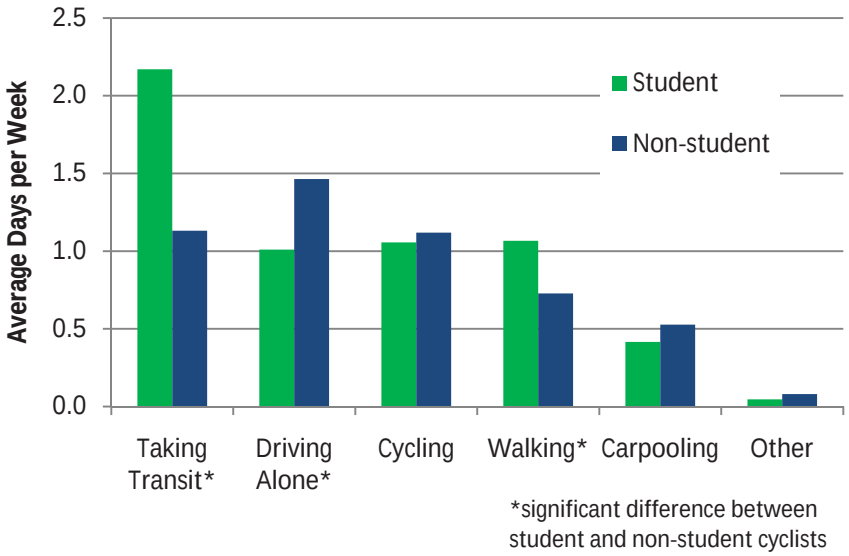

FIGURE 18: Modes of Transportation used by Cyclists in the Winter

Reasons for Cycling

Question 32 to Question 39: What are your most important reasons for cycling to the university?

Figure19 shows the percentage of cyclists that selected each reason for commuting by bicycle as their first or second most important reason for cycling.

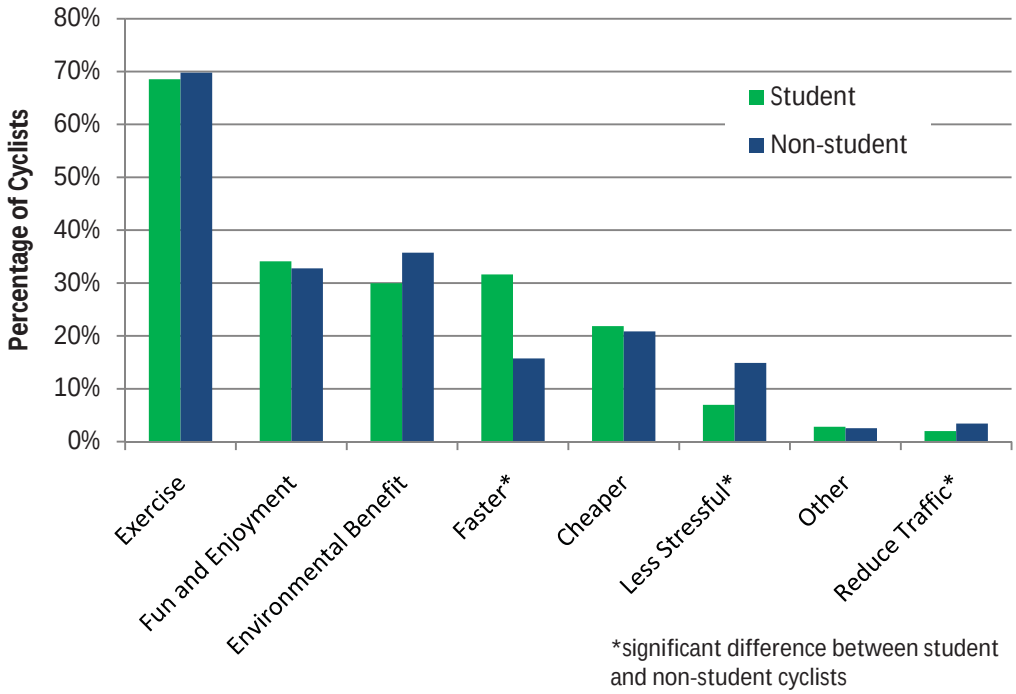

FIGURE 19: Percentage of Respondents Who Selected Each Reason as an Important Reason for Commuting by Bicycle

As found for downtown commuters, exercise was the most often selected reason for commuting by bicycle by both students and non-students. There was a significant difference in the citing of three reasons between students and non-students. Students were more likely than non-cyclists to indicate that commuting by bicycle was faster than other modes of transportation as a reason for bicycling. Non-students were more likely than students to indicate that commuting by bicycle was less stressful than other modes and that they cycled to help reduce traffic.

There were some differences between the important reasons for commuting by bicycle between downtown and University commuters. University cyclists selected environmental benefit third most often; while downtown commuters selected this reason the second least often. Faster and for fun and enjoyment were selected more often by University cyclists than downtown cyclists, while cheaper and less stressful were reasons cited more often by downtown commuters than University cyclists.

Year Began Cycling

Question 43: In which year did you start using cycling as a mode of transportation for this journey?

Current cyclists were asked to indicate the year that they began commuting by bicycle to the university. The distribution of responses can be seen in Figure 20. The large number of respondents that indicated beginning commuting by bicycle before 2006 suggests that the survey should have provided earlier start years. This is especially true for non-students, presumably because they have been at the University longer than students have. It is interesting and encouraging that the number of respondents beginning to commute by bicycle has steadily increased from 2006[7]. This is true both for students and for non-students. The reason that the number of respondents who indicated beginning cycling in 2009 is relatively low is likely due to the fact that the survey was conducted in April of 2009, which only provides a quarter of a year, mostly of winter, to begin cycling.

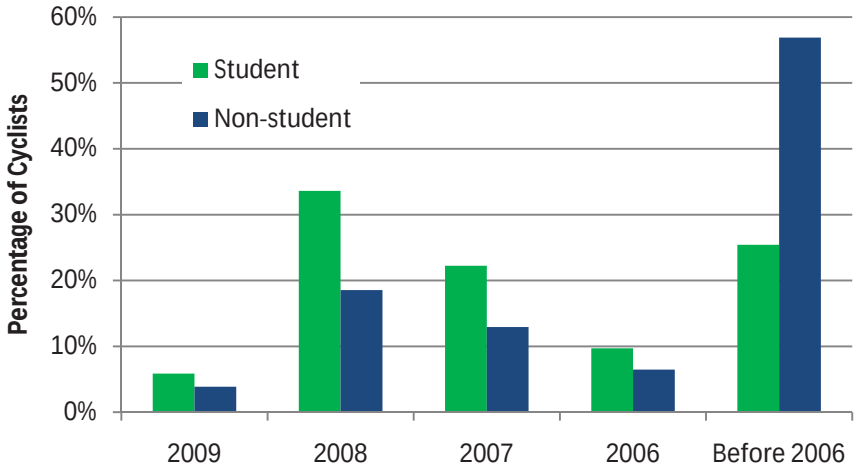

FIGURE 20: Year Began Cycling to the University

[7] An alternative interpretation of these results is that similar numbers started cycling each year, but there is an annual dropout of those new cyclists for reasons such as accidents, thefts, or other discouragement.

Other Purpose Cycling

Question 98: Do you cycle for other purposes such as shopping, visiting, or recreation?

The vast majority of cyclists indicated cycling for purposes other than commuting to the University of Calgary. Approximately 95% of both students and non-students use cycling as a means of transportation for shopping, visiting friends, and recreation. This suggests that if people cycle for one purpose, they are very likely to cycle for other purposes.

End of Trip Facilities on Campus

Type of Bicycle Parking

Question 65: What kind of bicycle parking do you usually use at the University?

There is a large difference in the type of on-campus parking used by student and non-student cyclists. Nearly 80% of students park their bicycles at bicycle racks around campus. The majority of non-students (nearly 60%) also park their bicycles at bicycle racks around campus, but this is a smaller majority than found for students, with many non-students parking their bicycles in campus buildings. Although it is currently against campus policy for bicycles to be brought into University buildings, there appears to be many people who, if they have an office, use their office for parking. This is likely why there are more non-students parking in buildings than students.

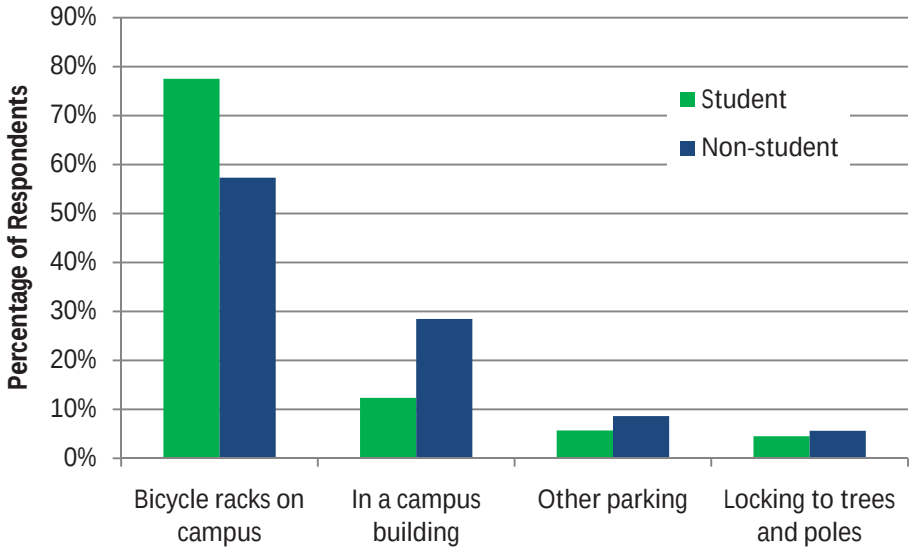

FIGURE 21: Bicycle Parking Used on Campus

Desired Bicycle Parking

Question 71: Which bike parking racks would you most like to see on campus?

There does not appear to be any clear first choice in desired type of bicycle parking on campus. In fact, the majority of cyclists are content with the bicycle racks that currently exist on campus, or have no preference in bicycle racks. No significant association was found between category of cyclist (student or non-student) and the type of parking they were likely to desire on campus.

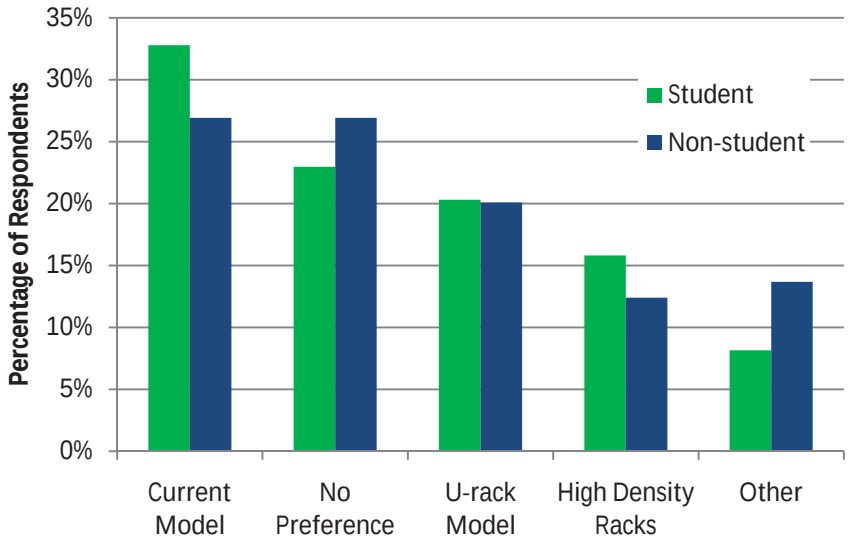

FIGURE 22: Current Cyclists Desired Bicycle Parking on Campus

There were a considerable number of non-student cyclists who 'Other' and the type of bicycle parking they would like to see on campus. These cyclists were asked to explain which type of parking they would like to see on campus. A full list of the responses is included in Appendix F. Many responses suggested integrating video surveillance and monitoring with bicycle racks on campus.

Changing Facilities

Question 66: What kind of changing facility do you usually use at the University of Calgary?

There is a significant association between the respondent being a student or a non-student and the type of changing facilities they are likely to use on campus. Figure 23 displays the percentage of respondents in each group that uses the various changing facilities. The results are ordered by the total percentage of all cyclists that selected each changing facility.

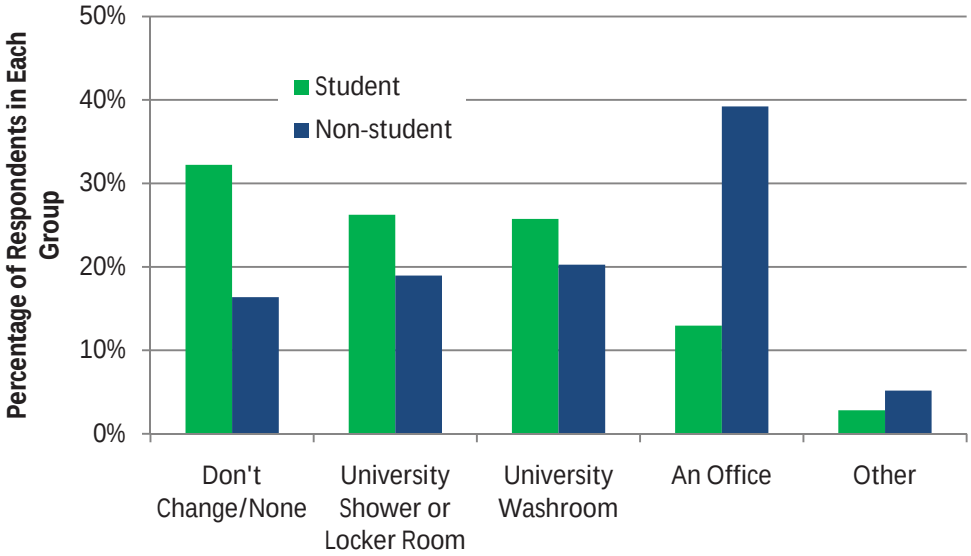

FIGURE 23: Changing Facilities Used by Student and Non-student Cyclists

The largest portion of non-student cyclists use an office to change, followed by a University washroom, and then by the University shower or locker room. Only 16% of non-student cyclist do not change. In contrast, the largest percentage of student cyclists do not change (32%), followed closely by using a University shower or change room or using a university washroom. This difference is likely due to two factors. Firstly, many students do not have access to an office to change in. Secondly, students may not experience any pressure to dress professionally on campus, while people who are working may be expected to wear office appropriate attire.

The Bike Root

The Bike Root is a relatively new development on campus. Currently it is a volunteer-run organization where people can learn how to repair their bicycles. According to the survey response, approximately 45% of the cyclists on campus are aware of the Bike Root. In addition, significantly more non-student cyclists (51%) know about the Bike Root than student cyclists (41%).

Question 68: Which of the following of Bike Root's services would/do you use cycling to campus?

In the near future the Bike Root plans on providing caged parking, day lockers for cyclists, and bicycle loans. In order to borrow a bicycle, people will only have to make a deposit, which will be refunded once the bicycle is returned to the Bike Root. Respondents were asked to indicate all of the facilities they would be interested in using once they are available at the Bike Root. The results are displayed in Figure 24.

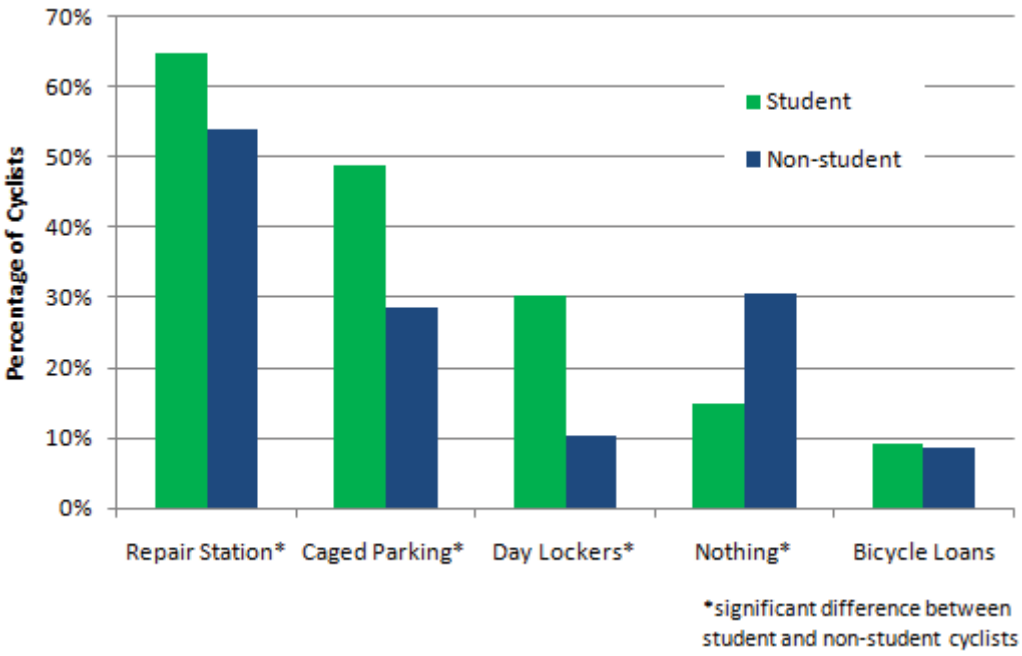

FIGURE 24: Cyclists' Intended Use of the Bike Root's Planned Facilities

There is a significant difference in number of respondents from the student and non-student cycling groups that indicated an interest in using most of the facilities. Students were more likely to plan on using the Bike Root's repair station, caged parking, and day lockers. Student and non-student cyclists indicated nearly identical intention to use the bicycle loan program.

There were significant differences in the intended use of the planned Bike Root facilities between genders as well as by category of cyclists. More female cyclists than male cyclists indicated an interest in all of the Bike Root facilities. This difference was significant at the 0.05 confidence level for the selection of caged parking and day lockers. No significant association was found between the frequency of intended use indicated by men and women who are interested in using the Bike Root facilities.

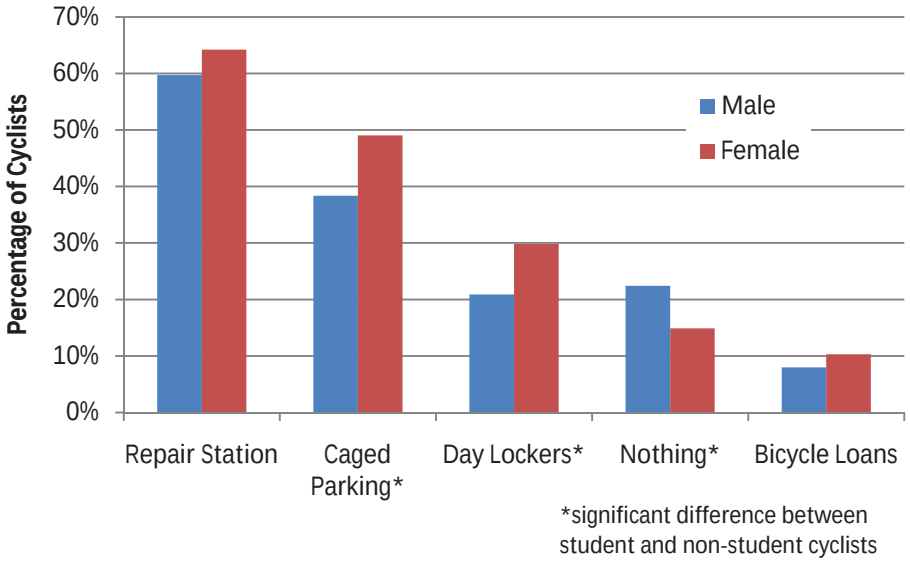

FIGURE 25: Intended Use of the Bike Roots' Planned Facilities by Gender

Question 69: How frequently would you use any of the Bike Root facilities cycling to campus?

Respondents who intend to use at least one of the Bike Root's planned facilities were asked to indicate the number of days per week or month that they would be likely to use that facility. The distribution of the responses can be seen in Figure 26.

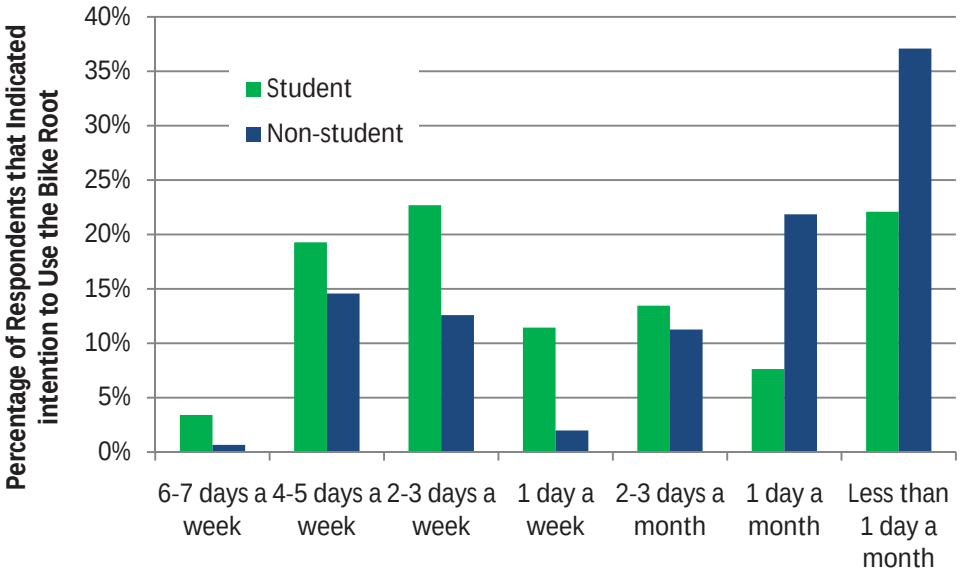

FIGURE 26: Frequency of Intended Bike Root Use

Student cyclists who are interested in using the Bike Root's facilities intend to use them significantly more frequently than non-student cyclists who also indicated an interest in visiting the Bike Root. Non-student cyclists were most likely to select 1day per month or less than 1 day per month for their intended frequency of use. Students were most likely to select more than 1 day per week of intended use.

Arts Parkade

Question 70: Free, covered, high-density bicycle parking is currently under development in the Arts Parkade. How likely is it that you would use such a facility when you cycle to campus?

Currently, free, covered, high-density parking is under development in the Arts Parkade. Cyclist respondents were asked to indicate how likely it would be for them to use such a development. There was a significant association found between the category (student or non-student) and the likelihood of using the Arts Parkade bicycle parking once it is complete (Figure 27). Nearly 50% of non-student cyclists indicate they are not at all likely to use the high-density parking. The distribution of student cyclists is fairly uniform, with the highest percentage of student cyclists (25%) also being not at all likely to use the high density parking.

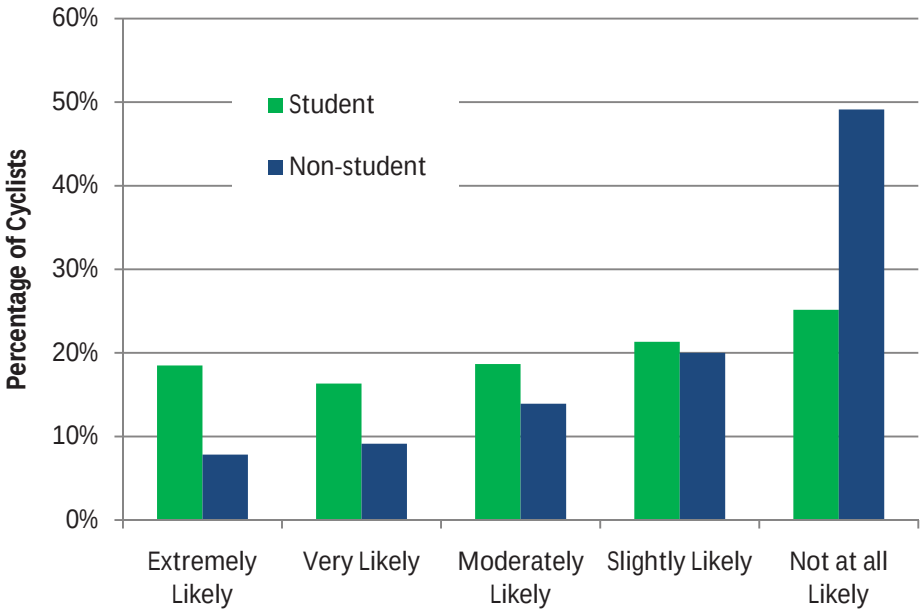

FIGURE 27: Likelihood of Using the Art Parkade High-Density Parking by Student Status

There was also a significant association found between the gender of the respondent and their likelihood of using the high-density parking in the Arts Parkade (Figure 28), with women indicating a higher likelihood of use than men did.

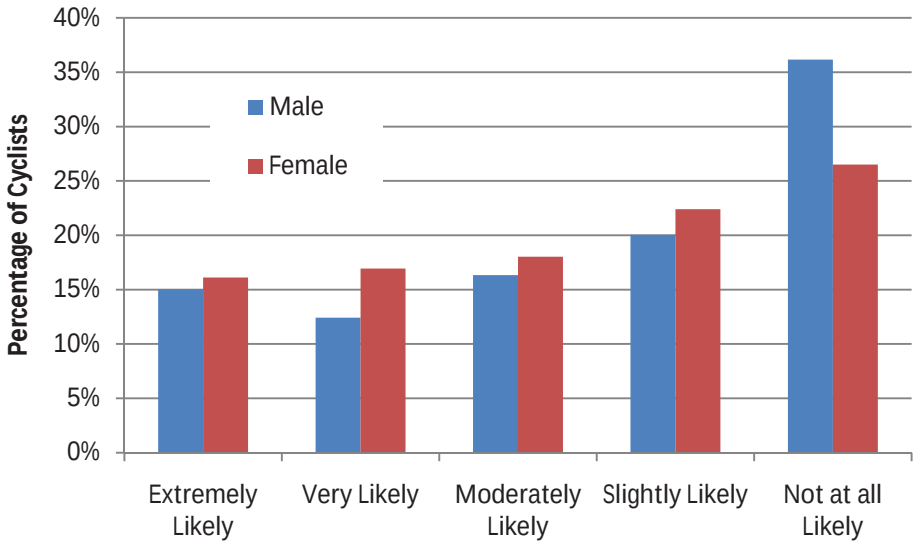

FIGURE 28: Likelihood of Using the Arts Parkade High-Density Parking by Gender

Cycling Incidents

Bicycle Theft or Stripping of Parts

Question 81: Which of the following types of theft have you experienced with your bicycle?

The number and percentage of responses is displayed in Table 6. There was no significant difference in the number or percentage of thefts experienced between student and non-student cyclists, or between male and female cyclists. Of the people that had experienced either type of theft (about 45% of cyclists), just over 35% experienced the theft on campus. In total, approximately 15% of the people that cycle to campus have experienced some type of bicycle theft on the University of Calgary campus. This number is comparable to the 19% of downtown commuters who reported experiencing a theft and suggests that bicycle security should become a higher priority on campus (as well as downtown).

Table 6: Number and Percentage of Cyclists who have Experienced a Theft

Theft	Number	*Percentage*
Stolen	262	*28.9*
Stripped of Parts	139	*15.3*
No Theft	492	*54.3*

Falls

Before questions concerning falls and collisions were asked, the following definitions was provided.

> *A **fall** is defined as an event where, without colliding with another object, vehicle, or person, the cyclist lands on the ground.*
>
> *A **collision** is defined as an event where the bicycle hits, or is hit by another person, vehicle or object.*

Cyclist respondents were asked if they had ever experienced a fall while commuting to the University of Calgary. When all cyclists were considered, approximately 50% had experienced a fall while commuting to campus. There was no significant association found between the respondent being a student or non-student cyclist and the likelihood of having experienced a fall. If they had experienced a fall, they were asked to specify the number of times they had fallen, the main cause of their last fall, and the type of facility on which the fall occurred.

Number of Falls

Question 84: How many falls have you had while cycling to or from the University of Calgary?

There was a significant association between the number of falls a cyclist reported experiencing and the cyclist being a student or a non-student. Student cyclists who had experienced a fall were most likely to have had one or two falls, while non-student cyclists were likely to have experienced two falls or more. This finding is likely related to the fact that student cyclists have not been cycling for as many years as non-student cyclists. There was also an association found between the gender of the respondent and the number falls they had experienced. Nearly 60% of female cyclists have not experienced a fall, while the majority of male cyclists have experienced at least one fall.

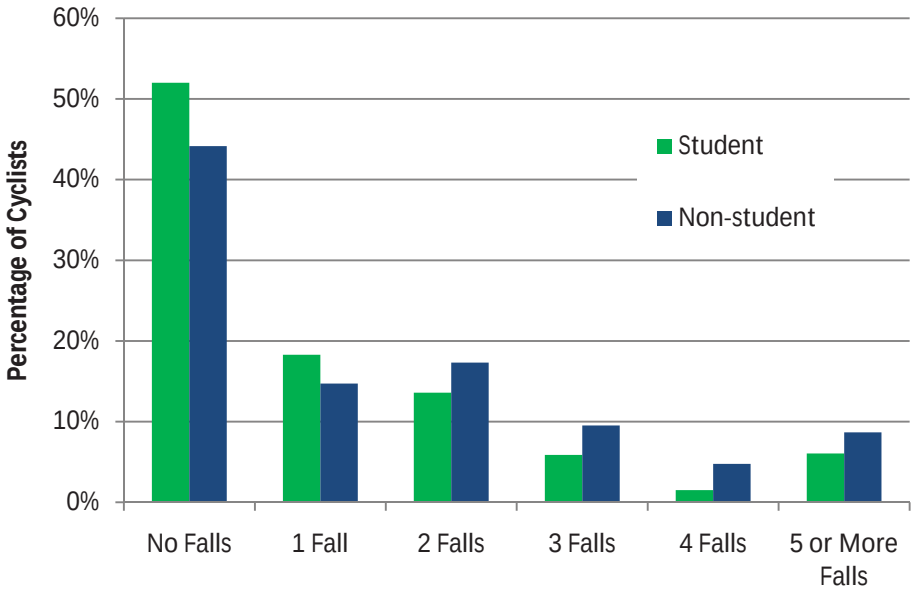

FIGURE 29: Number of Falls Experienced by Cyclists

Cause of Fall

Question 88: What was the main cause *of your most recent fall?*

Approximately 50% of the falls experienced by cyclists commuting to the University were caused by icy conditions. This is especially true for non-student cyclists, who reported nearly 60% of their falls being caused by icy conditions. The second most common cause for falls experienced

by cyclists is debris on the facility surface. A significant association was found between the cyclist being a student or a non-student and the likely cause of their most recent fall.

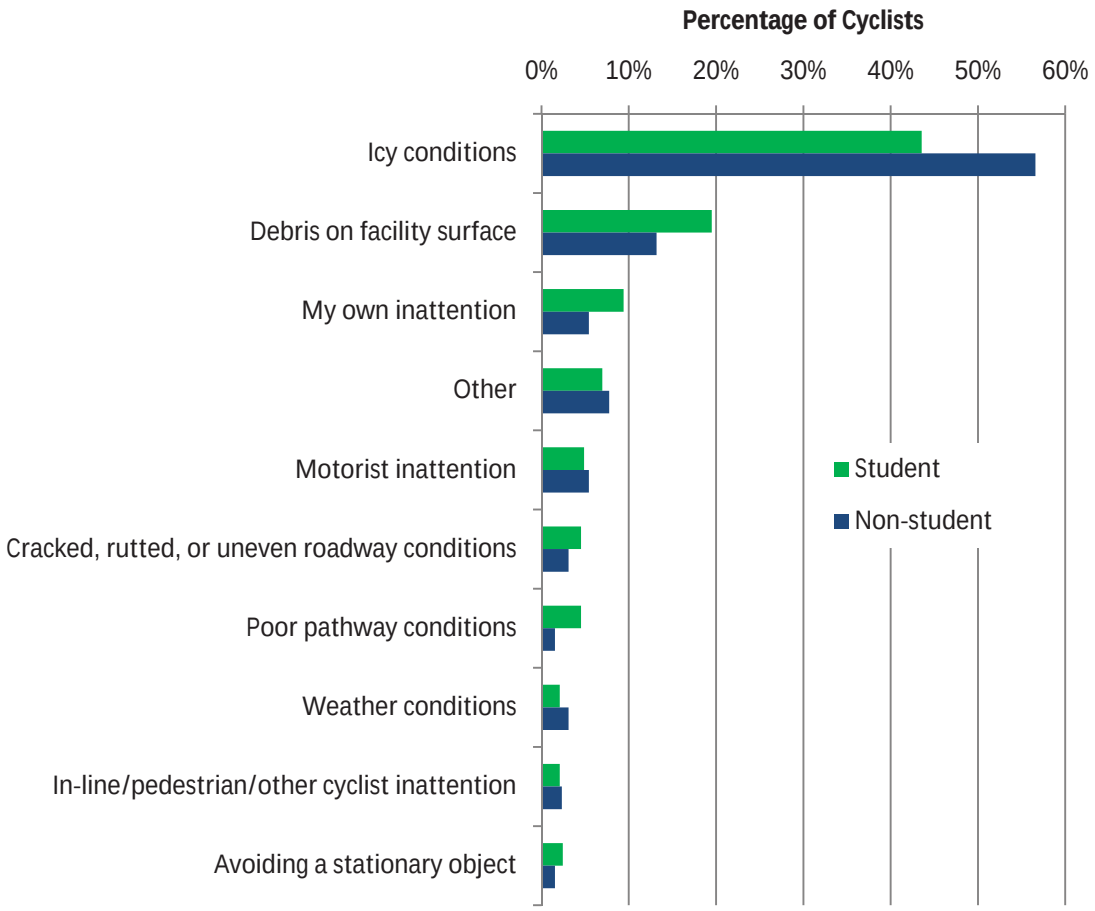

FIGURE 30: Main Cause of Cyclist's Most Recent Fall

Location of Fall (facility)

Question 89: Where did your most recent fall take place?

The location of the cyclist's most recent fall tends to correspond with the facilities that are most often used by cyclists. Although there appear to be large differences in the percentage of student and non-student cyclists that experienced a fall on each facility, these differences are not significant (Chi-square test). The most common fall location is on roads, followed by pathways, intersections, and sidewalks. Both student and non-student cyclists were most likely to fall on roadways, but non-students stated experiencing approximately 10% more falls on roads than students did. Another notable difference between student and non-student cyclists is the occurrence of falls on sidewalks. Student cyclists ride significantly more often on sidewalks than non-student cyclists, and consequently experience many more falls on this facility.

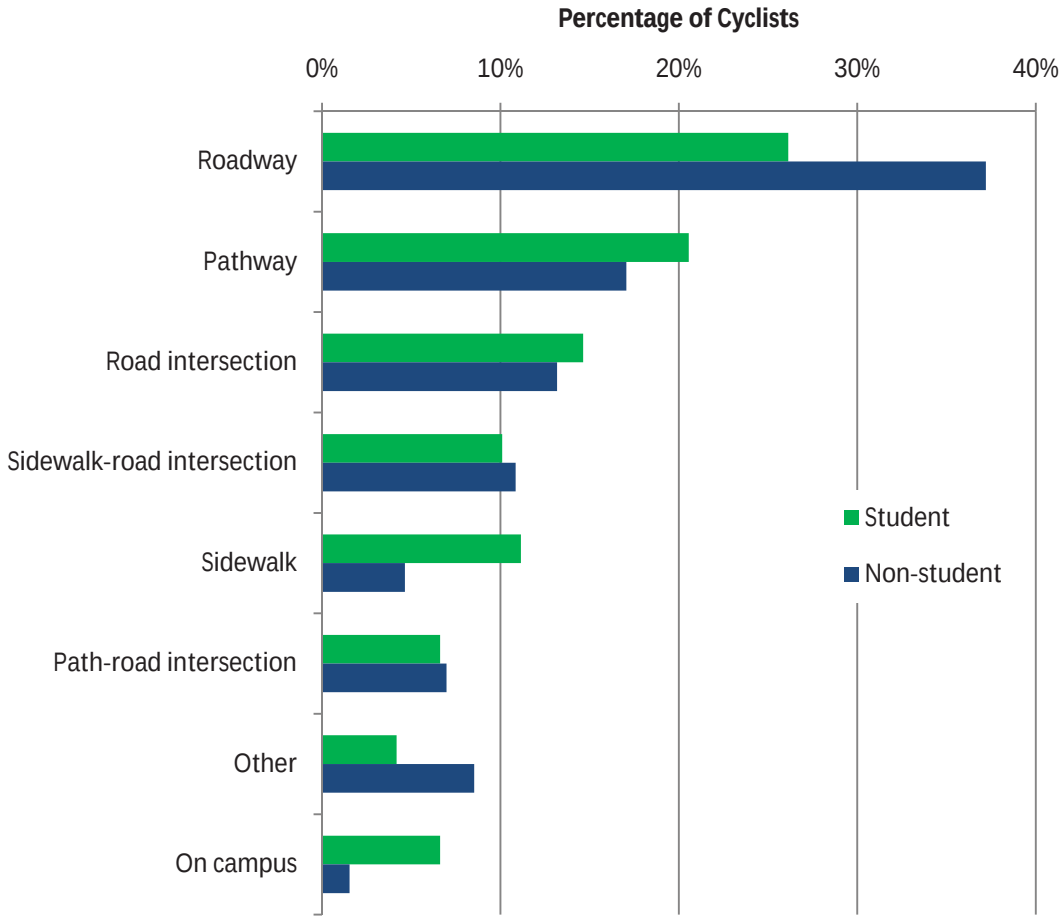

FIGURE 31: Location of Cyclists' Most Recent Fall

Collisions

Cyclists were asked if they had ever experienced a collision while bicycling to the University of Calgary. Approximately 9% of student cyclists and 15% of non-student cyclists reported experiencing a collision. This is a significant difference at the 0.05 confidence level.

Number of Collisions

Question 91: How many collisions have you had while cycling to or from the University of Calgary?

The vast majority of student and non-student cyclists have not experienced a collision while cycling to the University. Non-student cyclists are more likely than students to have experienced a collision, but this could be due to the fact that non-student cyclists have been bicycling longer than student cyclists.

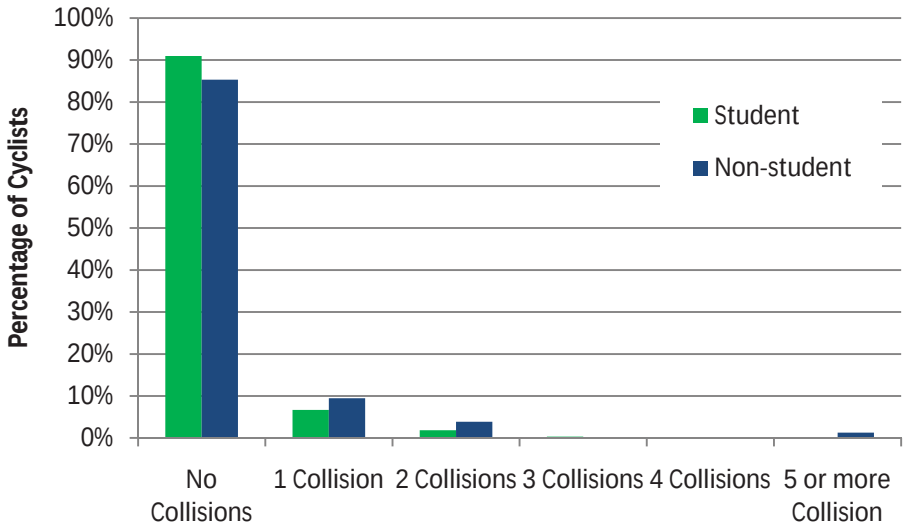

FIGURE 32: Number of Collisions Experienced by Cyclists

Cause of Collision

Question 96: What was the main cause *of your most recent collision?*

The main cause of the collisions experienced by student and non-student cyclists is inattention, on the part of a motorist, cyclist, pedestrian, in-line skater, or the cyclist themselves. No significant association was found between the category of cyclist (student or non-student) and the likely cause of their most recent collision.

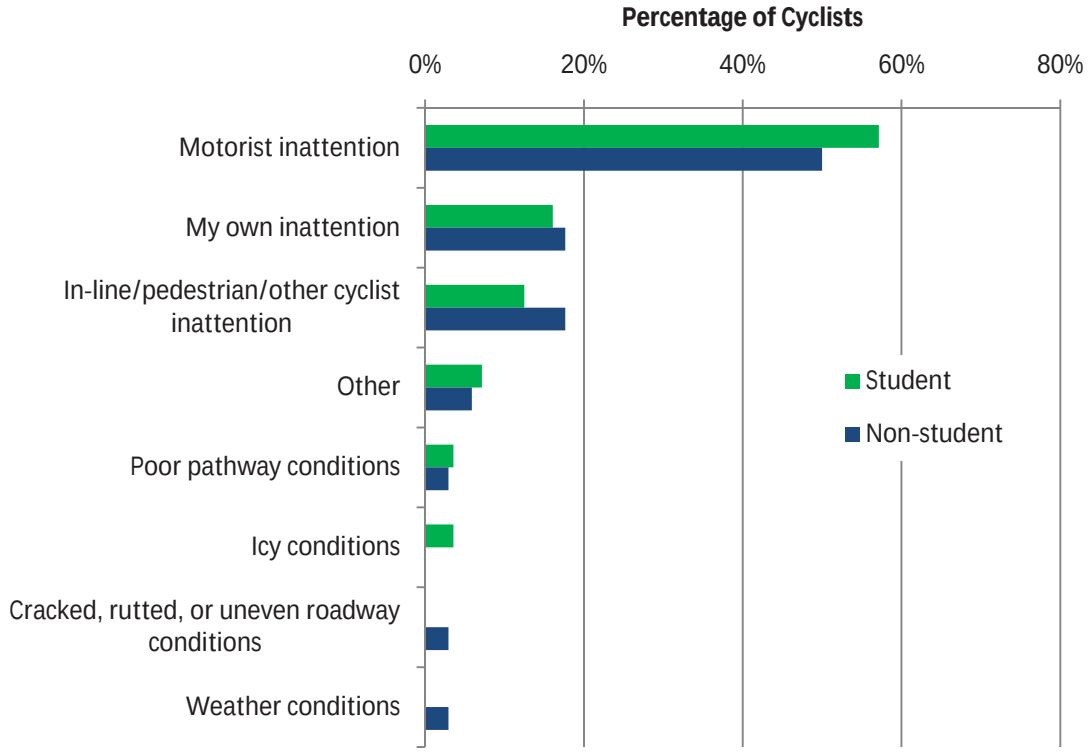

FIGURE 33: Cause of the Cyclist's Most Recent Collision

Collision Object

Question 95: What did you collide with in your most recent collision?

The majority of collisions experienced by students and non-student cyclists are with motor vehicles. There is a considerable difference between student and non-student cyclists in the other objects they collided with in their most recent collision. Students were much more likely to have collided with a stationary object (20%) than non-student cyclists (5%). Non-student cyclists were more likely to have collided with a cyclist or pedestrian than student cyclists were.

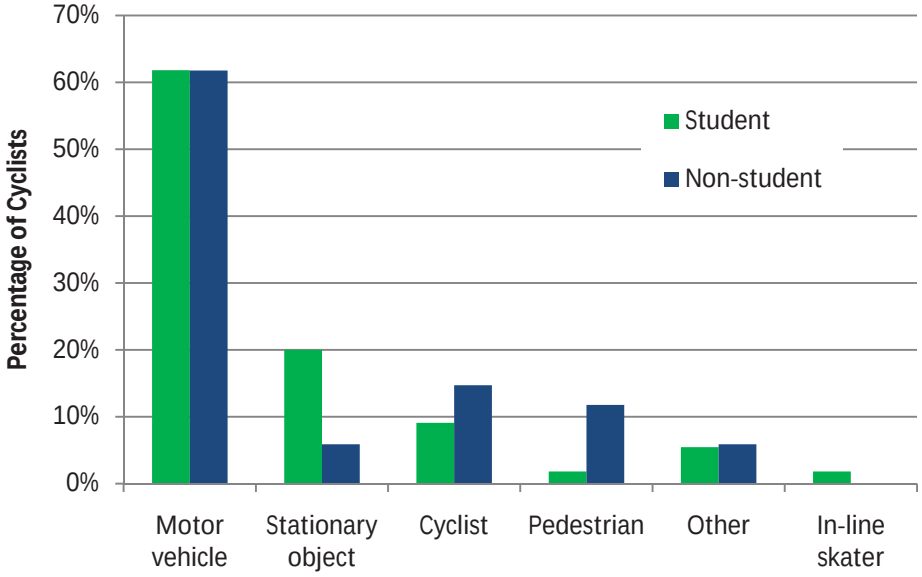

FIGURE 34: Object Collided with in the Cyclist's Most Recent Collision

Location of Collisions (facility)

Question 97: Where did your most recent collision take place?

The most dangerous areas for collisions were found to be roads and road intersections. This is especially true for non-student cyclists who experienced approximately 55% of their most recent collisions in one of these two locations. Student cyclists were more likely than non-student cyclists to indicate experiencing their most recent collision on a pathway or a sidewalk. Student cyclists likely experience more collisions on sidewalks because they use this facility more frequently than non-student cyclists do. It is interesting that less than 10% of the cyclists indicated experiencing a collision on a sidewalk, even though this has been shown to be a dangerous facility to cycle on.

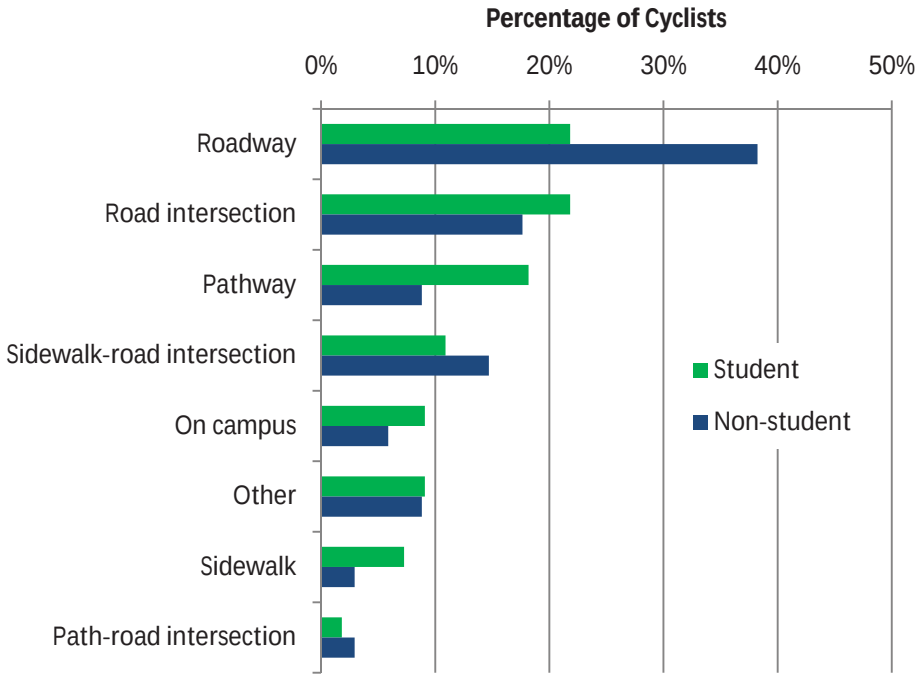

FIGURE 35: Location of the Cyclist's Most Recent Collision

Particular Areas of Concern

The respondents who created a digital map were instructed to pinpoint the location of any particular areas of concern along their route to the University. Four areas were pin pointed by more than one respondent (Table 7). A complete list of all of the problem areas identified on these maps is provided in Appendix C.

Table 7: Most Often Noted Areas of Particular Concern

Location	Problem	Times Reported
Across Shaganappi Trail from Montalban Crescent NW to the Alberta Children's Hospital	Pedestrian/Cyclist Bridge Needed	6
32 Ave NW and 39th St NW	Signal not Activated	2
Capitol Hill Crescent	Snow not cleared	2
Tunnel under 14th St NW (Confederation Park)	Icy	2

Desired Improvements

Desired On-Route Improvements

Question 99 to Question 113: Please rank the top three improvements that could be implemented by the City to help you cycle to and from the University of Calgary (1 = Most desired improvement, 3 = Third most desired improvement).

Figure 36 displays the percentage of respondents that selected an option as their first, second or third most desired improvement.

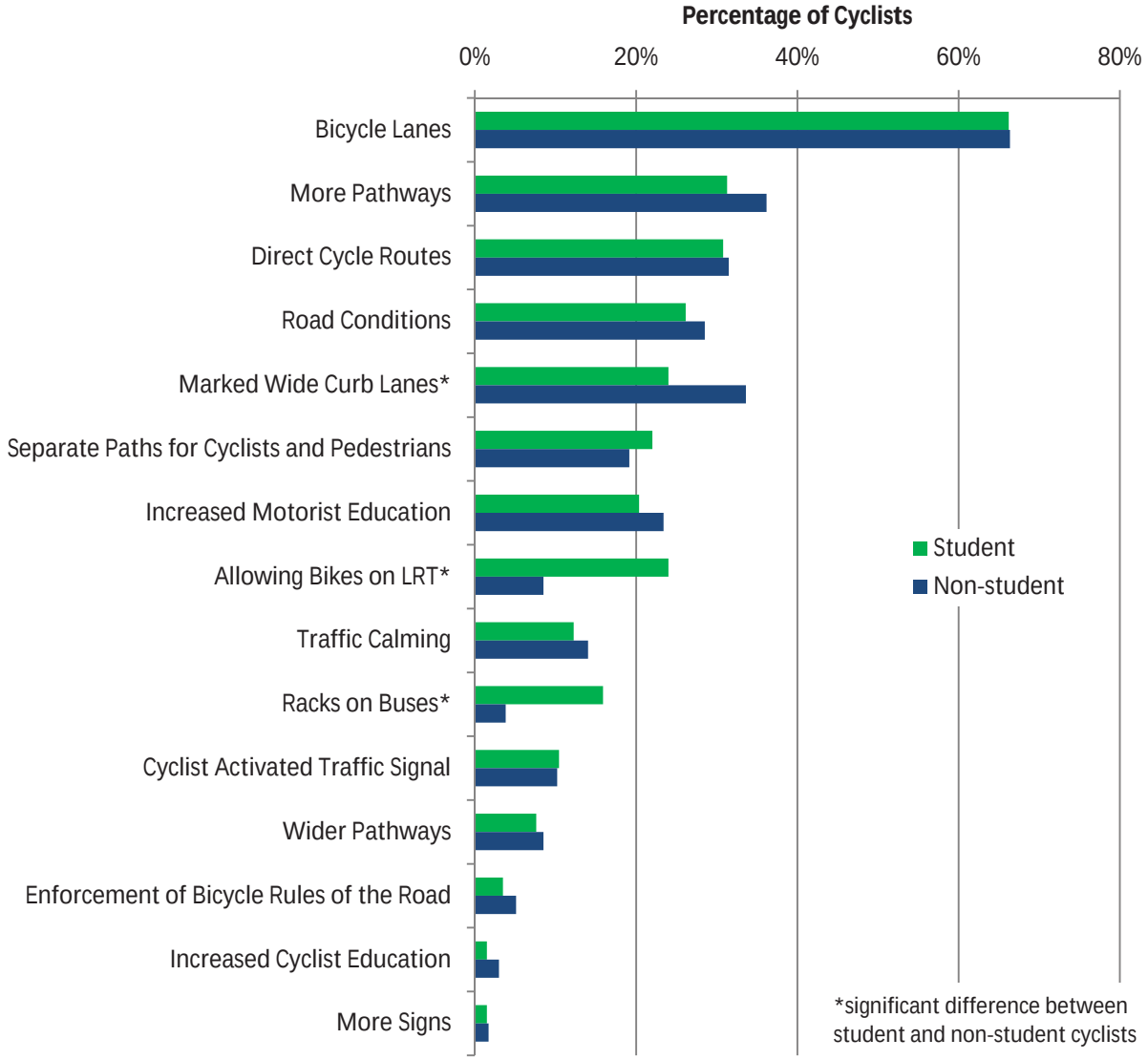

FIGURE 36: Cyclists' Most Desired City Improvements

The improvement that was most requested by student and non-student cyclists alike was for the provision of more bicycle lanes on city roads. The following most requested improvements, more pathways, and more direct cycle routes also pertain to the accessibility, connectivity and directness of the bicycle network. In other studies as well, these three things have been found to be the most important characteristics of a good cycling network. There was a significant difference in the percentage of student

and non-student cyclists who selected the following improvements: marked wide curb lanes, allowing bicycles on the LRT at all times, and bicycle racks on more buses. The selection of the second two improvements by student cyclists more often than non-student cyclists is likely due to the fact that they use these modes of transportation more often than non-student cyclists. Providing these improvements may help increase the number of students who cycle to campus and improve conditions for those that already do.

Other on Route Improvement Suggestions

Question 114: Are there any other improvements the City could implement to help you cycle (or begin to cycle) to and from the University of Calgary?

There were 476 respondents who took the time to write a comment about improvements that they would like to see made by The City of Calgary. A complete list of these comments is available on the disc that accompanies this report. A quick investigation of these comments showed considerable concern in three areas.

1. Bicycle Lanes – many people suggested creating this type of facilities on as many of the city roads as possible. Many people also suggested following bicycle lane examples set in various bike friendly cities in Europe (Amsterdam, Munich, Paris, Hamburg, etc), and North America (Montreal, Vancouver, Chicago, many Californian cities, etc).

2. Motorist Training – although this was only the seventh most requested option as shown in Figure 36, many comments indicated considerable concern with aggressive drivers who are not concerned with the safety (or rights) of cyclists. Many respondents would like to see more thorough training of motorists in regards to sharing the road with cyclists, and firmer regulation of bicycle rules of the road.

3. Speed Limit on Pathways – although this option was not offered as an improvement choice, many people indicated having a problem with the speed limit that is imposed on the cities pathways (20 km/h in most cases) in their comment. These people feel that the speed limit is too slow and hinders their ability to use the pathway as a fast means of commuting by bicycle.

Desired Destination Improvements

Question 115 to Question 129: Please rank the top three improvements you would like to see implemented by the University of Calgary to help you cycle to and from campus (1 = The most desired improvement, 3 = Third most desired improvement).

Figure 37 displays the percentage of cyclists who selected each improvement as their first, second or third most desired improvement.

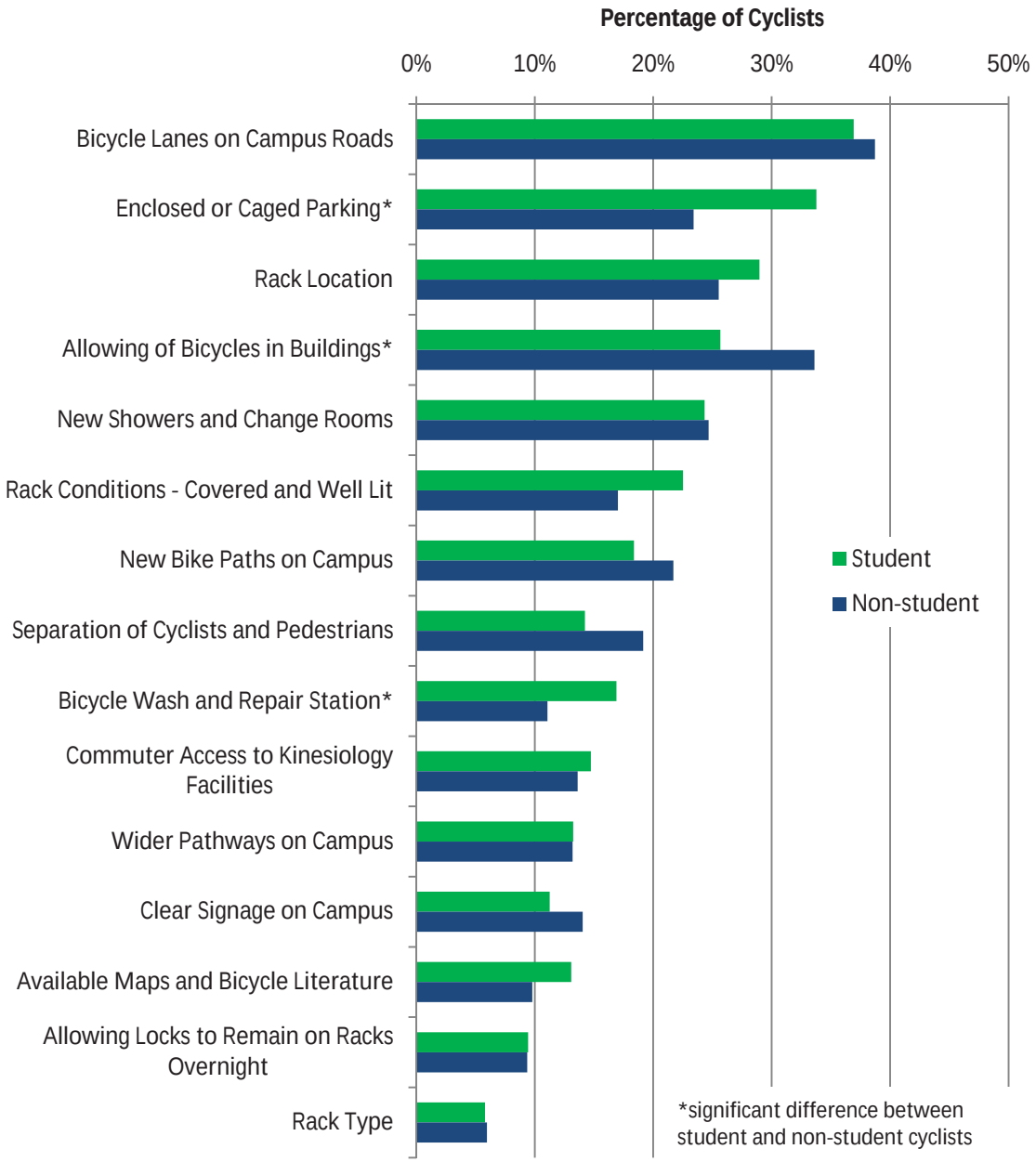

FIGURE 37: Cyclists' Most Desired University Improvements

Other Destination Improvement Suggestions

Question 130: Are there any other improvements the University of Calgary could implement to help you cycle (or begin to cycle) to and from campus?

There were 240 respondents who chose to comment on improvements they would like to see made by the University of Calgary. A fast analysis of these comments indicated that the comments made in response to this question were more varied than those made for City of Calgary improvements were and cannot be as easily categorized. A complete list of the comments is available on the disc that accompanies this report (2009 University of Calgary Cyclist Report\Report\Other – responses.docx).

Routes in Need of Improvement

Question 53: Are there any specific roads or pathways on your bicycle route to or on the University campus you would like to see improved?

This question clearly struck a chord: 480 respondents (57% of those who got this far in the survey) entered an answer in the text box for this question. Some responses are quite lengthy. All of the responses for desired route improvements have been listed, verbatim, in Appendix D. Note that not all responses relate solely to their route to or on the University campus.

Desired Winter Cycling Improvements

Question 55 to Question 62: Please rank the top two items that would encourage you to cycle more in the winter months (1 = the most important item, and 2 = the second most important item).

The three items that were selected most often, snow clearing on roads, having more bicycle lanes, and snow clearing on pathways, all pertain to the availability of routes during the winter months. Significant differences in the percentage of student and non-student cyclists were found for the selection of available bicycle lanes and weather protected parking, both of which student cyclists selected more often than non-student cyclists, and for marked wide curb lanes.

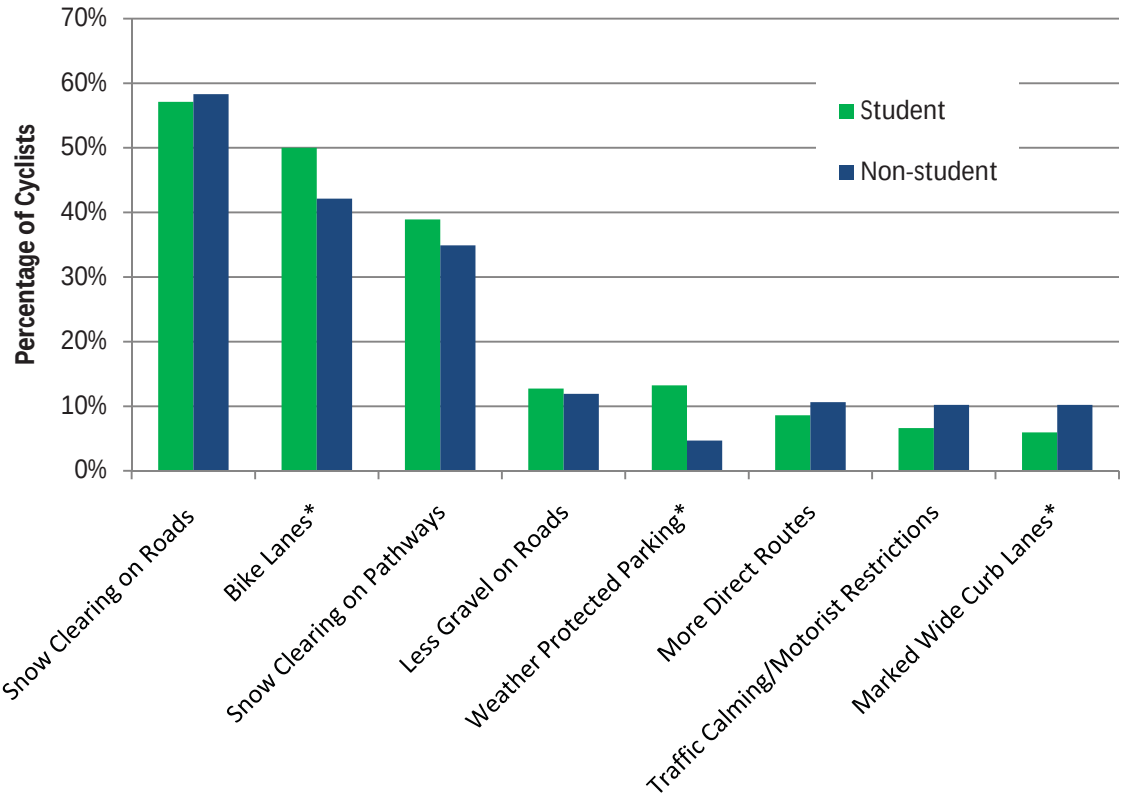

FIGURE 38: Cyclists' Most Desired Winter Improvements

Desired Snow Removal Routes

Question 63: Which road or pathway on your bicycle route to the University do you feel should be a priority for snow clearing?

Surprisingly, in light of 480 responses to the previous question, 700 responses were received to this one. A list of the responses has been attached as Appendix E.

On-Street Characteristics

Question 72: Are you aware of Calgary's signed on-street bikeways (roads designated by a sign and on the Pathway and Bikeway Map as appropriate for cycling)?

Approximately 82% of non-student cyclists are aware of Calgary's signed on-street bikeways. This is a significantly higher percentage than the 63% of student cyclists that are aware of the bikeways.

Question 73 to Question 79: Please indicate the top three items that you consider to be most important in on-street cycling (1 = Most important, 3 = Third most important)

Figure 39 displays the percentage of student and non-student cyclists that selected each characteristic as first, second, or third most important. There was a significant difference in the number of student versus non-student cyclists who selected good pavement quality as one of their top three most important characteristics. The most frequently selected characteristics were wide shoulders, good connectivity to other bicycling facilities and low traffic volume. Marked bicycle lanes was the fifth most often selected characteristic, but that may be because Calgary currently does not have very many kilometres of marked bicycle lanes to rate.

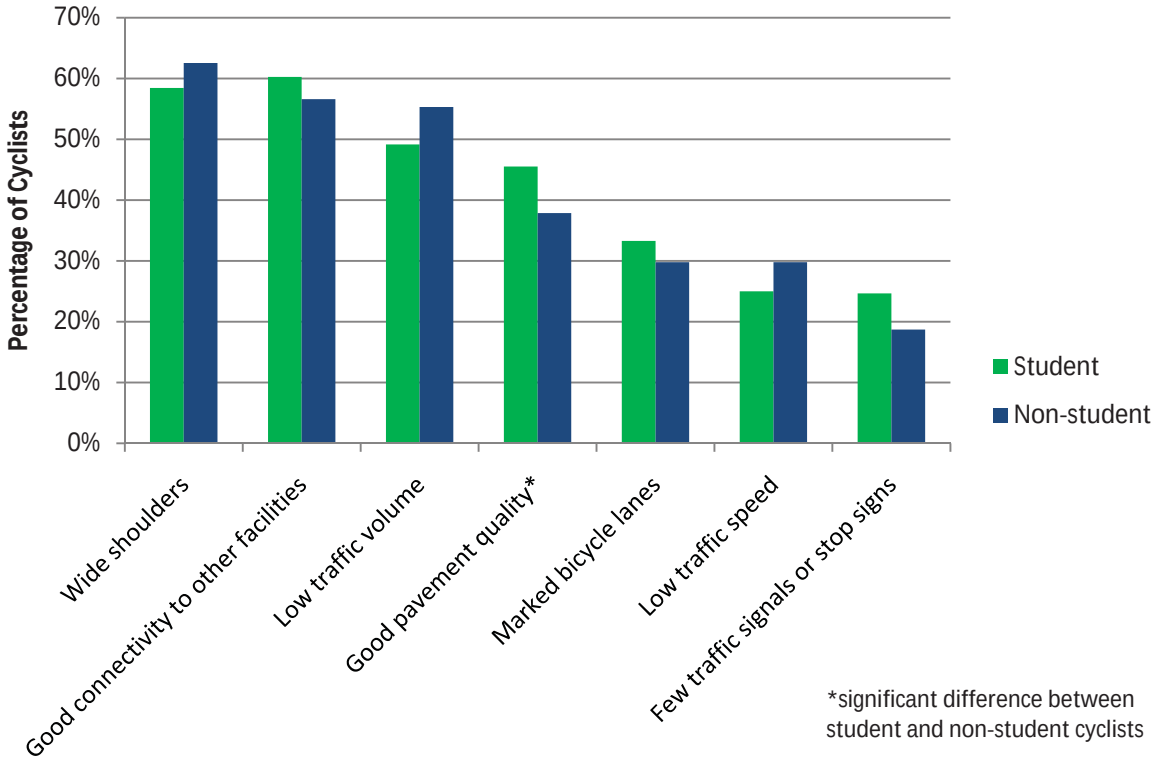

FIGURE 39: Cyclists' Most Desired On-street Characteristics

Question 80: What is your opinion of the current quality of the signed on-street bikeways?

The largest proportions of student and non-student cyclists rated the quality of the current signed on-street bicycle network as average. Very few cyclists rated the network as excellent (about 1%), while a considerable number (about 15%) rated the network as poor. This suggests that the current signed on-street bicycle network needs improvement if it is to meet cyclists' expectations.

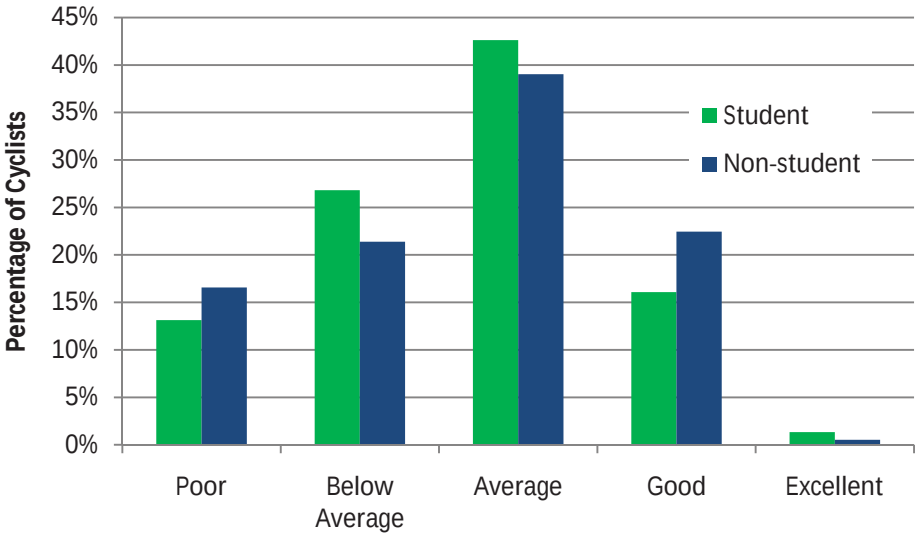

FIGURE 40: Cyclists' Ratings of Current On-Street Facility Quality

Mapping of Routes

As stated in the description of the survey methodology, respondents had the choice of using an online mapping site, www.maps.live.com (© Microsoft), to digitally trace their route, or describing their route in a text box. There are two aspects of this to report on: what respondents chose to do; and how easy or difficult it is to work with the resulting data.

Question 141: Now, we would like to gain more information about your route. Would you prefer to use Live Search Maps© and digitally trace your route, or answer three more questions and then describe your route?

Of the 839 respondents who made it to the end of the questionnaire, 272 (32%) chose to digitally trace their routes, 394 (47%) chose to describe their route in a text box, and 173 (21%) chose not to respond to this question. Not all of the respondents who chose to respond, either by creating a digital map or by using a text box, actually submitted a response, as only 196 digital maps, and 366 verbal descriptions were received.

Digital maps

The respondents who created digital maps were instructed to save their map as a .kml file and then send it to the email account that was created for the survey. The usability of the .kml files that were submitted continues to be questionable, as many problems have been encountered in the analysis of these files.

Firstly, although the .kml files submitted by many respondents could be combined into one .kml file, there is a capacity limit on the .kml files that can be created using www.maps.live.com. That limit made it necessary to create three separate files to contain all the maps that were submitted. It remains questionable if the .kml files could be combined more effectively using different software. More importantly, respondents did not all trace exactly on the road or pathway, as can be seen in Map 1, which shows a portion of the more heavily traveled routes near the University from one .kml file. The advantage to respondents' variation in tracing is that a picture such as Map 1 gives a visual impression of the number of cyclists using each route. The user can zoom in on the map when using www.maps.live.come to view the actual number of separate routes drawn on a link. The numbered pins on the map are problem areas that were identified by the respondents, and correspond to a list that describes the problems encountered.

MAP 1: Segment of One .kml File Containing Approximately One-Third of the Digital Maps

The disadvantage to the variation is that standard GIS software is not able to recognize the variations as all representing the same route. Therefore, they cannot be combined in the normal way to show the number of users on each segment by the width of the line over that segment. There are two options for adjusting each route so that is falls exactly on the desired segment. Firstly, each route could be re-entered manually on a standard GIS-coded base map. Secondly, an algorithm could be created that combines all tracings within a certain distance to an existing segment. The first option requires a considerable amount of time, while the second option required considerable programming capability and time, both of which we did not have. A further drawback to this method is that sometimes the line drawn by a respondent does

not make sense, in that it is not associated with any road or pathway. An example of this is shown in Map 2, where the straight line just west of Shaganappi Trail is hard to interpret.

MAP 2: Example of a digitally drawn route with hard to interpret routes

A similar situation arises for the straight lines drawn just south of Crowchild Trail. It is possible, although unlikely, that the respondent actually travelled on Crowchild Trail. It is also possible that they had taken their bike on the LRT, or that they used a path or roadway that lies parallel to Crowchild Trail. In these cases, it is difficult to ascertain which route was actually used. Another disadvantage to this method is that it is not possible to determine which facility is used if more than one is available on an individual segment. In many cases there is a sidewalk running along the road that could be used instead of the road itself. It is impossible to tell which facility is actually used from the maps unless the respondent was very accurate in their route tracing.

Routes Described Using a Text Box

Question145: Please describe your journey as accurately as possible. Please begin at the nearest landmark or intersection from your starting point and end at a specific building on campus.

Similar difficulties were encountered in analysing routes that were explained in a text box. In many cases, the descriptions were not continuous and important details were omitted. Two examples are shown and discussed below.

1) *10th Ave SW - River bike path west - Hill up at Foothills hospital - University Drive to Math Science building*

   In this example, the starting point is not clear, as it is only a street and not an intersection, the connection between Foothills Hospital to University Drive is not stated (as Map 1 shows, there are at least three different routes that have been used), and the route used on campus to the Math Science building is not stated.

2) *from 18th ave, north on 8th street street to memorial pathways - west on memorial pathways to street that runs by Foothills hospital - 16th to university* 16th

   This example does not explain how the route connects to the University campus and is very vague in details.

Analysis of Traced and Described Routes

There was not enough funding or expertise available at the time that this report was created to fully analyse and make the most of the route data that was collected. A proper analysis of the submitted route data (both the .kml files and text box descriptions) would be long and tedious, and would require a considerable number of work hours to complete.

For this report, the .kml files were combined into three .kml files that each included approximately 1/3 of the submitted maps. These files are available on the disc that accompanies this report. The .kml files were also imported into ArcMap, a GIS program, and a .mxd file was created that contains all the mapped routes and comments that were made on the digital maps. This file is also available on the disc that accompanies this report (2009 University of Calgary Cyclist Report\Processed Mapping Files\Maps Bike Routes\Bike Routes.mxd). Using ArcMap and a .mxd file of the city roads and pathways, the routes that were traced by respondents were adjusted in order to align them with existing link segments. This process was tedious and time consuming. If this data collection method were to be repeated, it would be beneficial to create a program that automatically aligns traced routes with existing segment links.

The analysis of routes that were described in a text box was even more tedious and would have taken much more manpower than was available at the time that this report was created. Optimally, each route that was described would have been inputted into ArcMap file along with the .kml maps. However, tracing each route is a long process, and poor route description, improper or no street labelling on the part of the respondent, or lack of starting and ending point often complicates it. For this report, the route descriptions were organized into groups based on starting community. These most common commute used by these groups were roughly traced into ArcMap (the tracings were not aligned with existing network links). This method was very inexact considering that even though cyclists may begin their route

in the same community, the rest of their routes generally differ, at least slightly. However, this analysis allowed for an estimate of the most travelled link segments (roads or pathways) to be made. A .pdf map of the most used network segments is included in the disc that accompanies this report (2009 University of Calgary Cyclist Report\Processed Mapping Files\Maps Bike Routes\Popular_Routes.pdf). The top 6 roads that have been identified as most used by University of Calgary cyclists are listed below.

1. 24th Avenue NW
2. 32nd Avenue NW (connecting to 49th Street NW to the west and Charleswood Drive NW to the east)
3. University Drive NW
4. South Edworthy Path to Trail Running along 16th Avenue NW to West Campus Way
5. 40th Avenue NW (connecting to 53rd Street NW to the west and Brisebois Drive NW to the east)
6. Although this route was not indicated on the .pdf map, 29th Street NW is also a heavily used route by University cyclists.

Further analysis is required for both the submitted .kml maps and text descriptions. It would be useful to input each text described route individually into ArcMap with as much accuracy as the text description allows. The ArcMap input of these routes should align with actual network segments, and should be done in the same file as the .kml files. Both of these factors will allow for the actual number of cyclist that indicated using each segment to be calculated digitally. Once this information is available, it will be possible to do a frequency analysis to determine which routes are most used. The routes that are most used should be prioritized for bicycle infrastructure construction, maintenance, and winter snow and ice clearing.

POSSIBLE CYCLISTS

There were 209 respondents who selected the statement "*I never cycle, but I would consider beginning to do so"* as the statement that best described their current cycling status. These people were categorized as possible cyclists, and are the subjects of this section of the report.

Possible Cyclist Characteristics

Age

Question 133: Please select your age range:

Figure 41 shows the age distribution of possible cyclist respondents. In the majority of the age categories there are considerably more women who would consider cycling than men. Only in the 33-42 age group are there more male than female possible cyclists.

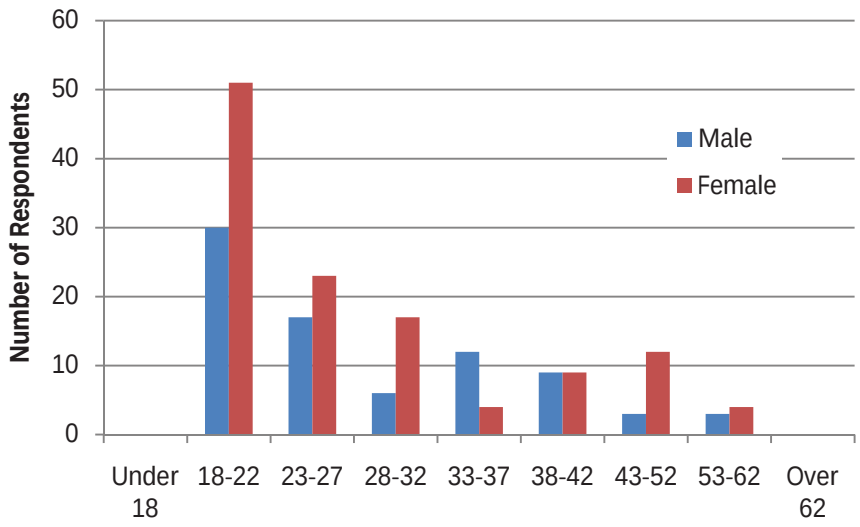

FIGURE 41: Age Distribution of Possible Cyclists

Income

Question 138: What is your approximate annual personal income before taxes?

Figure 42 displays the income distribution of possible cyclist respondents. As found in the analysis of current cyclists, the majority of student possible cyclists earns less than $20,000 per year in personal income. The income distribution of non-student possible cyclists is considerably different from what was found for non-student cyclists. The largest portion of non-student possible cyclists earn between $30,000 and $45,000 per year, and the majority earn between $30,000 and $75,000 per year. The largest portion of non-student current cyclists were found to earn over $95,000 per year.

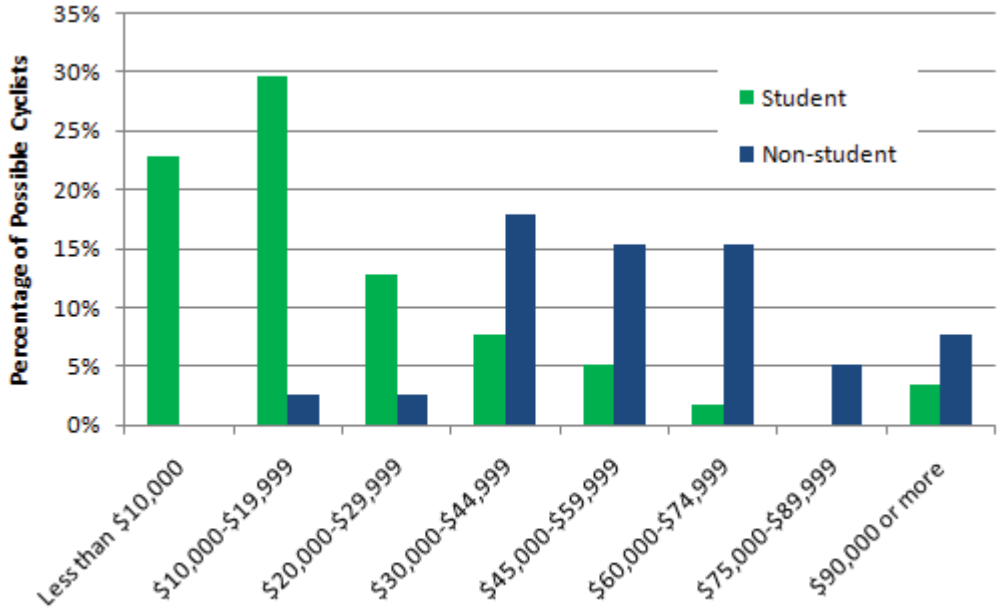

FIGURE 42: Income Distribution of Possible Cyclists

Gender

Question 132

Unlike current cyclists, there are considerably more female possible cyclists than male possible cyclists (Table 8). The difference in the number of male and female possible cyclists is especially noteworthy in non-student possible cyclists with about 75% of these people being women.

Table 8: Gender Distribution of Possible Cyclists

		Student	Non-student
Male	Number	68	10
	Percentage	42.8%	25.6%
Female	Number	91	29
	Percentage	57.2%	74.4%

Special Characteristics of Student Possible Cyclists

Current Student Status (Full-time or Part-time)

Question 136: Are you a full-time or part-time student?

The distribution of full-time and part-time student possible cyclists (Figure 43) is quite similar to that of current student cyclists. However, the percentage of part-time students is higher than it was found to be for current cyclists. This higher percentage is nearer to the actual portion of students on campus that have part-time schedules.

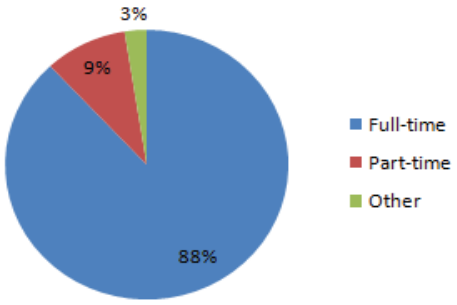

FIGURE 43: Full-time or Part-time Status of Student Possible Cyclists

Work in Addition to Studies

Question 137: How many hours do you work for pay in addition to taking classes?

The number of hours worked per week in addition to taking classes is significantly associated with the gender of the possible cyclists. The largest portion of male possible cyclists does not work any hours in addition to taking classes, while the largest portion of female possible cyclists works 1 to 10 hours per week. Approximately 80% of female possible cyclists work at all in addition to taking classes, while only 63% of male possible cyclists do.

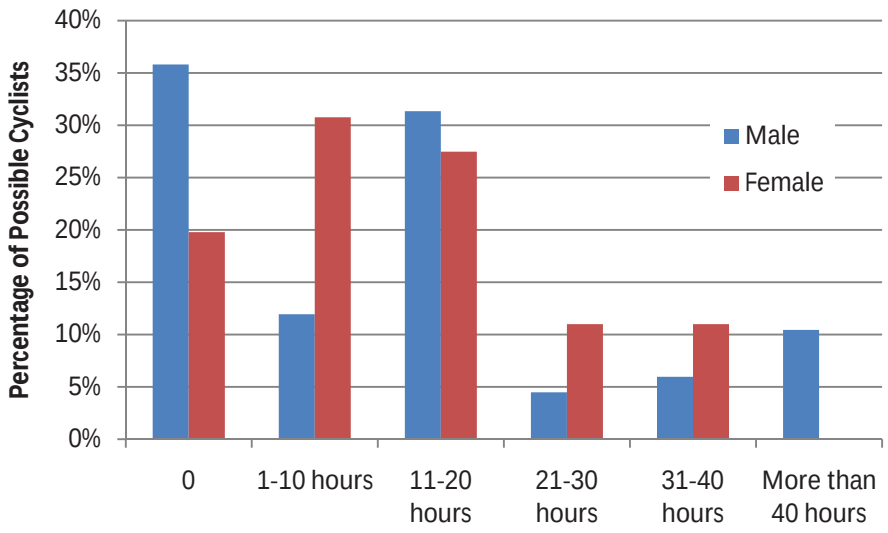

FIGURE 44: Distribution of Hours Worked by Student Possible Cyclists

Living Situation

The majority of possible cyclists do not live with their parents (Figure 45). However, the percentage of student possible cyclists that live with their parents is 16% higher than the percentage of current student cyclists that live with their parents.

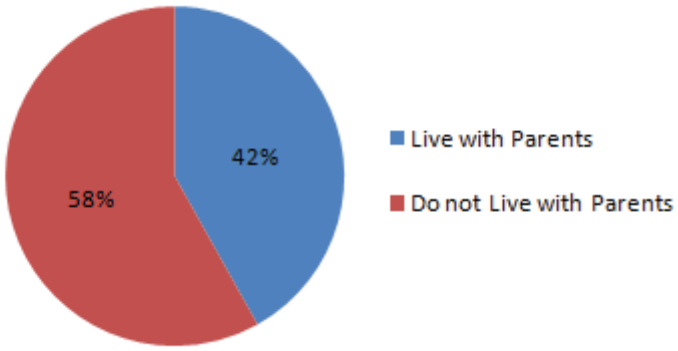

FIGURE 45: Percentage of Student Possible Cyclists Who Live with Their Parents

Trip Characteristics of Possible Cyclists

Journey Start Point

*Question 29: Where do you start your journey to the University of Calgary (nearest intersection or landmark)**?***

The information gained from this question was used to determine which quadrant of the city possible cyclists come from. Although the majority of possible cyclists come from the Northwest quadrant, the distribution of possible cyclists is much less extreme than for current cyclists. There appear to be many people in the other three quadrants, especially the Southwest quadrant who would begin cycling should

cycling conditions be improved. This is especially true for non-student possible cyclists who live in the Southwest quadrant. This could also suggest that, although the respondents would like to begin cycling to the University, the distance or the Bow River Valley restrains them from actually beginning to do so.

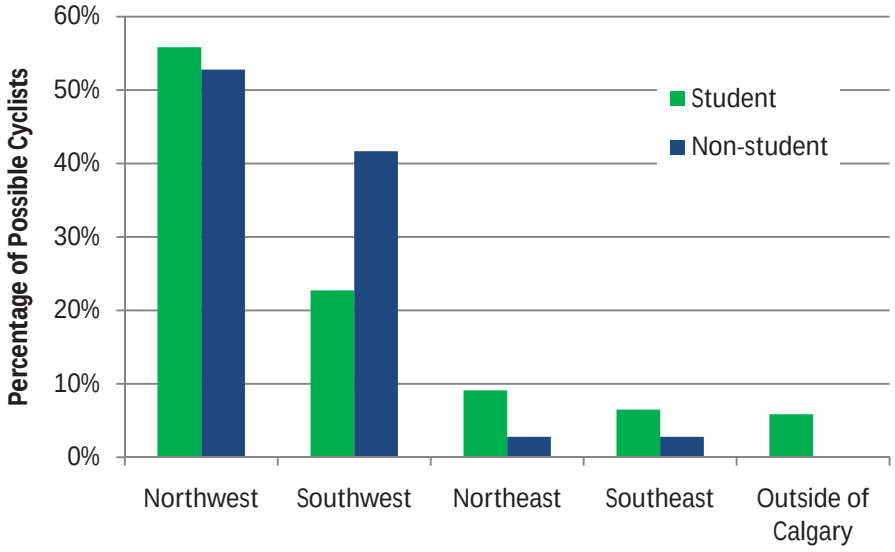

FIGURE 46: Starting Quadrant of Possible University Cyclists

Destination on Campus

Question 30: Where on campus does your journey end (which building on campus)?

The destination buildings on campus that were indicated by possible cyclists are displayed in Figure 47. The destinations of student and non-student cyclists appear to be quite different. The two most indicated destination buildings were the engineering complex and the science complex, including Science A, Science B, and Science Theatres. The percentage of possible cyclists that indicated that Kinesiology is their destination on campus is much less than the percentage of current cyclists that indicated the same thing.

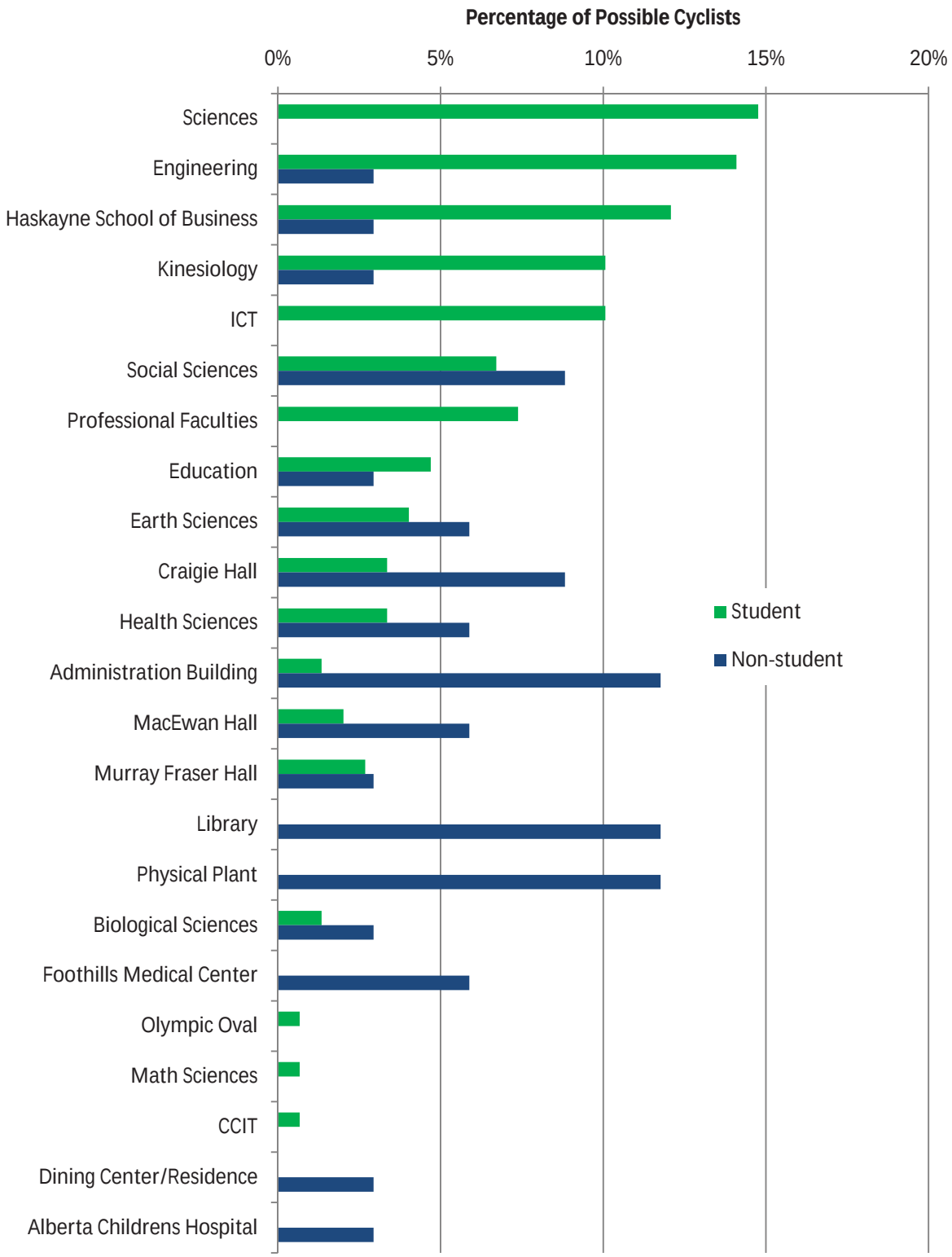

FIGURE 47: Destination of Possible Cyclists on Campus

Other Modes of Transportation Used by Possible Cyclists

Question 4 to Question 27: Thinking of your weekly commute during the various seasons of the year, how many days a week do you travel to the University of Calgary by the following methods?

Possible cyclists were asked to indicate the number of days per week that they used each mode of transportation in each of spring, summer, fall, and winter separately. As with current cyclists, the months belonging to each season were not specified in the questionnaire and respondents were allowed to define the seasons as they saw fit.

Spring Transportation:

The most common mode of transportation used by non-student possible cyclists is driving alone, and the most popular mode of transportation used by student possible cyclists is taking public transit (LRT or buses). Figure48 displays the average number of days each mode of transportation is used by student and non-student possible cyclists. Significant difference were found between the number of days per week that student and non-student possible cyclists drive alone and take transit.

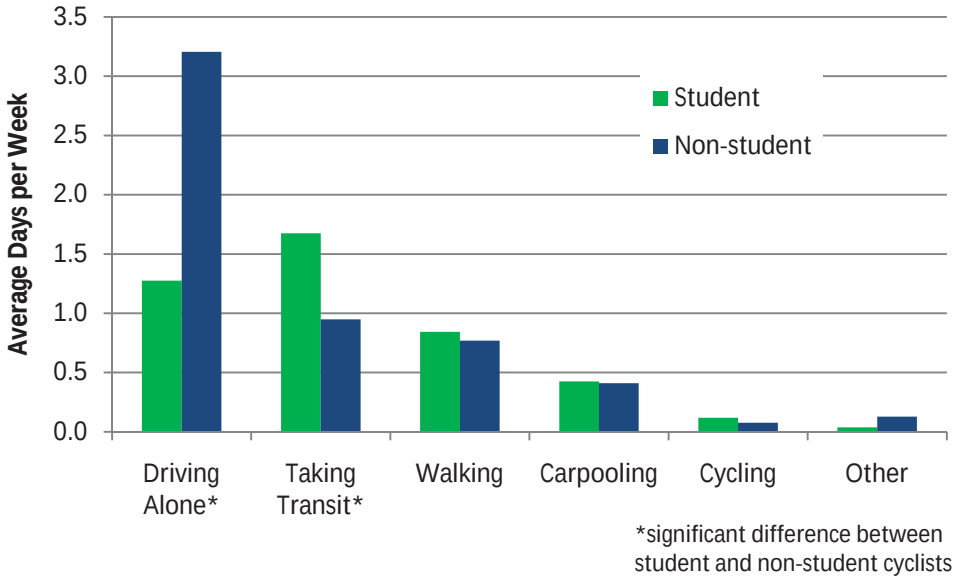

FIGURE 48: Modes of Transportation used by Possible Cyclists in the Spring

Summer Transportation:

There are far fewer students on campus during the summer months than there are in the other three seasons of the year because of summer break. This is the probable cause in the overall decrease in the average number of days that student commute by all modes. The average number of days that student and non-student possible cyclists commute by various modes is displayed in Figure 49. Non-student possible cyclists drive alone significantly more often in the summer months than student possible cyclists do.

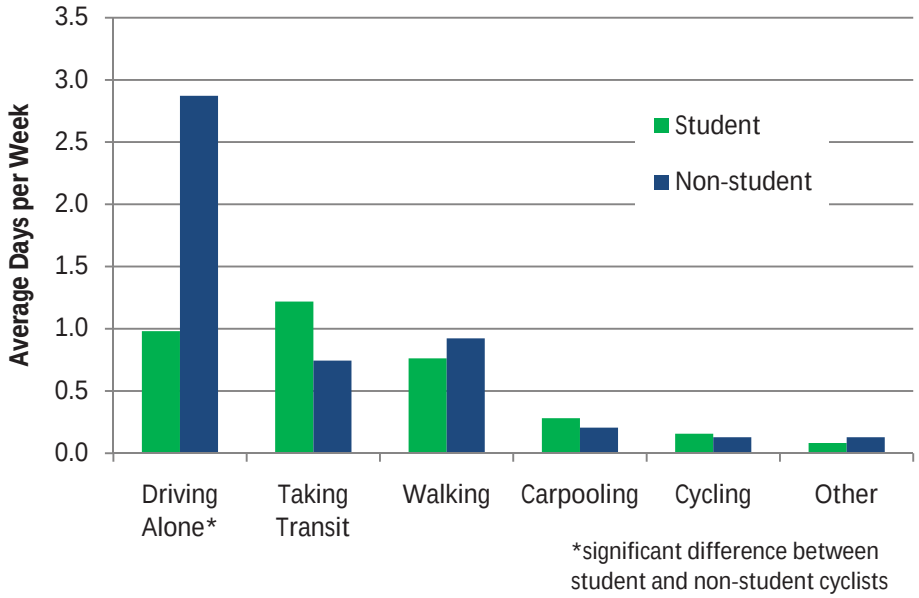

FIGURE 49: Modes of Transportation used by Possible Cyclists in the Summer

Fall Transportation:

The number of days traveled to the University by various modes of transportation in the Fall follows the same trends as the spring and summer. Non-student possible cyclists were found to drive alone significantly more often than student possible cyclists. Student possible cyclists were found to take public transit significantly more often than non-student possible cyclists.

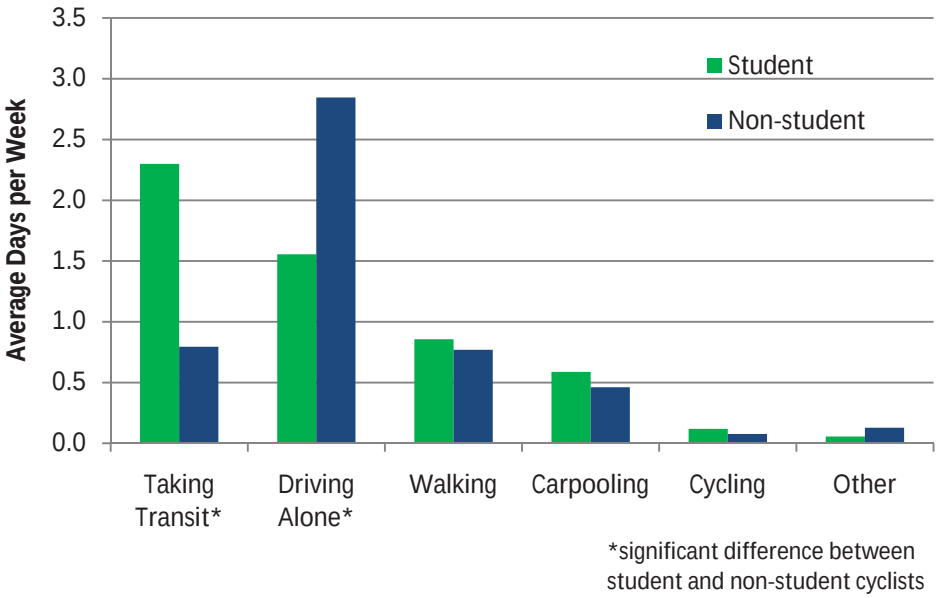

FIGURE 50: Modes of Transportation used by Possible Cyclists in the Fall

Winter Transportation:

The distribution for the modes of transportation used in the winter (Figure 51) is very similar to that of fall transportation. Taking transit continues to be dominated by student possible cyclists, while driving alone is used significantly more often by non-student possible cyclists. It appears that some of the student possible cyclists that walked in the fall months switched to driving alone for the winter months.

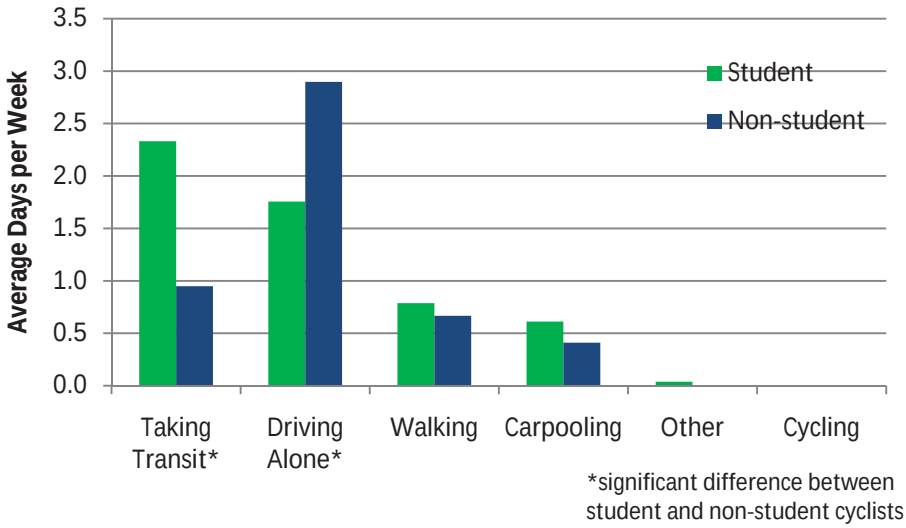

FIGURE 51: Modes of Transportation used by Possible Cyclists in the Winter

Possible Cyclists' Barriers to Cycling

Question 31: Why do you not currently cycle to campus? (Check all that apply)

The percentage of possible cyclists that selected each barrier is displayed in Figure 52. The two most often selected barriers pertain to concerns with safety and cycling, with both student and non-student cyclists indicating concern for their safety. The third and fourth most selected barrier pertain to the end of trip facilities that are available at the University of Calgary. A significant concern for student possible cyclists, but not non-student possible cyclists is the distance of commute to the University. This could be because either students live further from the University, or that they are more sensitive to the duration of bicycle commuting. Non-students were found to be significantly more likely to select *family obligations prevent me from commuting by bicycle*. This is quite logical as working people are more likely to have children they have to drop off or other errands that must be made during their commute.

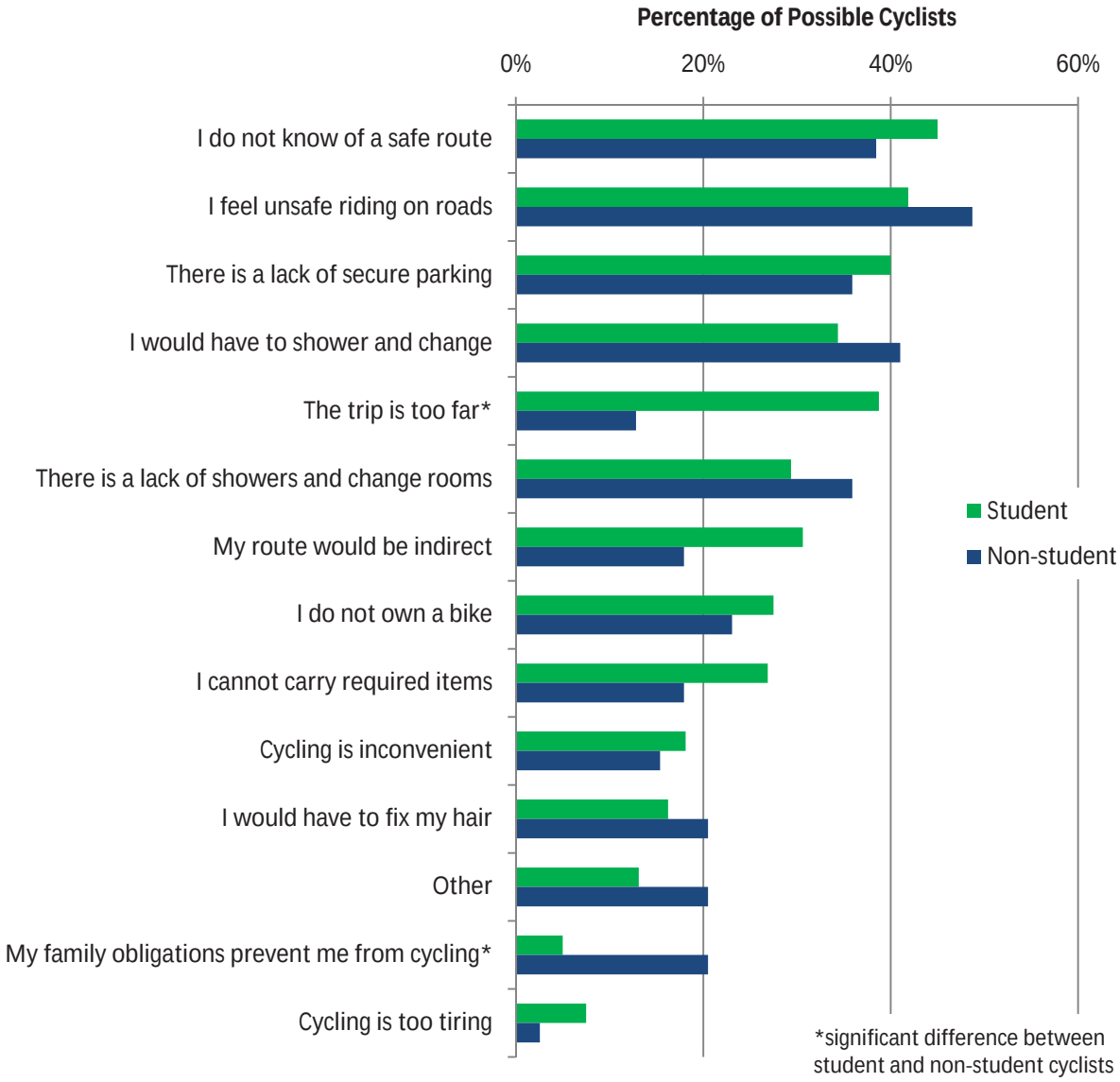

FIGURE 52: Barriers to Commuting by Bicycle

Motivations for Possible Cyclists to Begin Cycling

Question 32 to Question 39: What would be your most important reasons to begin cycling to the university? (Please rank your top two reasons, where 1 = your most important reason and 2 = your second most important reason).

Figure 53 displays the percentage of possible cyclists that indicated an option as one of their two most important reasons to begin commuting by bicycle. The most often indicated reason by both student and non-student possible cyclists for beginning to cycle was for exercise. This was selected as either first or second most important reason by more than 80% of the respondents. There were no significant differences found between the motivation reasons indicated by student and non-student possible cyclists.

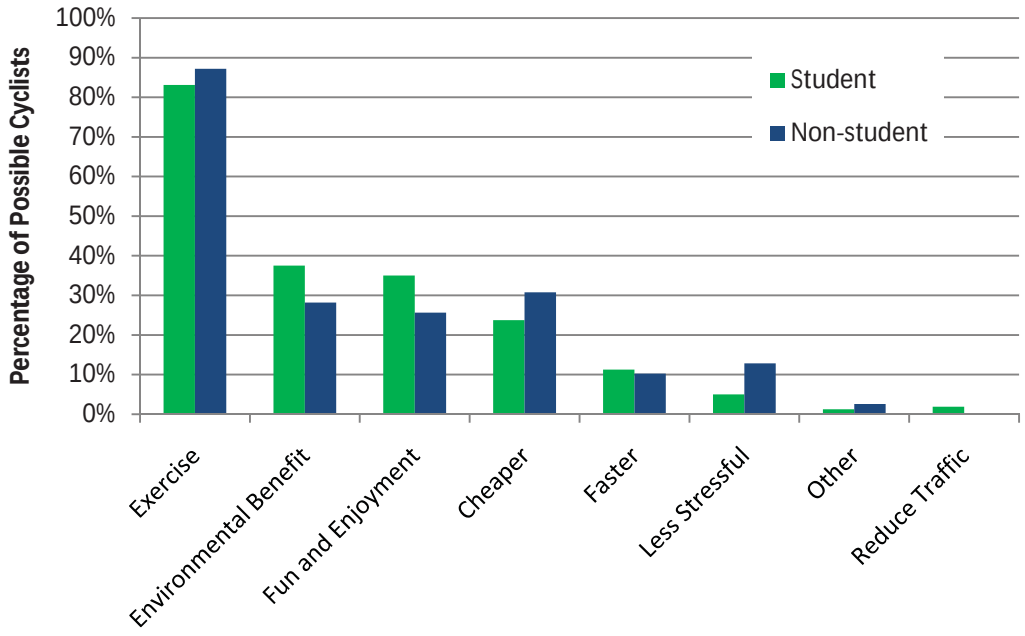

FIGURE 53: Motivation to Begin Commuting By Bicycle

End of Trip Facilities on Campus

Desired Bicycle Parking

Question 71: Which bike parking racks would you most like to see on campus?

The highest proportion of student and non-student possible cyclists indicated having no preference in the type of bicycle parking provided on campus. The second most commonly indicated preference was for the racks that are currently found on campus. Student possible cyclists indicated an interest in high-density parking, while non-students indicated more interest for the U-rack model that is currently in use in downtown Calgary.

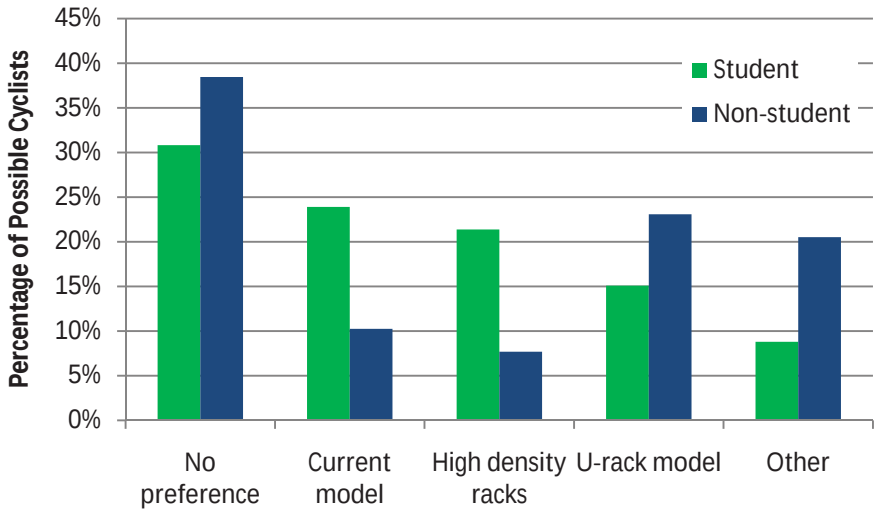

FIGURE 54: Possible Cyclists' Desired Bicycle Parking on Campus

The Bike Root

Question 68: Which of the following of Bike Root's services would you use cycling to campus?

The percentage of possible cyclists that indicated an intention to use the various Bike Root services is shown in Figure 55. Nearly 93% of student possible cyclists and 77% of non-student cyclists plan on using at least one of the Bike Root's future services. The most frequently selected future service among student and non-student possible cyclists was caged bicycle parking.

There are some very noticeable differences in the intended use of the Bike Root's planned facilities between possible and current cyclists. The service that was most frequently selected by student and non-student current cyclists was the repair station, with approximately 10% more current cyclists in both the student and non-student categories selecting this option than did possible cyclists. Possible cyclists were much more interested in caged parking, with roughly 20% more student and non-student possible cyclists selecting this service than their current cycling cohorts. Both non-student possible and current cyclists showed little interest in day lockers and bicycle loans. Student possible cyclists indicated much more interest in day lockers (25% increase) and bicycle loans (15% increase) than student current cyclists. According to these findings, it appears that the Bike Root's planned services will do more to aid people that are considering commuting by bicycle than people who already commute this way.

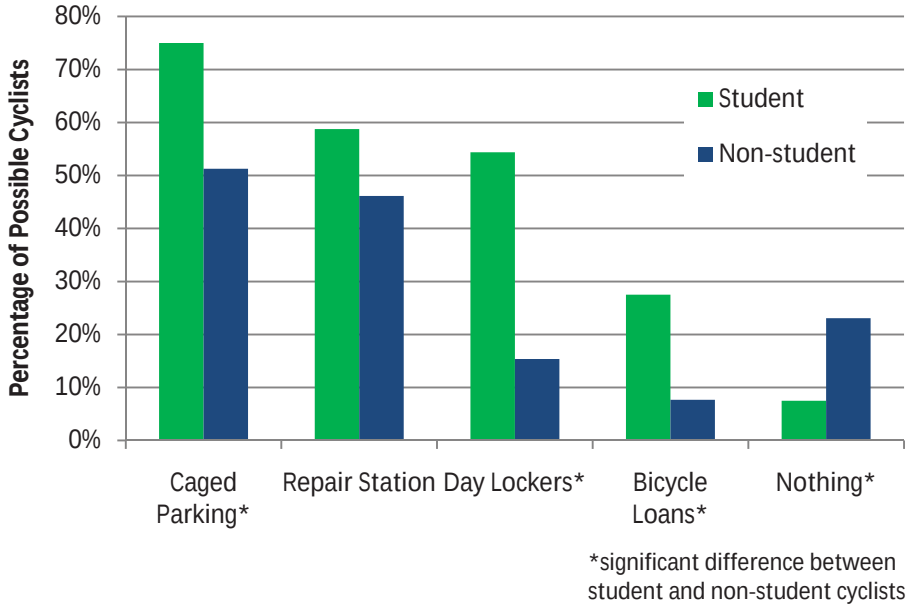

FIGURE 55: Possible Cyclists' Intended Use of the Bike Root's Planned Facilities

Question 69: How frequently would you use any of the Bike Root facilities cycling to campus?

The distribution of student and non-student possible cyclists intended frequency of using the Bike Roots future services is displayed in Figure 56. No significant association was found between the possible cyclist being a student or a non-student and the frequency of their intended Bike Root service use. The largest portion of student and non-student possible cyclists that stated intending to use any of the Bike Root's future facilities indicated planning on using this service 2 or 3 times per week. This is

considerably more often than current cyclists who most often stated planning to use the Bike Root's future services less than 1 day per month.

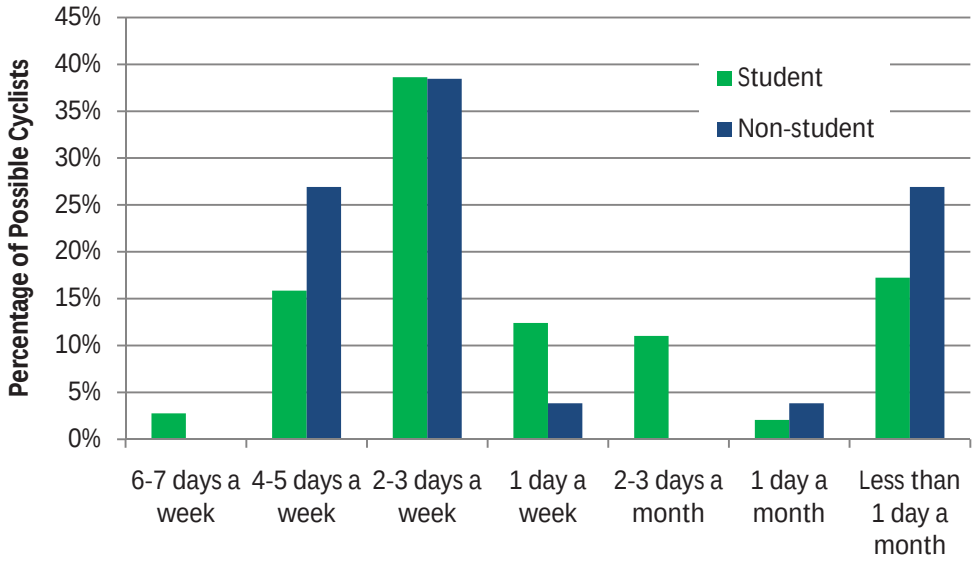

FIGURE 56: Frequency of Intended Bicycle Root Use

Arts Parkade

Question 70: Free, covered, high-density bicycle parking is currently under development in the Arts Parkade. How likely is it that you would use such a facility when you cycle to campus?

The likelihood of student and non-student possible cyclists using the planned free, covered, high-density parking is displayed in Figure 57.

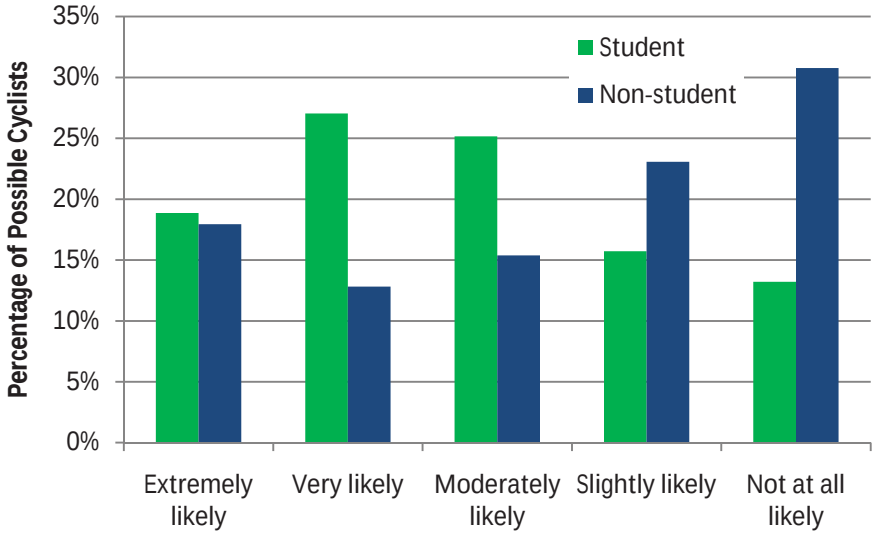

FIGURE 57: Possible Cyclists' Likelihood of Using the Art Parkade High-Density Parking

Desired Improvements

Overall possible cyclists appear to be much keener to use the planned Arts Parkade parking than current cyclists. Only 17% of possible cyclists (31% of non-students and 13% of students) indicated that it was not at all likely that they use the planned parking facility compared to the 32% of current cyclists (50% of non-students and 25% students) that indicated the same thing. Although the association was not found to be significant at the 0.05 confidence level, student possible cyclists appear to be more likely on average to use the Art Parkade bicycle parking than non-student possible cyclists.

Desired On-Route Improvements

Question 99 to Question 113: Please rank the top three improvements that could be implemented by the City to help you cycle (or begin to cycle) to and from the University of Calgary (1 = Most desired improvement, 3 = Third most desired improvement):

The percentage of possible cyclists that selected each City of Calgary improvement as any of first, second, or third is displayed in Figure 58.

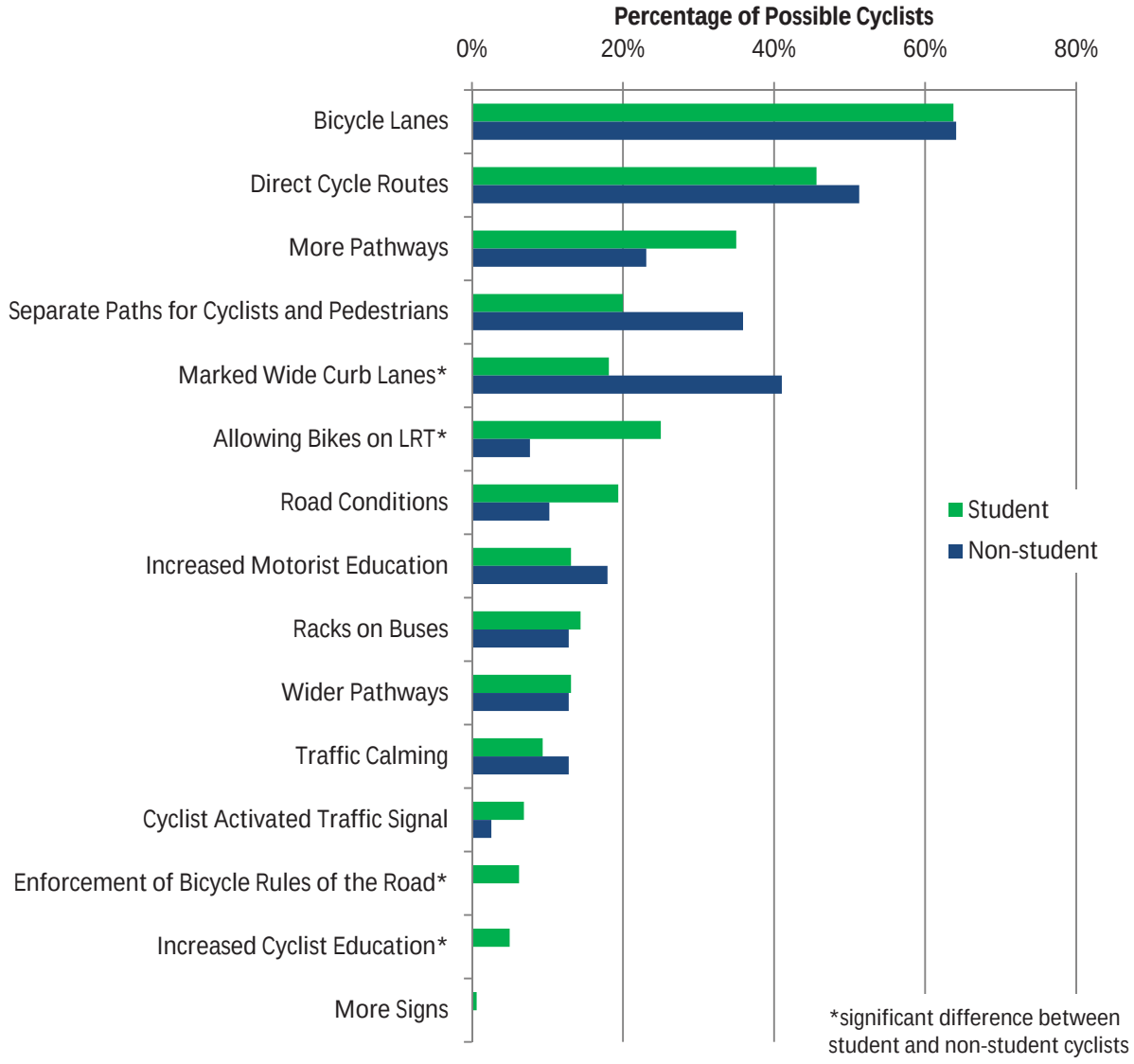

FIGURE 58: Possible Cyclists Most Desired City Improvements

The top three most often selected desired improvements all pertain to the connectivity, directness, and accessibility of the bicycling network. These are the same three improvements that were selected most often by current cyclists. The majority of possible cyclists indicated that they would like to see more bicycle lanes on city roads as their first, second, or third most desired improvement. Significant differences between the selection of an improvement by student and non-student possible cyclists were found for two improvements; marked wide curb lanes, and allowing bicycle on the LRT at all times. Non-student possible cyclists indicated more desire for marked wide curb lanes, while student cyclists would like to be able to bring their bicycles on the LRT at all times. The least often selected improvement was more signs, both by student and non-student possible cyclists.

Desired Destination Improvements

Question 115 to Question 129: Please rank the top three improvements you would like to see implemented by the University of Calgary to help you cycle (or begin to cycle) to and from campus (1 = The most desired improvement, 3 = Third most desired improvement).

The percentage of possible cyclists that selected each University of Calgary improvement as any of first, second, or third is displayed in Figure 59. The distribution of desired improvements is much more evenly distributed than for the desired City of Calgary improvements. The percentage of all possible cyclists that selected the top three most desired improvements were within 3% of one another. Student possible cyclists selected three improvement significantly more often than non-student possible cyclists: improved rack location, availability of bicycle maps and literature, and rack conditions. Non-student possible cyclists were most concerned with allowing bicycle in buildings.

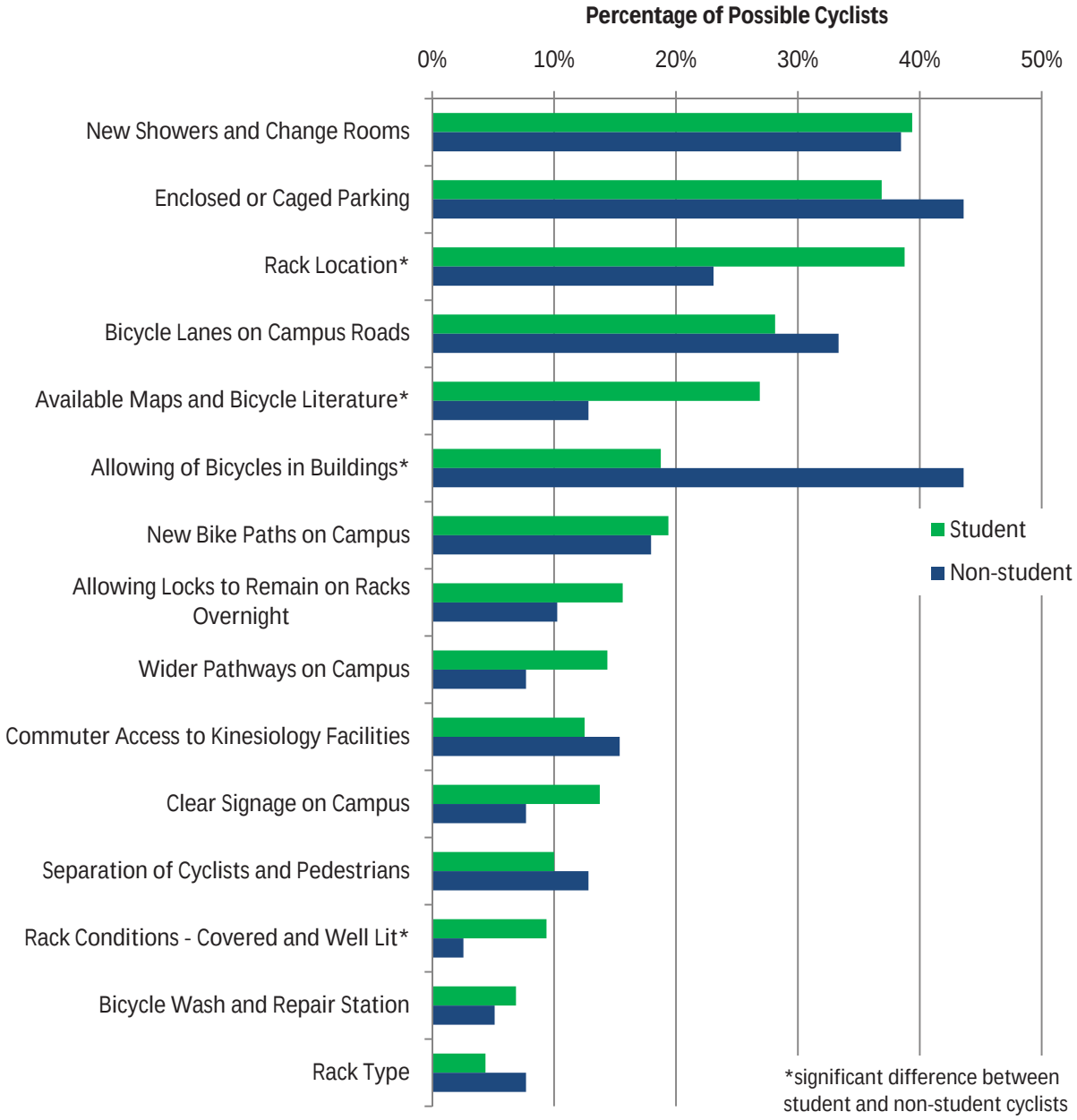

FIGURE 59: Possible Cyclists' Most Desired University Improvements

On-Street Characteristics

Q72. Are you aware of Calgary's signed on-street bikeways (roads designated by a sign and on the Pathway and Bikeway Map as appropriate for cycling)?

Approximately 60% of non-student possible cyclists indicated being aware of the City of Calgary's signed on-street bikeways. This is significantly more than the 41% of student possible cyclists that are aware of the signed on-street bikeways. A similar difference in the awareness of the signed on-street bikeways between student and non-student current cyclists was found in previous analysis.

Question 73 to Question 79: Please indicate the top three items that you consider to be most important in on-street cycling (1 = Most important, 3 = Third most important)

The percentage of possible cyclists that selected each characteristic as first, second, or third most important to the quality of on-street cycling is displayed in Figure 60 The characteristic most often selected by possible cyclists was good connectivity to other facilities, followed by wide shoulders and low traffic volume. There were no significant differences in the on-street characteristics selected by student and non-student possible cyclists.

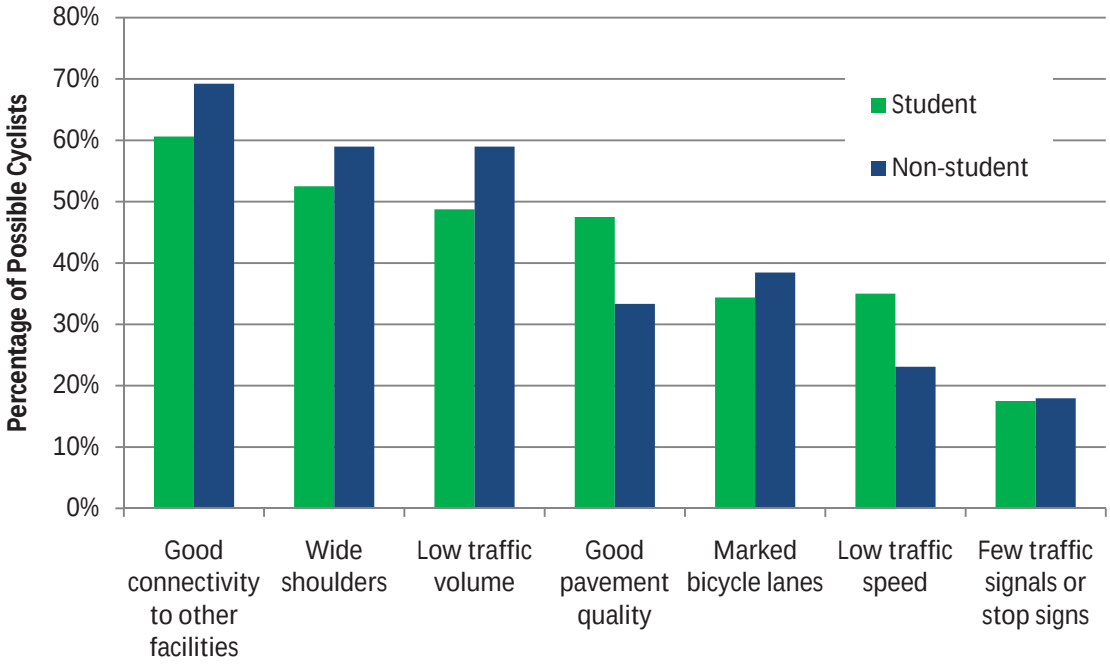

FIGURE 60: Possible Cyclists' Most Desired On-street Characteristics

Question 80: What is your opinion of the current quality of the signed on-street bikeways?

The distribution of the ratings of Calgary's current signed on-street bikeways is shown in Figure 61. The largest proportion of student and non-student possible cyclists rated the bikeways' quality as average. Very few possible cyclists rated the bikeways' quality as excellent (about 1%), while a considerable number rated the bikeways as poor (nearly 20%). This is similar to what was found in analysis of current cyclists, and reinforces the notion that on-street bicycling facilities should be improved to adequately meet the expectations of current and possible cyclists.

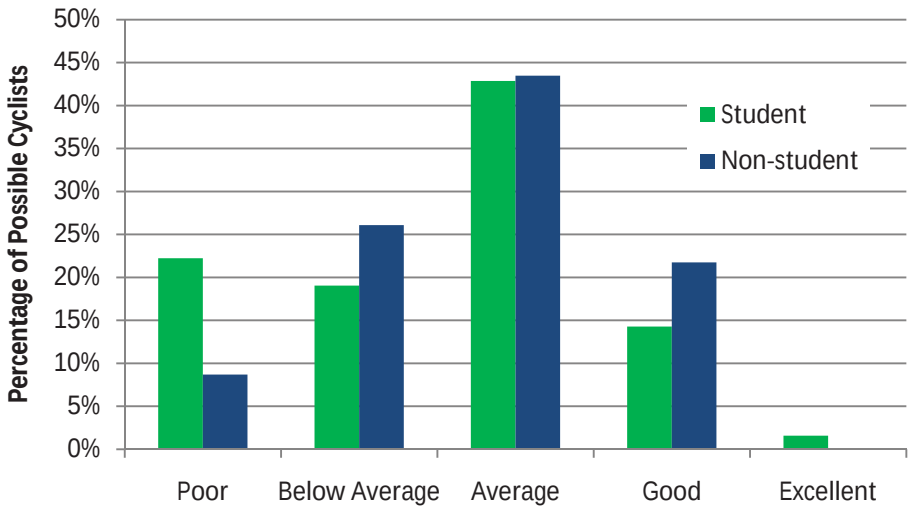

FIGURE 61: Possible Cyclists' Ratings of Current On-Street Facility Quality

RECOMMENDATIONS

Recommendations for the City of Calgary

Recommendation 1: Increase the kilometres of bicycle lanes on city roads

The number one most requested City of Calgary improvement was the provision of bicycle lanes on city roads. The majority of both current and possible cyclists (65%) selected this improvement as one of their top three most desired City of Calgary improvements. Previous research has found that the connectivity and directness of the bicycling network are the two most important factors in the overall quality of the network. Although pathways are valuable elements in bicycling networks, they often do not provide a route that is as direct or fast as a route that is composed of bicycle lanes.

The quality of the current signed on-street bikeway system could be improved by providing bicycle lanes on roads where it is most feasible to do so. Optimally this system would be continuous and provide routes that lead directly to major attractors such as the University of Calgary.

Recommendation 2: Increase the safety of commuting by bicycle

The most frequently indicated barriers that inhibit possible cyclists from commuting by bicycle involve safety concerns associated with commuter cycling. The first most often indicated barrier to cycling was found to be not knowing a safe route to the University, followed by feeling unsafe riding on roads. The lack of safety is a particularly large concern for female possible cyclists. If the safety of bicycle commuting, both the actual and the perceived safety, could be increased, the number of people commuting by bicycle will likely increase as well.

The safety of cycling will be improved naturally as more facilities are designed specifically for the needs of bicycle commuters. In the past, bicycling needs were combined with, or came second

to those of motorists, and this created facilities and situations where the safety of cyclists is compromised. Provision for bicycle lanes on roads (with adequate separation from traffic based on road speed and volume), implementation of more pathways, and calming of traffic on roads which are shared by cyclists and motorists are all ways to increase the safety of cyclists.

Another way to increase the safety of cyclists is by providing extensive training for motorists when they begin to drive, focusing on awareness of cyclists and pedestrians. Bicycle safety training could be provided to students when they are young, and then later in life could be available to people as they become interested in commuting by bicycling. Finally, rules and regulations concerning road sharing and bicycle commuting should be more strictly enforced to increase compliance with safety laws.

Recommendation 3: Improve the link between cycling and public transportation

Student possible and current cyclists showed considerable interest in increasing the connection between cycling and both the LRT system and buses that serve the University of Calgary. Current policy prohibits commuters from bringing their bicycles on the LRT system during hours of heavy use (6:30-9:30 am, 3:00-6:00 pm, and special city events). Amending this policy to allow bicycles on the trains at all times would increase the quality of bicycle commuting for current cyclists and may encourage more people to begin cycling. This was found to be especially important to students at the University of Calgary, because they were found to use public transit either alternatively, or in combination with their bicycles, much more often than non-students were. Providing racks on buses that serve the University of Calgary was not found to be an improvement that was as strongly desired by current or possible cyclists as allowing bicycles on the LRT system. However, this improvement is relatively easy to implement and would assist students specifically.

Recommendation 4: Increase the amount of maintenance and snow clearing on roads and pathways leading to the University of Calgary

Many factors indicate that the maintenance of bicycle facilities is an important factor to bicyclists. The fourth most desired city improvement indicated by cyclists was for improved road conditions. In addition, the largest portion of cyclists who had experienced a fall indicated that ice or debris on the facility was the main cause of their fall. Finally, the items that were selected most often by current cyclists as important factors in bicycle commuting during the winter months all pertained to the availability of bicycling facilities. These items included snow clearing on bicycle paths, snow clearing on roads, and an increase in the number of bicycle lanes on city roads. When cyclists were asked to indicate any routes they would like to see improved, many mentioned snow clearing on particular routes, snow clearing on entire routes that are currently partially cleared, and preventing run off from flowing onto pathways and creating icy conditions. If these initiatives could be carried out consistently throughout the winter, many people would consider cycling more often during the winter months.

Recommendation 5: Support cyclists and cyclist initiative such as the Bike Root

An important factor in encouraging people to commute by bicycle is support from the workplace, or in this case, the University community. The efforts that are being made to begin a bicycle station on campus are very positive and should be supported by the City of Calgary as well as the University of Calgary. Students in particular indicated a strong interest in the caged bicycle parking, day lockers, and bicycle repair station that are currently being planned at the Bike Root. Possible cyclists (particularly student possible cyclists) indicated an especially strong interest in these planned services.

In addition to what is currently planned, the Bike Root may be an ideal location to implement other services aimed at increasing cycling to campus. Female possible cyclists were found to be interested in obtaining bicycle maps and literature that would assist them in locating a safe route to the University, as well as obtaining other information to aid them in beginning to bicycle. This type of information could be available at the Bike Root. This could even be taken one step further, and courses could be offered that offer advice and information about how to begin cycling.

Many other initiatives may increase the number of people, especially women, who commute by bicycle. These include offering information regarding bicycling clothing, locker and shower availability on campus, bike rack and lock use, helmet use, cycling rules of the road, and finding a bicycling buddy.

There are numerous other possibilities for the Bike Root. One idea is to adapt the concept behind the bicycling station that is planned in Eau Claire for downtown commuters, and apply it on a smaller scale for campus commuters. This could be a very beneficial City of Calgary and University of Calgary cooperative project to increase bicycle commuting to the University of Calgary.

Recommendations for the University of Calgary

Recommendation 1: Support the Bike Root initiative and create a bicycling culture

An important factor in increasing bicycle commuting to the University is to create a bicycle friendly culture. This involves many actions on the part of the University, one of which is supporting a campus bicycling station or club. The services that are currently being planned at the Bike Root, including caged parking, a repair station, day lockers, and bicycle loans are an excellent way to begin a bicycle station on campus. The University of Calgary should support these initiatives as much as possible as well as promote the expansion of the Bike Root in the future. There are many possibilities for the future of the Bike Root including offering courses on bicycle commuting, providing a small snack station for cyclists, sponsoring bicycling events, and providing answers to people on bicycle related questions.

Recommendation 2: Allow bicycles in University buildings

This simple policy adjustment will allow cyclists to bring their bicycles into buildings either to park them or to reach their destination on campus as quickly as possible. A row of connected

buildings running from the Olympic Oval to MacEwan Hall largely hinders north/south bicycle transportation on campus. In order to avoid taking a long ride around this line of buildings, it would benefit cyclists to be allowed to walk their bicycles through the buildings. The same issue occurs at the north end of campus, in the row of connected buildings from the Engineering complex through to Science Theatres. Even the roadway under the pedestrian bridge from Earthe Science to Math Science does not get into central campus.

Many people who work on campus have access to an office or other room where they can safely store their bicycles for the day. Often, cyclists with high quality (and expensive) bicycles do not feel comfortable leaving their bicycle parked at a rack unsupervised. This fear is not unfounded as nearly 15% of University commuter cyclists have experienced some type of bicycle theft on campus. If cyclists have a private space where it is reasonable to park a bicycle for the day, University policy should not prevent them from doing so.

Recommendation 3: Provide alternative showering, changing, and locker facilities

Currently, there are no shower, change, or locker facilities on campus other than the ones located in the Kinesiology complex. These facilities are intended for gym and pool users, and in order to use a locker, a person must have a valid campus recreation membership. One of the most requested improvements by current and possible cyclists was for alternative showering and changing facilities to be available to campus bicycle commuters. This could either involve a policy change that would allow commuters to use a locker in the change rooms in the Kinesiology building, or the development of another shower, locker, and change facility. If the University is interested in developing a complete bicycle station, this could be an optimal location to provide showering and changing facilities.

Recommendation 4: Improve bicycle parking on campus

Bicycle parking on campus is a factor that is especially important to student cyclists as they generally do not have the option to bring their bicycle into an office for the day. The free, covered, high density parking being developed in the Arts Parkade is a good starting point, but the University should aim to have bicycle racks on campus that are (1) near a University building entrance, (2) well lit, and if possible (3) secure, and (4) covered. The majority of the respondents either were satisfied with the current bicycle rack model that is used on campus, or had no preference between types of bike rack. Instead of focusing on the type of bike rack used, it may be more important to consider the location and safety (in terms of lighting and visibility) of the bicycle rack.

Recommendation 5: Improve bicycle facilities on campus roads and pathways

The most requested University of Calgary improvement by current cyclists was for the provision of bicycle lanes on campus roads. There are many places on campus where the roads appear to be wide enough to create a bicycle lane. Adding bicycle lanes on campus roads would increase the visibility and comfort of cyclists while they are riding on campus roads as well as increase the cyclability of the campus. As for the pathways on campus, bicycle lanes could be implemented

where the pathway is wide enough to do so. In the future, all pathways should be designed to be wide enough for pedestrian/cyclist separation.

Recommendation 6: Increase the availability of bicycling maps and literature

A measure that would improve cycling to the University that was cited by many possible cyclists was for more readily available bicycle maps and bicycle literature. Women and students were especially eager to have access to information that would help them begin cycling. Female students were likely to state that they did not know of a safe route to get to the University, and would like to have maps available that outline safe routes to use to the University. Many other respondents commented on the fact that they would like to have access to information such as which equipment is best to use, how to properly maintain their bicycle, proper dress for cycling, bicycle rules of the road, and how to repair their bicycle. Much of this information could be offered, on the internet, in a cycling pamphlet, or through non-credit courses offered at the University.

This recommendation is likely one that can be worked on in cooperation with the City of Calgary and cyclist advocacy groups such as the Bike Root. A bicycling pamphlet and courses would be useful to all cyclists in Calgary, not only those that are commuting to the University of Calgary. The City of Calgary currently has a digital map of the city's bicycle routes available on their website. It is questionable whether it is more effective to have this information available online, in paper, or both.

Recommendations for Further Research

Recommendation 1: A feasibility study of bicycle lane development near the University

The findings of this survey indicate a strong need for more bicycle lanes in the city of Calgary. In order to create a high quality bicycle network, facilities must be direct, accessible, and well connected. Often the most effective way to accomplish this is by following the road network that is already in place. Current and possible cyclists who responded to this survey also indicated that bicycle lanes on city roads were their number one most desired improvement.

Further research should be done to determine where it is feasible to develop bicycle lanes. Considerations such as which roads are heavily used by cyclists, which roads have sufficient right of way or existing shoulder to create a bicycle lane, and economic considerations should all be taken into account to determine where bicycle lanes will be best implemented. Research should be done based on the idea that a bicycle network be developed, not just bicycle lanes on isolated roads. This research should lead to actual designs, which in turn can lead to construction (or painting) of the bike lanes.

Recommendation 2: A study to identify preferences for different aspects of bike lane design

Further research could be done to determine which types of facilities Calgary cyclists prefer. Findings from this survey indicate a desire for bicycle lane, but further research could examine which type of bicycle lane is most desired, how much separation from traffic is optimal, and how bicycle paths and road intersections could be optimally designed.

CONCLUSIONS

This study has fulfilled two of the recommendations outlined in the 2006 Calgary Downtown Commuter Cyclist Survey. These recommendations were to conduct further research into the female cyclist demographic and to complete a survey of younger cyclists, post-secondary students in particular. In addition, this study followed the suggestion in the second of the recommendations that the survey could possibly be conducted online for simpler distribution and in order to minimize costs. The added advantage of the on-line survey is that it permitted data collection from potential commuter cyclists as well as from current ones.

The results of the survey show that the percentage of cyclists to the University who are female is nearly double the percentage of cyclists to downtown. There is a considerable potential for increasing the number of female commuter cyclists, as women were more likely than men to be possible or occasional cyclists. There appears to be a significant difference between the personal characteristics of student and non-student (faculty, staff, volunteers, visitors, and other people on campus) cyclists who commute to the University campus. While the characteristics of non-student cyclists were found to mirror those of downtown commuters, as found by the 2006 Downtown Commuter Cyclist Survey, the personal attributes of student cyclists were found to differ considerably. The majority of student cyclists are men (approximately 55%), are between the ages of 18 and 27 (approximately 70%), are full-time students (92%), are employed (69%), but work less than 10 hours a week in addition to taking classes (52%), live away from home (74%), and earn less than $20,000 in personal income per year (52%). The average length of the bicycle commute made by student cyclists is 6.5 kilometres, and this takes an average of 22.2 minutes. Typical non-student cyclists are also male (58%), are between the ages of 43 and 52 (30%), and earn more than $90,000 in personal income per year (21%). Non-student cyclists travel 7.0 kilometres on average to the University and this takes them an average of 25.0 minutes. The duration of the commutes made by both student and non-student cyclists bound for the University is similar to the duration of those made by downtown cyclists. However, the length of the commutes made by University cyclists (6 or 7 kilometres) is considerably shorter than those made by downtown commuters (10 kilometres).

Both current and possible cyclists indicated a strong desire for more bicycle lanes on city roads, for a better connected and direct bicycling network, and for more action taken to improve the safety of cyclists. Cyclists also indicated a desire for better maintenance of bicycling facilities, including prompt and wide-ranging snow clearing, proper drainage (to minimize icing), and surface repairs. On campus, current and possible cyclists indicated a desire for bicycle lanes on campus roads, improvemed bicycle parking amenities, and greater access to showering, change room and locker facilities. There is also a strong desire among non-student cyclists to be allowed to bring their bicycles in campus buildings. In order to attract new cyclists to commuting by bicycle, the University and The City should concentrate on providing cycling support. This could be done in the form of maps and literature, bicycling classes and groups, help desks, or by many other means. Another important factor in encouraging new cyclists appears to be increasing the safety of bicycle commuting, both the actual and the perceived safety.

The information gathered in this survey of University cyclists offers many insights as to who is currently cycling to the University, who is considering doing so, the commute characteristics of these people, and how improvements could be implemented to improve conditions for current cyclists and to encourage new cyclists to begin commuting by bicycle.

APPENDIX A: The Survey

Page - University of Calgary Bike Survey 2009

Q1 I have read and agree to the conditions of this survey as stated on the webpage.	
Yes*[Code = 1]*	
No*[Code = 2] (Go To End)*	
Required answers: 1	*Allowed answers: 1*

Next Page: Conditional

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Q2 Which statement best describes your use of cycling as a means of transportation to the University of Calgary?	
I never cycle and would not consider beginning to do so. *[Code = 1] (Go To Page 17)*	
I never cycle, but I would consider beginning to do so.*[Code = 2]*	
I occasionally cycle.*[Code = 3]*	
I cycle regularly when conditions are favorable.*[Code = 4]*	
I cycle regularly throughout the year in all conditions. *[Code = 5]*	
Required answers: 1	*Allowed answers: 1*

Q3 What is the purpose of your usual trip to the University of Calgary? (Check all that apply)	
Class/Studying*[Code = 1]*	
Work*[Code = 2]*	
Business*[Code = 3]*	
Campus Recreation*[Code = 4]*	
Other (please specify)*[Code = 5] [TextBox]*	
Required answers: 0	*Allowed answers: 5*

Thinking of your weekly commute during the various seasons of the year, how many days a week do you **travel to the University of Calgary** by the following methods?

Spring

Q4 Cycling	
Never*[Code = 0]*	
1 day a week*[Code = 1]*	
2 days a week*[Code = 2]*	
3 days a week*[Code = 3]*	
4 days a week*[Code = 4]*	
5 days a week*[Code = 5]*	
6 days a week*[Code = 6]*	
7 days a week*[Code = 7]*	
Required answers: 0	*Allowed answers: 1*

Q5 Walking	
Never*[Code = 0]*	
1 day a week*[Code = 1]*	
2 days a week*[Code = 2]*	
3 days a week*[Code = 3]*	
4 days a week*[Code = 4]*	
5 days a week*[Code = 5]*	

6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q6 Taking transit
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q7 Driving alone
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q8 Carpooling
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q9 Other method of transportation
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Thinking of your weekly commute during the various seasons of the year, how many days a week do you **travel to the University of Calgary** by the following methods?

Summer

Q10 Cycling	
Never*[Code = 0]*	
1 day a week*[Code = 1]*	
2 days a week*[Code = 2]*	
3 days a week*[Code = 3]*	
4 days a week*[Code = 4]*	
5 days a week*[Code = 5]*	
6 days a week*[Code = 6]*	
7 days a week*[Code = 7]*	
	Required answers: 0 *Allowed answers: 1*

Q11 Walking	
Never*[Code = 0]*	
1 day a week*[Code = 1]*	
2 days a week*[Code = 2]*	
3 days a week*[Code = 3]*	
4 days a week*[Code = 4]*	
5 days a week*[Code = 5]*	
6 days a week*[Code = 6]*	
7 days a week*[Code = 7]*	
	Required answers: 0 *Allowed answers: 1*

Q12 Taking transit	
Never*[Code = 0]*	
1 day a week*[Code = 1]*	
2 days a week*[Code = 2]*	
3 days a week*[Code = 3]*	
4 days a week*[Code = 4]*	
5 days a week*[Code = 5]*	
6 days a week*[Code = 6]*	
7 days a week*[Code = 7]*	
	Required answers: 0 *Allowed answers: 1*

Q13 Driving alone	
Never*[Code = 0]*	
1 day a week*[Code = 1]*	
2 days a week*[Code = 2]*	
3 days a week*[Code = 3]*	
4 days a week*[Code = 4]*	
5 days a week*[Code = 5]*	
6 days a week*[Code = 6]*	
7 days a week*[Code = 7]*	
	Required answers: 0 *Allowed answers: 1*

Q14 Carpooling
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q15 Other method of transportation
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Thinking of your weekly commute during the various seasons of the year, how many days a week do you **travel to the University of Calgary** by the following methods?

Fall

Q16 Cycling
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q17 Walking
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*

	Required answers: 0 *Allowed answers: 1*

Q18 Taking transit
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q19 Driving alone
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q20 Carpooling
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q21 Other method of transportation
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Thinking of your weekly commute during the various seasons of the year, how many days a week do you **travel to the**

University of Calgary by the following methods?

Winter

Q22 Cycling		
Never*[Code = 0]*		
1 day a week*[Code = 1]*		
2 days a week*[Code = 2]*		
3 days a week*[Code = 3]*		
4 days a week*[Code = 4]*		
5 days a week*[Code = 5]*		
6 days a week*[Code = 6]*		
7 days a week*[Code = 7]*		
	Required answers: 0	*Allowed answers: 1*

Q23 Walking		
Never*[Code = 0]*		
1 day a week*[Code = 1]*		
2 days a week*[Code = 2]*		
3 days a week*[Code = 3]*		
4 days a week*[Code = 4]*		
5 days a week*[Code = 5]*		
6 days a week*[Code = 6]*		
7 days a week*[Code = 7]*		
	Required answers: 0	*Allowed answers: 1*

Q24 Taking transit		
Never*[Code = 0]*		
1 day a week*[Code = 1]*		
2 days a week*[Code = 2]*		
3 days a week*[Code = 3]*		
4 days a week*[Code = 4]*		
5 days a week*[Code = 5]*		
6 days a week*[Code = 6]*		
7 days a week*[Code = 7]*		
	Required answers: 0	*Allowed answers: 1*

Q25 Driving alone		
Never*[Code = 0]*		
1 day a week*[Code = 1]*		
2 days a week*[Code = 2]*		
3 days a week*[Code = 3]*		
4 days a week*[Code = 4]*		
5 days a week*[Code = 5]*		
6 days a week*[Code = 6]*		
7 days a week*[Code = 7]*		
	Required answers: 0	*Allowed answers: 1*

Q26 Carpooling

Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q27 Other method of transportation
Never*[Code = 0]*
1 day a week*[Code = 1]*
2 days a week*[Code = 2]*
3 days a week*[Code = 3]*
4 days a week*[Code = 4]*
5 days a week*[Code = 5]*
6 days a week*[Code = 6]*
7 days a week*[Code = 7]*
Required answers: 0 *Allowed answers: 1*

Q28 If you selected "other method of transportation" for any of the above, please specify the method you use:
[Code = 1] [TextBox]
Required answers: 0 *Allowed answers: 1*

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Q29 Where do you start your journey to the University of Calgary (nearest intersection or landmark)?
[Code = 1] [TextBox]
Required answers: 0 *Allowed answers: 1*
Display if Q2='I never cycle, but I would consider beginning to do so.'

Q30 Where on campus does your journey end (which building on campus)?
[Code = 1] [TextBox]
Required answers: 0 *Allowed answers: 1*
Display if Q2='I never cycle, but I would consider beginning to do so.'

Q31 Why do you not currently cycle to campus? (Check all that apply)
I don't own a bike *[Code = 1]*
It is too great a distance*[Code = 2]*
I would need to shower and change before I could begin my day at the University*[Code = 3]*
I have to fix my hair after biking*[Code = 4]*
It is inconvenient *[Code = 5]*
The bicycle route from my house is indirect and takes too long *[Code = 6]*
I feel unsafe riding on roads*[Code = 7]*
I don't know a safe route for cycling *[Code = 8]*

It is too tiring *[Code = 9]*
I can't carry the items I need for my day at the University*[Code = 10]*
Lack of secure parking on campus*[Code = 11]*
Lack of convenient locker and showering facilities on campus*[Code = 12]*
I'm unable to fulfill family obligations such as dropping children off at school*[Code = 13]*
Other (please specify)*[Code = 14] [TextBox]*
Required answers: 0 *Allowed answers: 14*
Display if Q2='I never cycle, but I would consider beginning to do so.'

What would be your most important reasons to begin cycling to the university? (Please rank your top two reasons, where 1 = your most important reason and 2 = your second most important reason).

Q32 Exercise
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q33 Less stressful
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q34 Environmental benefit
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q35 Fun/Enjoyment
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q36 Cheaper
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q37 Faster
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q38 Reduce traffic
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q39 Other
1*[Code = 1]*

2*[Code = 2]*

Required answers: 0 *Allowed answers: 2*

Display if Q2='I never cycle, but I would consider beginning to do so.'

Q40 If you selected "other", please specify your important reason to begin cycling to the university:

[Code = 1] [TextBox]

Required answers: 0 *Allowed answers: 1*

Display if Q2='I never cycle, but I would consider beginning to do so.'

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Q41 What is the average time of your one-way journey when you travel by bicycle?

Less than 5 minutes*[Code = 1]*

6 - 15 minutes*[Code = 2]*

16 - 25 minutes*[Code = 3]*

26 - 35 minutes*[Code = 4]*

36 - 45 minutes*[Code = 5]*

More than 45 minutes*[Code = 6]*

Don't know*[Code = 7]*

Required answers: 0 *Allowed answers: 1*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q42 Which other modes of transportation do you use in combination with cycling for your journey to the University of Calgary? (Check all that apply)

None*[Code = 1]*

Bus*[Code = 2]*

C-train*[Code = 3]*

Car*[Code = 4]*

Other (please specify)*[Code = 5] [TextBox]*

Required answers: 0 *Allowed answers: 4*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q43 In which year did you start using cycling as a mode of transportation for this journey?

2009*[Code = 1]*

2008*[Code = 2]*

2007*[Code = 3]*

2006*[Code = 4]*

Before 2006*[Code = 5]*

Don't know*[Code = 6]*

Required answers: 0 *Allowed answers: 1*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

What are your most important reasons for cycling to the university? (Please rank your top two reasons, where 1 = the most important reason, and 2 = the second most important reason).

Q44 Exercise	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q45 Less stressful	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q46 Environmental benefit	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q47 Fun/Enjoyment	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q48 Cheaper	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q49 Faster	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q50 Reduce traffic	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Q51 Other	
1*[Code = 1]*	
2*[Code = 2]*	
	Required answers: 0 *Allowed answers: 2*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q52 If you chose "other", please specify your reason for cycling to the university:	
[Code = 1] [TextBox]	
	Required answers: 0 *Allowed answers: 1*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

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Q53 Are there any specific roads or pathways on your bicycle route to or on the University campus you would like to see improved?

Yes (please specify)*[Code = 1] [TextBox]*

No*[Code = 2]*

Required answers: 0 *Allowed answers: 1*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q54 What type of surfaces do you cycle on during your journey to the University of Calgary? (Check all that apply)

Sidewalks*[Code = 1]*

Pathways*[Code = 2]*

Roads*[Code = 3]*

Back Lanes/Alleys*[Code = 4]*

Parking Lots*[Code = 5]*

Other (please specify)*[Code = 6] [TextBox]*

Required answers: 0 *Allowed answers: 6*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Please rank the top two items that would encourage you to cycle more in the **winter** months (1 = the most important item, and 2 = the second most important item):

Q55 Snow Clearing on Roads (complete to curbs)

1*[Code = 1]*

2*[Code = 2]*

Required answers: 0 *Allowed answers: 2*

Q56 Weather Protected Parking

1*[Code = 1]*

2*[Code = 2]*

Required answers: 0 *Allowed answers: 2*

Q57 Snow Clearing on Pathways

1*[Code = 1]*

2*[Code = 2]*

Required answers: 0 *Allowed answers: 2*

Q58 Marked Wide Curb Lanes

1*[Code = 1]*

2*[Code = 2]*

Required answers: 0 *Allowed answers: 2*

Q59 Bike Lanes

1*[Code = 1]*

2*[Code = 2]*

Required answers: 0 *Allowed answers: 2*

Q60 More Direct Routes

1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q61 Traffic Calming/Motorist Restrictions
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Q62 Less Gravel on Road
1*[Code = 1]*
2*[Code = 2]*
Required answers: 0 *Allowed answers: 2*

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q63 Which road or pathway on your bicycle route to the University do you feel should be a priority for snow clearing?
[Code = 1] [TextBox]
Required answers: 0 *Allowed answers: 1*

Q64 If this route were cleared of snow, how likely would you be to cycle more in winter?
Extremely likely*[Code = 5]*
Very likely*[Code = 4]*
Moderately likely *[Code = 3]*
Slightly likely*[Code = 2]*
Not at all likely*[Code = 1]*
Required answers: 0 *Allowed answers: 1*

Q65 What kind of bicycle parking do you usually use at the University?
Bicycle racks on campus*[Code = 1]*
In a campus building*[Code = 2]*
Locking to trees and poles*[Code = 3]*
Other (please specify)*[Code = 4] [TextBox]*
Required answers: 0 *Allowed answers: 1*

Q66 What kind of changing facility do you usually use at the University of Calgary?
University shower/locker room*[Code = 1]*
University washroom*[Code = 2]*
An office*[Code = 3]*
Other (please specify)*[Code = 5] [TextBox]*
Don't Change/None*[Code = 4]*
Required answers: 0 *Allowed answers: 1*

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Display if Q2='I never cycle, but I would consider beginning to do so.' OR Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q67 There is a bike club on campus, the Bike Root, which offers bicycle repair facilities and free bicycle loans (with deposit). In the future, they hope to offer caged bicycle parking and day lockers.

Are you aware of this facility?

- Yes*[Code = 1]*
- No*[Code = 2]*

Required answers: 0 *Allowed answers: 1*

Q68 Which of the following of Bike Root's services would/do you use cycling to campus? (Check all that apply)

- Caged Parking*[Code = 1]*
- Repair Facilities*[Code = 2]*
- Loans*[Code = 3]*
- Day Lockers*[Code = 4]*
- None of these*[Code = 5]*
- I choose not to respond.*[Code = 6]*

Required answers: 1 *Allowed answers: 4*

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. ' OR Q2='I never cycle, but I would consider beginning to do so.'

Q69 How frequently would you use any of the Bike Root facilities cycling to campus?

- 6 - 7 days a week*[Code = 1]*
- 4 - 5 days a week*[Code = 2]*
- 2 - 3 days a week*[Code = 3]*
- 1 day a week*[Code = 4]*
- 2 - 3 days a month*[Code = 5]*
- 1 day a month*[Code = 6]*
- Less than 1 day a month*[Code = 7]*

Required answers: 0 *Allowed answers: 1*

Display if Q68='Caged Parking' OR Q68='Repair Facilities' OR Q68='Loans' OR Q68='Day Lockers'

Q70 Free, covered, high-density bicycle parking is currently under development in the Arts Parkade.

How likely is it that you would use such a facility when you cycle to campus?

- Extremely likely*[Code = 5]*
- Very likely*[Code = 4]*
- Moderately likely*[Code = 3]*
- Slightly likely*[Code = 2]*
- Not at all likely*[Code = 1]*

Required answers: 0 *Allowed answers: 1*

Q71 Which bike parking racks would you **most** like to see on campus?

Current model  *[Code = 1]*

U-rack model  *[Code = 2]*

High Density Racks  *[Code = 3]*

Other (please describe)*[Code = 4] [TextBox]*

No preference*[Code = 5]*

Required answers: 0 *Allowed answers: 1*

Q72 Are you aware of Calgary's signed on-street bikeways (roads designated by a sign and on the Pathway and Bikeway Map as appropriate for cycling)?

Yes*[Code = 1]*

No*[Code = 2]*

I choose not to respond.*[Code = 3]*

Required answers: 1 *Allowed answers: 1*

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Please indicate the top three items that you consider to be most important in on-street cycling (1 = Most important, 3 = Third most important)

Q73 Good pavement quality

1*[Code = 1]*

2*[Code = 2]*

3*[Code = 3]*

Required answers: 0 *Allowed answers: 3*

Q74 Few traffic signals or stop signs

1*[Code = 1]*

2*[Code = 2]*

3*[Code = 3]*

Required answers: 0 *Allowed answers: 3*

Q75 Bicycle pavement markings		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q76 Wide shoulders		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q77 Low traffic volume		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q78 Good connectivity to other bike paths or bikeways		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q79 Low traffic speed		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q80 What is your opinion of the current quality of the signed on-street bikeways?		
Excellent*[Code = 5]*		
Good*[Code = 4]*		
Average*[Code = 3]*		
Below average*[Code = 2]*		
Poor*[Code = 1]*		
	Required answers: 0	*Allowed answers: 1*
Display if Q72='Yes'		

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q81 Which of the following types of theft have you experienced with your bicycle? (Check all that apply)
Bicycle was stolen*[Code = 1]*
Bicycle was stripped of parts*[Code = 2]*
I have not experienced any type of theft.*[Code = 3]*

I choose not to respond.*[Code = 4]*

Required answers: 1 *Allowed answers: 2*

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q82 Have any of the thefts or strippings occurred on the University of Calgary campus?

Yes*[Code = 1]*

No*[Code = 2]*

Required answers: 0 *Allowed answers: 1*

Display if Q81='Bicycle was stolen' OR Q81='Bicycle was stripped of parts'

Q83 The following questions relate to falls and collisions that have occurred while cycling to and from the University of Calgary. A **fall** is defined as an event where, without colliding with another object, vehicle, or person, the cyclist lands on the ground. A **collision** is defined as an event where the bicycle hits, or is hit by another person, vehicle or object.

Have you ever had a fall while cycling to or from the University of Calgary?

Yes*[Code = 1]*

No*[Code = 2]*

I choose not to respond.*[Code = 3]*

Required answers: 1 *Allowed answers: 1*

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q84 How many falls have you had while cycling to or from the University of Calgary?

1 fall*[Code = 1]*

2 falls*[Code = 2]*

3 falls*[Code = 3]*

4 falls*[Code = 4]*

5 or more falls*[Code = 5]*

Don't know*[Code = 6]*

Required answers: 0 *Allowed answers: 1*

Display if Q83='Yes'

Q85 Have you ever been injured in a fall while cycling to or from the University of Calgary?

Yes*[Code = 1]*

No*[Code = 2]*

Required answers: 0 *Allowed answers: 1*

Display if Q83='Yes'

When was your most recent fall?

Q86 Season:

Spring *[Code = 1]*

Fall*[Code = 3]*
Winter*[Code = 4]*
Don't know*[Code = 5]*
Required answers: 0 *Allowed answers: 1*

Q87 Year:
2009*[Code = 1]*
2008*[Code = 2]*
2007*[Code = 3]*
2006*[Code = 4]*
Before 2006*[Code = 5]*
Don't know*[Code = 6]*
Required answers: 0 *Allowed answers: 1*

Display if Q83='Yes'

Q88 What was the **main cause** of your most recent fall?
Motorist inattention*[Code = 1]*
In-line/pedestrian/other cyclist inattention*[Code = 2]*
My own inattention*[Code = 3]*
Icy conditions*[Code = 4]*
Debris (including gravel)*[Code = 5]*
Poor pathway condition*[Code = 6]*
Cracked, rutted or uneven roadway conditions*[Code = 7]*
Avoiding a stationary object*[Code = 8]*
Weather conditions*[Code = 9]*
Other (please specify)*[Code = 10] [TextBox]*
Required answers: 0 *Allowed answers: 1*

Display if Q83='Yes'

Q89 Where did your most recent fall take place?
Path-road intersection *[Code = 1]*
Road intersection*[Code = 2]*
Sidewalk-road intersection*[Code = 3]*
Pathway*[Code = 4]*
Roadway*[Code = 5]*
Sidewalk*[Code = 6]*
On campus*[Code = 7]*
Other (please specify)*[Code = 8] [TextBox]*
Required answers: 0 *Allowed answers: 1*

Display if Q83='Yes'

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q90 Have you ever been in a collision while cycling to or from the University of Calgary?

Yes*[Code = 1]*

No*[Code = 2]*

I choose not to respond.*[Code = 3]*

Required answers: 1 *Allowed answers: 1*

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q91 How many collisions have you had while cycling to or from the University of Calgary?

1 collision*[Code = 1]*

2 collisions*[Code = 2]*

3 collisions*[Code = 3]*

4 collisions*[Code = 4]*

5 or more collisions*[Code = 5]*

Don't know*[Code = 6]*

Required answers: 0 *Allowed answers: 1*

Display if Q90='Yes'

Q92 Have you ever been injured in a collision while cycling to or from the University of Calgary?

Yes*[Code = 1]*

No*[Code = 2]*

Required answers: 0 *Allowed answers: 1*

Display if Q90='Yes'

When was your most recent collision?

Q93 Season:

Spring *[Code = 1]*

Summer*[Code = 2]*

Fall*[Code = 3]*

Winter*[Code = 4]*

Don't know*[Code = 5]*

Required answers: 0 *Allowed answers: 1*

Q94 Year:

2009*[Code = 1]*

2008*[Code = 2]*

2007*[Code = 3]*

2006*[Code = 4]*

Before 2006*[Code = 5]*

Don't know*[Code = 6]*

Required answers: 0 *Allowed answers: 1*

Display if Q90='Yes'

Q95 What did you collide with in your most recent collision?

Motor vehicle*[Code = 1]*

Pedestrian*[Code = 2]*

Cyclist*[Code = 3]*

In-line skater*[Code = 4]*

Stationary object*[Code = 5]*

Other (please specify)*[Code = 6] [TextBox]*

Required answers: 0 *Allowed answers: 1*

Display if Q90='Yes'

Q96 What was the **main cause** of your most recent collision?

Motorist inattention*[Code = 1]*

In-line/pedestrian/other cyclist inattention*[Code = 2]*

My own inattention*[Code = 3]*

Icy conditions*[Code = 4]*

Debris (including gravel)*[Code = 5]*

Poor pathway condition*[Code = 6]*

Cracked, rutted or uneven roadway conditions*[Code = 7]*

Avoiding a stationary object *[Code = 8]*

Weather conditions*[Code = 9]*

Other (please specify)*[Code = 10] [TextBox]*

Required answers: 0 *Allowed answers: 1*

Display if Q90='Yes'

Q97 Where did your most recent collision take place?

Path-road intersection*[Code = 1]*

Road intersection*[Code = 2]*

Sidewalk-road intersection*[Code = 3]*

Pathway*[Code = 4]*

Roadway*[Code = 5]*

Sidewalk*[Code = 6]*

On campus*[Code = 7]*

Other (please specify)*[Code = 8] [TextBox]*

Required answers: 0 *Allowed answers: 1*

Display if Q90='Yes'

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Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. ' OR Q2='I never cycle, but I would consider beginning to do so.'

Q98 Do you cycle for other purposes such as shopping, visiting, or recreation?

Yes*[Code = 1]*

No*[Code = 2]*

Required answers: 0 *Allowed answers: 1*

Please rank the top three improvements that could be implemented by the City to help you cycle (or begin to cycle) to and from the University of Calgary (1 = Most desired improvement, 3 = Third most desired improvement):

Q99 Better road conditions

1*[Code = 1]*

3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q100 Bike lanes	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q101 Bike racks on all buses	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q102 Allowing bikes on the C-Train at all times	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q103 Marked wide-curb lanes	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q104 A way for a cyclist to activate a traffic signal	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q105 More direct cycling routes	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q106 More pathways	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
Required answers: 0	*Allowed answers: 3*

Q107 More signs	
1*[Code = 1]*	

3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q108 Cyclist education
1*[Code = 1]*
2*[Code = 2]*
3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q109 Motorist education
1*[Code = 1]*
2*[Code = 2]*
3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q110 Enforcement of bike rules of the road
1*[Code = 1]*
2*[Code = 2]*
3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q111 Separate paths for cyclists and pedestrians
1*[Code = 1]*
2*[Code = 2]*
3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q112 Traffic calming/Motorist restrictions
1*[Code = 1]*
2*[Code = 2]*
3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q113 Wider pathways
1*[Code = 1]*
2*[Code = 2]*
3*[Code = 3]*
Required answers: 0 *Allowed answers: 3*

Q114 Are there any other improvements the **City** could implement to help you cycle (or begin to cycle) to and from the University of Calgary?
Yes (please explain)*[Code = 1] [TextBox]*
No*[Code = 2]*
Required answers: 0 *Allowed answers: 1*

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Display if Q2='I never cycle, but I would consider beginning to do so.' OR Q2='I occasionally cycle.' OR Q2='I cycle regularly

when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Please rank the top three improvements you would like to see implemented **by the University of Calgary** to help you cycle (or begin to cycle) **to and from campus** (1 = The most desired improvement, 3 = Third most desired improvement).

Q115 Bike rack location - nearer to building entrances, with sufficient spacing and bolted to the ground		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q116 Bike rack conditions - type of rack		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q117 Bike rack conditions - lighting and shelter		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q118 Enclosed, covered bicycle parking - cages or lockers		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q119 Policy change - allow commuter access to Kinesiology locker and shower facilities		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q120 Policy change - allow bicycles in buildings for storage		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q121 Policy change - allow locks to remain on racks overnight		
1*[Code = 1]*		
2*[Code = 2]*		
3*[Code = 3]*		
	Required answers: 0	*Allowed answers: 3*

Q122 Showering and locker facilities available other than in Kinesiology		

1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q123 Bike wash and repair station	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q124 More cycle maps and commuting literature	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q125 Clearer signage of bike routes on campus	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q126 Striping of campus paths to separate bikes and pedestrians	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q127 Wider pathways	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q128 New paths specifically for bikes	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q129 Bike lanes on campus roads	
1*[Code = 1]*	
2*[Code = 2]*	
3*[Code = 3]*	
	Required answers: 0 *Allowed answers: 3*

Q130 Are there any other improvements the University of Calgary could implement to help you cycle (or begin to cycle)

to and from campus?		
Yes (please share)*[Code = 1] [TextBox]*		
No*[Code = 2]*		
	Required answers: 0	*Allowed answers: 1*

Q131 Do you have any additional comments or suggestions?		
Yes (please share)*[Code = 1] [TextBox]*		
No*[Code = 2]*		
	Required answers: 0	*Allowed answers: 1*

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Page - Demographics

Q132 Gender:		
Male*[Code = 1]*		
Female*[Code = 2]*		
	Required answers: 0	*Allowed answers: 1*

Q133 Please select your age range:		
Under 18*[Code = 1]*		
18 - 22*[Code = 2]*		
23 - 27*[Code = 3]*		
28 - 32*[Code = 4]*		
33 - 37 *[Code = 5]*		
38 - 42*[Code = 6]*		
43 - 52*[Code = 7]*		
53 - 62*[Code = 8]*		
63 +*[Code = 9]*		
	Required answers: 0	*Allowed answers: 1*

Q134 Are you a student at the University of Calgary?		
Yes*[Code = 1]*		
No*[Code = 2]*		
I choose not to respond.*[Code = 3]*		
	Required answers: 1	*Allowed answers: 1*

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Q135 What is your position at the University of Calgary?		
Staff*[Code = 1]*		
Volunteer*[Code = 2]*		
Faculty *[Code = 3]*		
Visitor*[Code = 4]*		
Other (please specify)*[Code = 5] [TextBox]*		
	Required answers: 0	*Allowed answers: 1*
Display if Q134='No'		

Q136 Are you a full-time or part-time student?

Full-time*[Code = 1]*
Part-time*[Code = 2]*
Other (please specify)*[Code = 3] [TextBox]*
Required answers: 0 *Allowed answers: 1*
Display if Q134='Yes'

Q137 How many hours do you work for pay in addition to taking classes?
0 hours*[Code = 1]*
1 - 10 hours*[Code = 2]*
11 - 20 hours*[Code = 3]*
21 - 30 hours*[Code = 4]*
31 - 40 hours*[Code = 5]*
More than 40 hours*[Code = 6]*
Required answers: 0 *Allowed answers: 1*
Display if Q134='Yes'

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Q138 What is your approximate annual personal income before taxes?
Less than $10,000*[Code = 1]*
$10,000 - $19,999*[Code = 2]*
$20,000 - $29,999*[Code = 3]*
$30,000 - $44,999*[Code = 4]*
$45,000 - $59,999*[Code = 5]*
$60,000 - $74,999*[Code = 6]*
$75,000 - $89,999*[Code = 7]*
$90,000 or more *[Code = 8]*
Prefer not to disclose*[Code = 9]*
Required answers: 0 *Allowed answers: 1*
Display if Q134='No' OR NOT Q137='0 hours'

Q139 Do you live with your parents?
Yes*[Code = 1]*
No*[Code = 2]*
Required answers: 0 *Allowed answers: 1*
Display if Q134='Yes'

Q140 If you would like to enter a draw for a $150 gift certificate to Bowcycle please enter your e-mail address:
[Code = 1] [TextBox]
Required answers: 0 *Allowed answers: 1*

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Page - Mapping Section

Display if Q2='I occasionally cycle.' OR Q2='I cycle regularly when conditions are favorable.' OR Q2='I cycle regularly throughout the year in all conditions. '

Q141 Now, we would like to gain more information about your route. Would you prefer to use Live Search Maps© and digitally trace your route, or answer three more questions and then

describe your route?

Map my route using Live Search Maps© (please supply the e-mail address that you will use to send your Live Search Map©. (This will only be used to link your map with your questionnaire responses)).*[Code = 1] [TextBox]*

Describe my route*[Code = 2]*

I choose not to respond.*[Code = 3]*

Required answers: 1 *Allowed answers: 1*

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Page - Online Route Mapping

MAPPING YOUR ROUTE ONLINE
1. Please link to http://maps.live.com/ and trace your cycle route on the map using the following instructions. The site may take a minute to load.
2. Make sure that you are on the **Aerial** view option (top left hand corner of the map).
3. Zoom into Calgary by scrolling in and re-centering using the scroll wheel on your mouse, or double-clicking on Calgary repeatedly until you are zoomed in enough to see your route clearly.
4. Once the starting point of your route is in the window, select the **Collections** button just above the map on the right hand side. Select **Open Your Collections** from the pull down menu.
5. Along the bottom of the **Collections Editor**, you will find a variety of tools that you can use to mark your map. Please click on the path option (3rd button from the left). Please start at an intersection or landmark near your home by clicking on the map. Continue drawing your pathway by clicking on all points of direction change along your route.
6. When you have completed your route, press enter to finish the line. Type **Route to the University** in the title box that appears and click save. A message will appear in the Collections Editor window saying that you must sign in to save you collection. Ignore this message. If you make a mistake while tracing your route, simply get back on track and finish you route. You can correct the mistake when you are done by selecting the line and moving the incorrect node.
7. If you use a different route home, please create a second pathway to show that, labelling it **Route Home** using the same steps as above.
8. If you would like to show the location of any falls, collisions, or any other points of particular concern, select the pushpin option (2nd button from the left). Once the pushpin is selected, you can show the points by clicking on them on the map. Please label the pushpin to describe the concern or incident. You can also use the area marker (4th button from the left) to mark areas and roads of concern.
9. If your Outlook © is configured, select the **Actions** button on the top right corner of the Collections Editor. Select **Send to...** from the drop down menu, and then select **E-mail**. Please send the email to bikesrvy@ucalgary.ca.
10. If Outlook © is not configured, select **Export** from the drop down menu, and select **KML**. You will be asked to save this file to some location on your computer. Please save it and then email the file to bikesrvy@ucalgary.ca.

Required answers: 0 *Allowed answers: 0*

Display if Q141='Map my route using Live Search Maps© (please supply the e-mail address that you will use to send your Live Search Map©. (This will only be used to link your map with your questionnaire responses)).'

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Q142 Where do you start your journey to the University of Calgary (nearest intersection or landmark)?

[Code = 1] [TextBox]

Required answers: 0 *Allowed answers: 1*

Display if Q141='Describe my route'

Q143 Where on campus does your journey end (which building on campus)?

[Code = 1] [TextBox]

Required answers: 0 *Allowed answers: 1*

Display if Q141='Describe my route'

Q144 What is the distance of your one-way journey to the University of Calgary?

1 - 5 kilometers*[Code = 1]*

6 - 10 kilometers*[Code = 2]*

11 - 15 kilometers*[Code = 3]*

16 - 20 kilometers*[Code = 4]*
More than 20 kilometers*[Code = 5]*
Don't know*[Code = 6]*
Required answers: 0 *Allowed answers: 1*
Display if Q141='Describe my route'

Q145 Please describe your journey as accurately as possible. Please begin at the nearest landmark or intersection from your starting point and end at a specific building on campus.
[Code = 1] [TextBox]
Required answers: 0 *Allowed answers: 1*
Display if Q141='Describe my route'

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APPENDIX B: Paper Submitted To TRB

Latent Bicycle Commuting Demand and the Effects of Gender on Commuter Cycling and Accident Rates

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Word Count: 5,927 words + 6 Figures = 7,427 words Submission Date: July 23, 2009

ABSTRACT

A recent City of Calgary survey found that over 75% of cyclists commuting to downtown Calgary are male. The intent of this research is to determine whether this is also true of cyclists commuting to a campus, and if so, what obstacles are preventing women from bicycling and what measures could increase the number of female commuter cyclists. An online survey was conducted to collect information from potential, occasional, and regular cyclists. Analysis confirmed that women are more likely than men to be possible or occasional cyclists, while men are more likely than women to be regular cyclists. In addition, female cyclists were found to cycle less frequently than male cyclists belonging to the same cyclist category. Both of these findings suggest that if women's cycling needs were addressed, the modal share of bicycle commuting could be increased. Investigation of cycling barriers indicated that women are more concerned than men with safety issues associated with cycling, with being able to carry daily items while cycling, and with the need to fix their hair upon arrival. In analysis of desired improvements, women were found to place a higher value on bicycle maps and literature, but share similar facility preferences with men. Very high proportions of both genders indicated a desire for bicycle lanes, more pathways, and more direct bicycle routes. Analysis of falls and collisions suggested that men and women experience a similar number of falls per unit of exposure, while men experience more collisions per unit exposure than women do.

INTRODUCTION

The City of Calgary's 2006 Downtown Commuter Cyclist Survey Report stated that "Typical cyclists commuting to downtown are male (75 per cent), over 35 years of age (65 per cent) and earn more than $90,000 a year (45 per cent)" *(1)*. The intent of this research is to determine whether the characteristics and needs of commuter cyclists bound for other major destinations in Calgary are similar to those found for downtown commuters. Of particular interest is whether women constitute a higher proportion of cyclists bound for other destinations. The intent is also to determine what obstacles are restraining women from bicycle commuting, and whether those obstacles differ from those for men.

In the City's study, questionnaires were distributed to cyclists as they entered the downtown core during their morning commute. Because of this distribution method, it was not possible to gain information from people who had considered cycling, but had not yet done so, or people who were not cycling on the days that the questionnaire was distributed. By using an online survey, it was possible to reach these people and gain information about their cycling needs and barriers. Together, potential and occasional cyclists present a huge possibility for increasing the modal share of bicycle commuting, and it is important to consider what improvements can be made to tap this latent demand.

The analysis of possible bicycle commuters focuses on barriers to cycling and desired on-route and destination improvements. The investigation will determine if differences in indicated barriers or in desired improvements are related to gender and age. Current cyclists will be analysed in the second section of the analysis to determine if the personal attributes of gender and age affect cycling frequency, trip characteristics, or desired improvements. Because safety has been shown to be a considerable concern for potential cyclists, women particularly, the occurrence of falls and collisions will be analysed to determine if the frequency of either is related to the gender or age of the cyclist.

Calgary is a city of just over one million people located in the foothills of Alberta, and covers approximately 730 km^2. Although it is a northern city with occasionally severe winter weather, the City is working to facilitate commuter cycling, and there are people who do so year-round. The current bicycle network in Calgary includes 7 km of bicycle lanes, 13 km of bicycle stencils, which are marked shared-use lanes, 707 km of multi-purpose pathway, and 290 km of on-street bicycle routes marked by posted signs.

LITERATURE REVIEW

Research conducted in North America, Britain, and Australia has found that women are significantly less likely to commute by bicycle than men are *(2, 3, 4, 5, 6)*. Pucher et al *(7)* recognized that in countries where bicycle commuting accounts for a small portion of the total number of trips made, women tend not to commute by bicycle as much as men do. This is not the case in countries such as The Netherlands, Denmark and Germany, where commuting by bicycle accounts for a large portion of total trips made, and women cycle equally often as men do. Statistics Canada estimated in 2008 that trips by bicycle account for 1.3% of trips made in Calgary *(8)*. Although women appear to commute by bicycle less often than men once they enter the workforce, one study concluded that women are more likely than men to cycle to school as students, but the age group and school level were not specified *(6)*.

Previous research conducted in the field of gender differences in transportation by all modes has concluded that women and men have differing transportation needs, goals, and obstacles. Although the work patterns of men and women have converged significantly over the

last half century *(9)*, and women are working outside of the home now more than ever, there still appear to be several important differences in the working and lifestyle characteristics of women and men. Women tend to live closer to their workplace *(10, 11)*, and as a result have shorter commutes than men do. In addition to working outside of the home, women are often responsible for a large portion of the household duties, and because of this, are more likely to chain trips, carry goods, and take passengers during their work commute than men are *(10, 11)*. In fulfilling these duties, women tend to have time-constrained schedules that require transportation modes that allow for fast and efficient trip chaining *(10, 12)*. Women are generally more time sensitive, and therefore are more likely than men to use the most convenient form of transportation regardless of the cost *(12)*. In addition, women tend to place a high value on safety, are more risk averse than men *(9, 12)*, and often favour transportation modes that pose the least risk *(5)*. Previous literature specifically dealing with commuting by bicycle found that women are more likely than men to identify feeling unsafe as a cycling problem *(3, 4, 6)*.

There is disagreement in previous research about the journey characteristics of women commuter cyclists. Some sources suggest that women make shorter trips than men do, both in time *(5,6)*, and distance *(2)*, while others have found no significant difference in the length or duration of trips by gender *(4)*. The facilities that women are using, and those which they prefer to use, have also been topics of disagreement. Garrard et al *(5)* found that women, more so than men, prefer to use bicycle paths that are separated from automotive traffic, while Aultman-Hall *(2)* found no significant difference between men and women in facility preferences. In another study, Garrard et al *(4)* found that, "Females were more likely to use on-road bike lanes than off-road paths, but showed similar preferences for these two types of bicycle facility. Males were also more likely to use on-road bike lanes than off-road paths, but, unlike females, they expressed a greater preference for on-road lanes." Aultman-Hall *(2)* found that commuter cyclists, both men and women, generally use the shortest route or a slight variation from this route. The respondents were found to use pathways and trails less often than the proportion that was identified in the computer-identified shortest path. Krizek et al *(6)* found that women are more sensitive to low quality cycling facilities than men are. They are more likely than men to rate lighting on bike paths and paved shoulders on roads as very important. Similarly, they are more likely than men to cite the lack of pathways and poor road conditions as key cycling problems.

There has been relatively little research done with regard to people who identify themselves as possible cyclists. Gatersleben et al *(13)* studied students and staff at a British university and analysed their progression from precontemplation, a stage of non-cyclist status with no intention of change, through three stages of progression, to the final stage of maintenance, where the person has commuted by bicycle for six months or more. This study found that as people begin commuting by bicycle, their attitude toward cycling improved and their perception of barriers became less significant. This study also found that women were more likely than men to be in the precontemplation stage, and that people with children were found in all stages, suggesting that family obligations were not necessarily an obstacle to bicycle commuting. Non-cyclists who would not begin cycling in any condition most often stated that the commute distance was too far, even though it was comparable to the distance of people in the other four categories. People in the contemplative and prepared for action stages desired safer facilities. Other studies compared non-cyclists and cyclists *(3, 14, 15, 16, 17)*, but did not specifically target people who stated they would like to begin cycling.

SURVEY METHODOLOGY

The survey questionnaire was modelled on the questionnaire used for the City of Calgary's 2006 Downtown Commuter Cyclist Survey *(1)*. Several questions were altered, omitted, or added in recognition of the different characteristics of the university and to deal with possible cyclists. In addition to the questionnaire, the survey incorporated a section to gain information about routes cycled. Respondents had the choice of using an online mapping site, www.maps.live.com (© Microsoft) to digitally trace their route, or describing their route in words. The survey was pretested on a convenience sample of people at the University of Calgary before being released for data collection. A draw for a gift certificate valued at $150 to Bowcycle, a cycling store in Calgary, was offered as an incentive to complete the survey.

The survey was conducted online, and was accessible through a University of Calgary web space created for the study. An invitation to complete the survey was sent to the student body via an email from the Registrar's office. This email reached approximately 22,500 undergraduate students and 5,500 graduate students. Roughly 5,500 members of the university faculty and staff received notice of the survey through the UToday online news source. UToday was also available to anyone visiting the University of Calgary website. News articles about the survey containing a link to it were posted on the main University of Calgary webpage, the Office of Sustainability's webpage, Bowcycle's website, the campus Bike Root's webpage, and in the U of C Zine online magazine. In addition to online publicity, 65 11x17 posters were pinned up on public bulletin boards around campus, and waterproof posters were placed at ten of the major bike racks on campus. Business cards containing an invitation to the bicycle survey webpage were taped to the handlebars of bicycles parked on campus on two particularly warm days during the data collection period when bicycle ridership was high.

The survey was conducted for a three-week period from April 13th, 2009 to May 1st, 2009. Because the survey was distributed electronically, and because respondents were asked to think of their cycling throughout the year, not just on the day they were filling out the survey, the weather was not expected to have an effect on the number of participants. Tracking of the responses by date confirmed that the response frequency was unrelated to the weather.

There were 1128 respondents to the survey, of whom 498 (44.1%) were women, 548 (48.6%) were men, and 82 (7.3%) did not disclose their gender. Although the response rate of 3.4% is low, the number of respondents is very close to the number of cyclists estimated in a recent survey of commuting to the University *(19)*. That study found that 10.4% of 1,731 faculty members, 3.7% of 2,990 staff, and 3.2% of 24,238 students commute by bicycle to the University, for a total of 1066 cyclists. Considering that 209 possible cyclists responded to the survey, the remaining 919 current cyclist respondents account for over 85% of the estimated commuter cyclists on campus. This high proportion suggests that the web-based survey was quite successful in reaching the majority of the targeted population in the university community.

RESULTS AND DISCUSSION

Type of Cyclist, Gender, and Age

The first survey question asked respondents to identify which statement best described their use of cycling as a means of transportation to campus. The distribution of the respondents by type of cyclist and gender is displayed in Figure 1. Respondents who selected the first category were considered non-cyclists with no possibility of becoming cyclists, and were excluded from the majority of further analysis. Those respondents who selected category two were categorized as

possible cyclists, and are discussed in the first subsection of these results. The respondents who chose categories three, four, or five were considered current cyclists with varying degrees of bicycle commuting frequency, and are analysed in the second section of the results.

A significant association was found between gender and type of cyclist (Chi-square significant at the 0.01 confidence level). Female respondents were more likely than male respondents to fall into the possible or occasional cyclist category, while male respondents were more likely than female respondents to be regular cyclists, either when conditions were favourable, or throughout the year. This is consistent with previous research findings that in North America women do not commute by bicycle as frequently as men *(2, 3, 4, 5, 6, 7)*. However, 44% of current cyclist respondents were women, which is considerably higher than the 21% of Calgary downtown commuter cyclists who were women *(1)*. The large number of women who responded as possible or occasional cyclists affirmed that women consider commuting by bicycle, and account for a large portion of latent bicycle demand.

For males, older respondents commuting to the University for work were more likely to belong to the regular cyclist categories, whereas younger respondents travelling to class were more likely to belong to the possible or occasional cyclist categories (Chi-square $p = 0.02$). There was no such relationship found for female respondents($p = 0.30$).

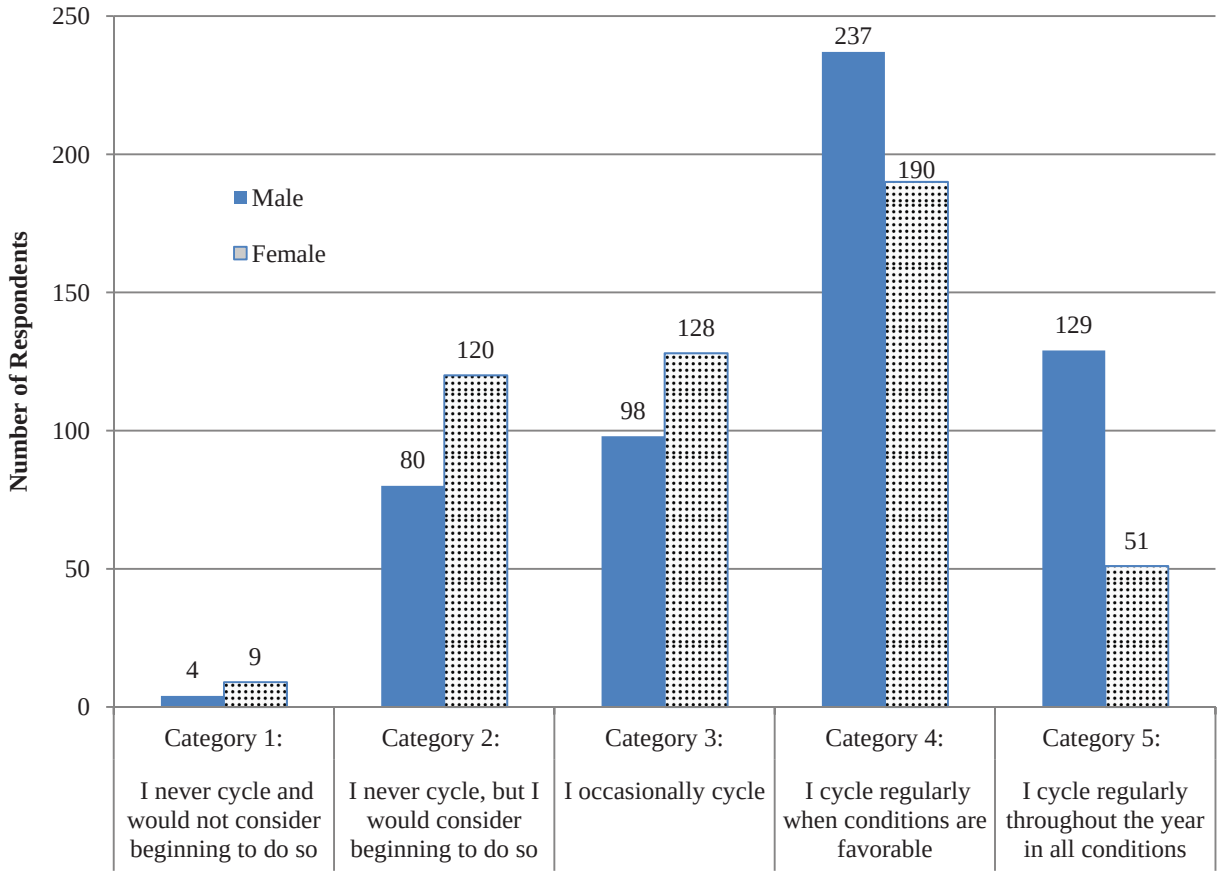

FIGURE 1 Distribution of respondents by of type of cyclist and gender

Possible Cyclists

Gender, Age, and Barriers to Cycling

Possible cyclists were asked what prevented them from commuting by bicycle to campus, and were instructed to check all the listed barriers that applied to them. The percentage of the possible cyclists who selected each barrier is displayed in Figure 2. The results are ordered by the overall percentage of respondents who selected each barrier.

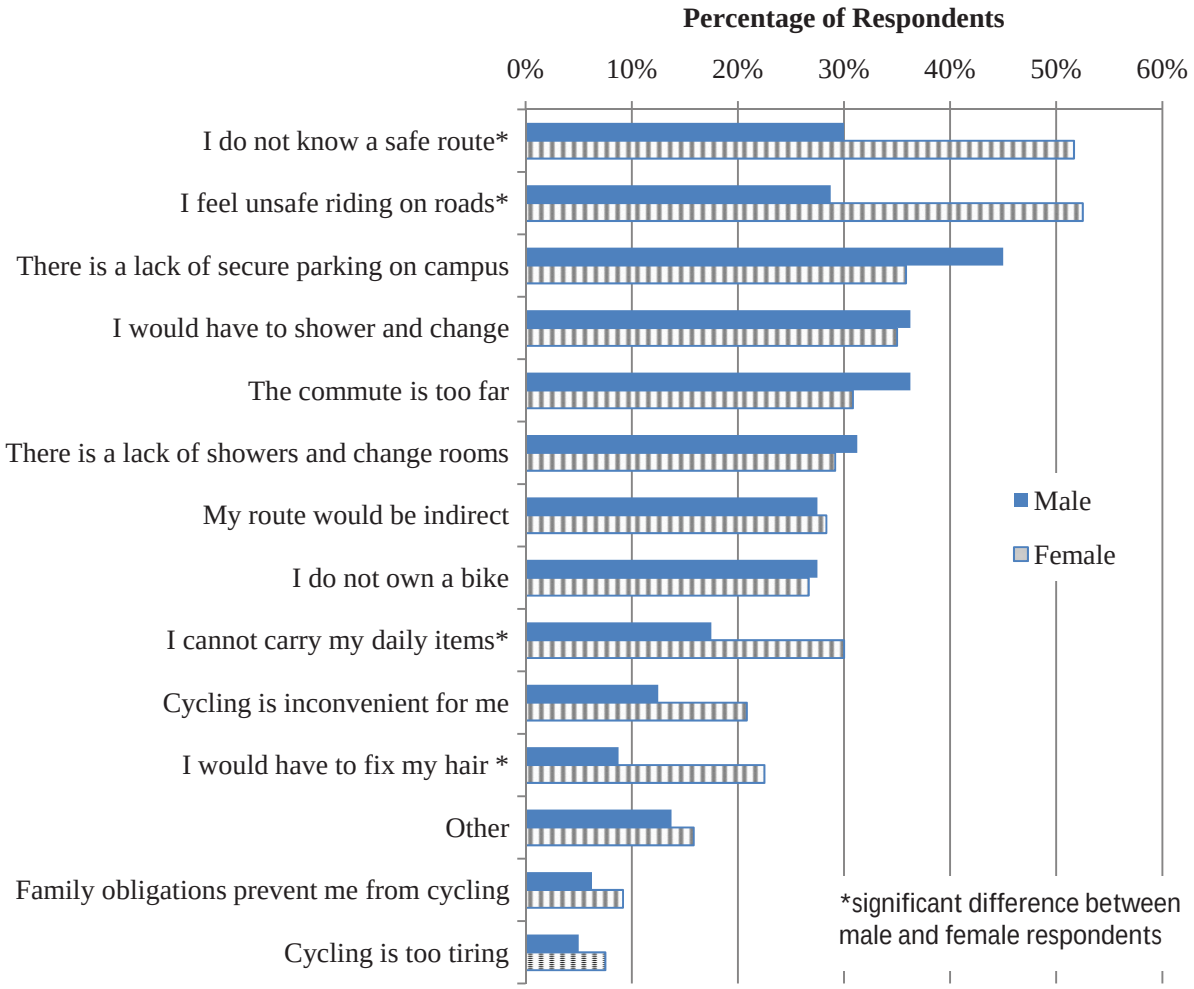

FIGURE 2 Possible cyclist's barriers to commuting to bicycle by gender

A t-test was used to determine if significant differences existed between male and female respondents for each barrier. Significant differences were found at the 0.05 confidence level in four barriers, as shown in Figure 2. In all four cases, female respondents selected the option significantly more often than male respondents did. The lack of perceived safety appears to be a considerable barrier inhibiting women from commuting by bicycle. Another considerable barrier for female possible cyclists is the fact that while cycling they cannot carry the items that they require during their day. Both of these findings support previous research in women's issues in transportation *(9, 10, 11, 12)* and the findings from previous research on women and commuting by bicycle *(3, 4, 5, 6)*. Men have a greater concern than women for the safety of their bicycles when they park them on campus, although this is significant only at the 0.2 confidence level.

With regard to the number of options selected by men and women, women selected an average of 3.96 reasons for not cycling, while men selected an average of only 3.26 reasons, which is a significant difference (p=0.02). This suggests that women perceive not only different, but also more barriers to cycling than men do.

The possible cyclist respondents were grouped two ways in order to determine if age is an important factor in perception of cycling barriers. The group was first split by age and then analysed by gender. Thirty-three years was selected as the dividing age because it was the median of the age categories in the survey questionnaire. This age also seemed to be a reasonable cut-off point between younger, school focused respondents primarily responsible for themselves, and older, working people who were more likely to have family responsibilities. When younger respondents were analysed, the majority of the significant differences disappeared. The only barrier indicated by younger women significantly more often than younger men was not knowing a safe route. In analysis of older respondents, the barriers that were indicated significantly more often by women than men (ordered from largest to smallest difference) were: I feel unsafe riding on roads, I would have to fix my hair; cycling is inconvenient for me. Older men did not indicate any barriers significantly more often than older women did.

Next, the respondents were split by gender and analysed by age. T-tests were used to compare older and younger respondents of the same gender. When women were analysed, younger women were significantly more likely than older women to indicate that the commute is too far and that they do not know a safe route. Younger men were significantly more likely than older men to indicate that the commute is too far, that they would have to fix their hair, and that cycling is inconvenient. Both older men and women were more likely than their younger counterparts to indicate that family obligations created a barrier to commuting by bicycle.

From this analysis, two conclusions can be drawn. First, although all women are likely to indicate that safety concerns prevent them from commuting by bicycle, there is a difference in the type of safety concern expressed by older and younger women. Younger women are unsure about the route to take, while older women are more concerned with feeling unsafe riding on the road. Second, both male and female younger cyclists are more likely than older cyclists to state that the commute is too far. This could be either because they are more sensitive to cycling distance, or because students that live with their parents tend not to have significant input as to where they live.

Desired Improvements and Gender

Possible cyclists were asked to rank their top three most desired on-route and destination improvements from a list of 15 options for each. The list of on-route improvements was adapted from the City's downtown commuter cyclist survey in order to make comparisons with the findings of that study. The percentage of respondents who selected each option as one of their top three most desired improvements, categorized by gender, can be seen in Figure 3.

Considering on-route improvements, the largest percentage of possible cyclists indicated a desire for bicycle lanes, followed by more direct routes, and then by more bicycle paths. There was no significant difference by gender in the selection of any of the on-route improvements. This finding supports previous research that concluded that men and women have similar facility preferences *(2, 4),* and research that found that bicycle network connectivity *(14, 21, 16, 17)* and directness of route *(2)* are important factors in positively affecting levels of bicycle commuting. The similar desire for bicycle lanes is noteworthy as it contradicts previous research that suggested that women prefer to be separated from traffic *(5).* The strong desire for bicycle lanes

is also interesting because there are currently only seven km of on-road bicycle lanes in Calgary. Instead of developing bicycle lanes, the City of Calgary has focused on implementing a marked (by roadside signs only) on-street bike route system, which received the lowest ranking from both male and female possible cyclists.

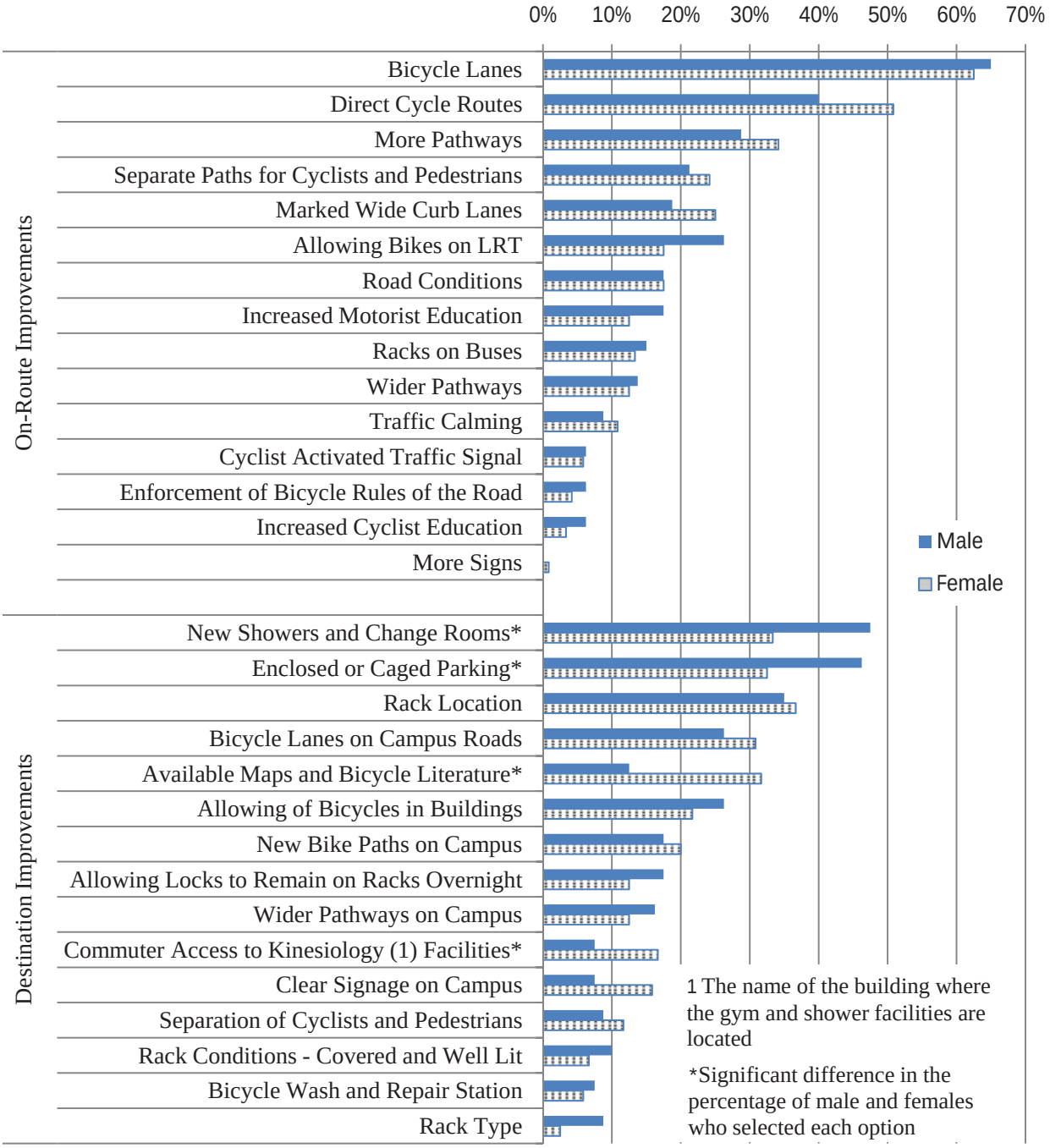

FIGURE 3 Percentage of possible cyclists who selected each option as their first, second, or third most important improvement

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The most requested on-campus improvement by possible cyclists was that of new showers and change rooms, followed by enclosed or caged parking, and improved rack location. Significant differences were found between male and female respondents in the desire for four improvements,, marked with asterisks in Figure 3. The most notable difference is in the desire for more bicycle maps and literature. This finding appears to be related to not knowing a safe route, a barrier that was reported considerably more often by women than men. Garrard et al *(4)* suggested that women require more support, motivation, and instruction to begin cycling than men do, which appears to be supported by this finding. Male respondents indicated a greater desire for secure bicycle parking and for showering and changing facilities on campus.

Cyclists

Frequency of Commute, Gender and Age

Current cyclists were asked how many days per week they commute by bicycle on average in each of spring, summer, fall, and winter. From that data, the average number of days per week commuted by bicycle during the entire year was calculated. The average number of days per week cycled by men and women in both older and younger age groups was compared using a t-test (Table 1). The shaded numbers signify differences between men and women within the age category significant at the 0.01 confidence level. (The cycling categories are those defined in Figure 1.) When the seasons were considered individually, winter was found to be the only season with significant association between frequency of cycling and gender (using a Chi-squared test). Women in categories four and five cycled significantly less frequently then men in the same categories during the winter season.

Length of Commute, Gender, and Age

Cyclist indicated length of commute by selecting the appropriate category in two questions, one pertaining to the duration of the journey in minutes, and the other to the distance of their commute in kilometres. There were 460 males, and 364 females who responded to the duration question, and 300 males, and 229 females who responded to the distance question. The disparity in the response rate between the two questions is likely due to the fact that the duration question appeared near the beginning of the survey and the distance question appeared near the end. The distance question was not asked of respondents who chose to digitally trace their routes. Their distance was extracted from the digital maps and manually entered into the distance variable.

A correlation between the age of the respondent and their commute length was tested for using the Spearman's Rho nonparametric correlation test, while controlling for gender. This test was used because both age and commute length were collected using ordinal categories. A significant positive correlation was found between the age and both distance and duration for males, but not for females.

Using distances extracted from the digital maps, it was possible to compare the mean distances travelled by men and women using a t-test. The results displayed in Table 1 are based on 67 women and 116 men. The mean difference of 1.16 km is significant only at the 0.2 level. Although the average female respondents' commute is consistently shorter than the average male respondents', the lack of significance of the difference limits the support for previous studies that found that women travel less than men do when commuting by bicycle *(2, 5, 6)*. A t-test was also used to determine if a significant difference existed in the digital mapping distances between younger and older cyclists of the same gender. Older men were found to commute significantly further than younger men. Although older women were found to travel slightly further on average than younger women, the difference was not significant. This could indicate either that women live closer to their workplace than men do as suggested by previous literature *(10, 11)*, or that men are willing to use a bicycle for longer distances than women are.

TABLE 1 Frequency and length of bicycle commute by gender and age

		Average number of days per week commuted by bicycle (days)			**Digital map distance (kilometres)**
		Category Three	*Category Four*	*Category Five*	
All	*Men*	0.97	2.51	4.43	7.50
	Women	0.92	2.23	3.70	6.34
Younger than 33 years	*Men*	0.97	2.52	4.53	6.53
	Women	0.98	2.27	3.64	6.30
Older than 33 years	*Men*	0.98	2.50	4.30	8.95
	Women	0.75	2.13	4.00	6.44

Gender and the Occurrence of Collisions and Falls

Current cyclists were asked if they had ever experienced a fall or collision while cycling to campus. Following Aultman-Hall's approach *(2)*, a collision was defined as an event where the bicycle hits, or is hit by another person, vehicle or object. A fall was defined as an event where, without colliding with another object, vehicle, or person, the cyclist lands on the ground. If the cyclist had experienced a fall or collision, they were asked how many of each type of incident they had experienced. The proportion of cyclists who had experienced a fall or collision was compared by gender using a t-test (Table 2). The three categories of cyclists were analysed separately because people who cycle more often are more likely to have experienced a fall or collision. In all three categories, men were more likely to have experienced a fall. Although this was significant at the 0.05 confidence level only for cyclists belonging to category four, the other two categories contained differences significant at the 0.08 level.

When collisions were analysed, male cyclists were found to have more collisions on average than female cyclists in all three categories. The difference was not significant in any of

the categories, but was for all categories combined. When those people who had experienced a fall or collision were asked if they had been injured in the event, there was no significant difference in the proportion of male and female cyclists reporting an injury.

In order to test if the difference in the proportion of men and women who had experienced a fall or collision was due to the fact that men cycle further and more frequently on average than women, three exposure rates were calculated as shown by equations 1, 2, and 3. Respondents were asked to select the year that they began commuting by bicycle to campus from provided categories. The earliest option provided was, '2006 or before'. If the respondent selected this option, their number of years cycled was counted as five, even though it may have been more. Using the calculated exposure rate and the number of falls and collisions reported by the respondents, an average number of incidents per time and distance exposure was calculated and compared (Table 2).

Equation 1 (Ordinal time categories, 769 cases analysed)**:**

$$\text{Time Exposure} = \frac{days\ cycled}{week} \text{ x } \frac{\text{time cycled}}{day} \text{ x } \frac{52 \text{ weeks}}{year} \text{ x } years\ cycled$$

Equation 2 (Ordinal distance categories, 501 cases analysed)**:**

$$\text{Distance Exposure}_1 = \frac{days\ cycled}{week} \text{ x } \frac{\text{distance (ordinal)}}{day} \text{ x } \frac{52 \text{ weeks}}{year} \text{ x } years\ cycled$$

Equation 3 (Digital mapping distance, 174 cases analysed)**:**

$$\text{Distance Exposure}_2 = \frac{days\ cycled}{week} \text{ x } \frac{\text{distance (mapping)}}{day} \text{ x } \frac{52 \text{ weeks}}{year} \text{ x } years\ cycled$$

The most noticeable difference in fall rates were found when younger and older cyclists were analysed separately. Older cyclists were found to experience consistently fewer falls than younger cyclists, although this is only significant when the rates are calculated from ordinal distance categories for all cyclists together, as shown in Table 2. A similar trend was also found in analysis of collision rates, with older cyclists experiencing consistently fewer collisions than younger cyclists. This was found to be significant as shown in Table 2. When fall rates were investigated with no split by age, no significant differences were found in the number of falls experienced per unit of exposure between men and women in time, ordinal distance, or digital mapping distance. When collision rates were analysed, men consistently experienced more collisions per exposure unit than women did, but the difference was not significant at the 0.05 confidence level.

Because time and distance were collected only in categories, the midpoint of the selected category was used as the time or distance value for the calculation. If the maximum available time category of "more than 45 minutes" was selected, 50 minutes was used. Similarly, if the maximum available distance category of "more than 20 km" was selected, 22.5 km was used in the calculation. Working from the ordered categories in this way introduced error, and is the probable cause of the disparity between the incident rates per distance calculated using digital mapping distances and those calculated using ordinal mapping values.

TABLE 2 Occurrence of falls and collisions (shaded cells denote significant differences at p = 0.05)

Incident Occurrence		All		Younger than 33 years		Older than 33 years	
		Men	*Women*	*Men*	*Women*	*Men*	*Women*
Percentage of repondents who have experienced a fall	*All Cyclists*	**58.9%**	**39.6%**	**53.1%**	**37.1%**	69.3%	46.0%
	Category Three	40.0%	28.2%	36.8%	22.8%	46.4%	43.8%
	Category Four	**54.9%**	**39.7%**	**50.3%**	**37.7%**	**63.8%**	**44.1%**
	Category Five	80.6%	66.7%	74.6%	66.7%	87.9%	66.7%
Percentage of repondents who have experienced a collision	*All Cyclists*	**13.9%**	**7.1%**	**11.2%**	**6.4%**	**18.6%**	**8.9%**
	Category Three	6.2%	4.0%	5.8%	2.2%	7.1%	9.1%
	Category Four	11.0%	6.9%	10.3%	6.9%	12.3%	6.8%
	Category Five	24.8%	15.7%	18.3%	14.3%	32.8%	22.2%

Incident Occurrence and Exposure Rates		All		Men		Women	
		Younger	*Older*	*Younger*	*Older*	*Younger*	*Older*
Falls	Average number of falls per 100 hours	1.11	0.99	1.13	0.90	1.10	1.16
	Average number of falls per 10,000 km (from ordinal categories)	**7.28**	**5.20**	7.53	5.53	7.10	4.67
	Average number of falls per 10,000 km (from digital maps)	5.75	5.42	5.50	5.62	6.23	5.13
Collisions	Average number of collisions per 100 hours	**0.18**	**0.07**	**0.22**	**0.08**	0.13	0.05
	Average number of collisions per 10,000 km (from ordinal categories)	**1.29**	**0.48**	1.79	0.58	0.73	0.29
	Average number of collisions per 10,000 km (digital maps)	1.70	0.58	2.79	0.77	0.17	0.05

Desired Improvements and Gender

Current cyclists were asked to rank their most desired on-route and destination improvements in the same way that possible cyclists were. The percentage of respondents who chose each option as one of their three most important improvements categorized by gender is shown in Figure 4.

The most requested on-route improvement, by a factor of two over the second most requested improvement, is the desire for more bicycle lanes. Although more pathways was the second most requested improvement, the number of requests by women for more pathways is less than half of the number requesting more bicycle lanes. This suggests that women do not appear to have a strong preference for off-road bicycle paths and have an equally strong desire for bicycle lanes as men do. Considering that the top three selections by both men and women pertain to the connectivity of the network, the availability of bicycle facilities, and the directness of route, the type of infrastructure may not be as important as the existence of a facility. Women, as much as men, seem to desire a fast, easy route to their destination. Men and women were also similar in the low importance they placed on signage, with the option of more signs ranking as the least often cited improvement.

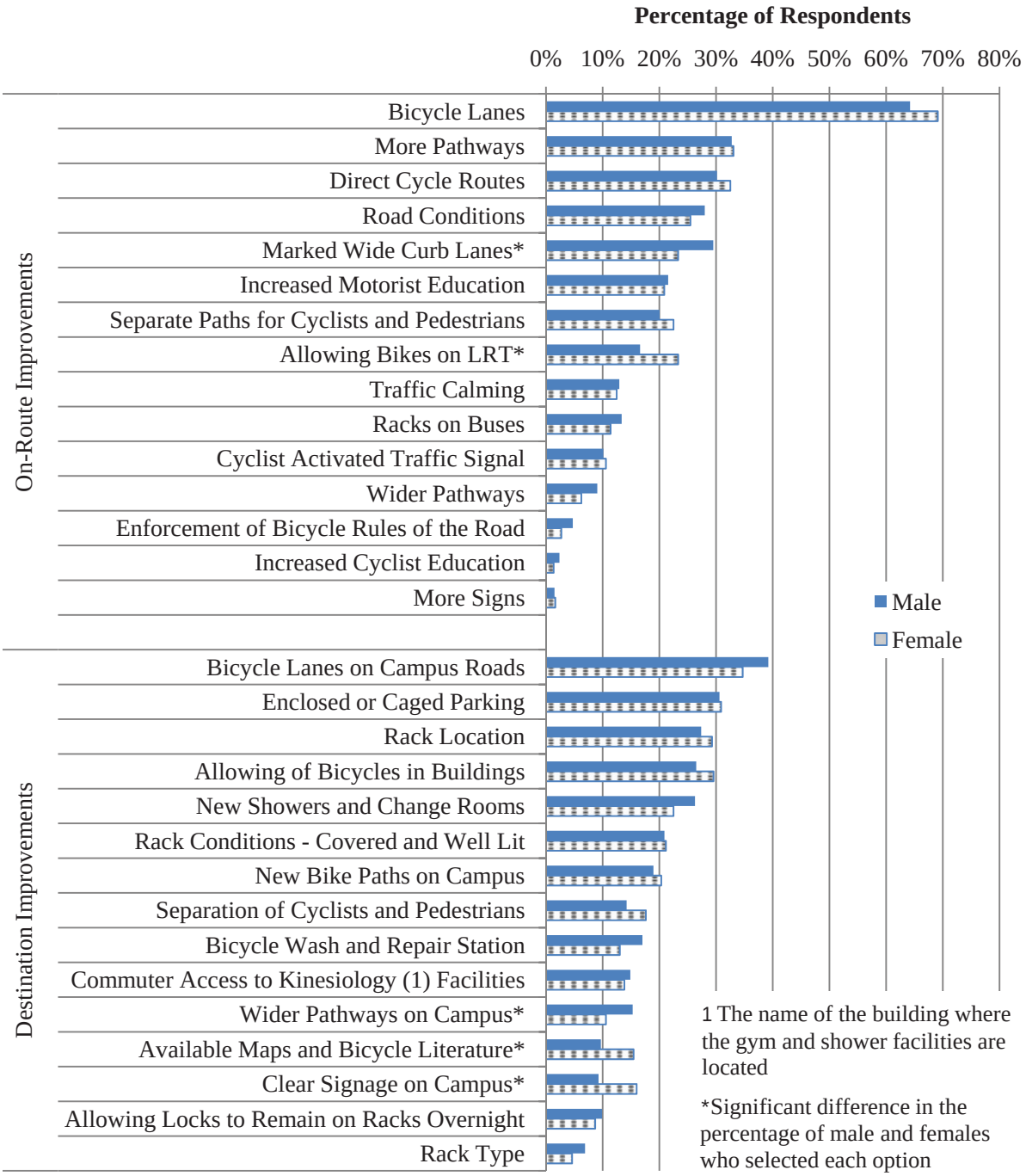

FIGURE 4 Percentage of current cyclists who selected each option as first, second, or third most important improvement

A t-test was used to determine if there was any significant difference in the desire for an improvement between male and female respondents. For on-route improvements, there was a significant difference in the desire for bicycles to be allowed on the LRT (light rail transit) system at all times, with women selecting this option significantly more often than men.

Currently, bicycles are not permitted on the train during weekday peak hours (6:30-9:00 am and 3:00-6:00pm) or in crowded conditions such as before and after NHL hockey games or concerts. Men were more likely than women to indicate a desire for wide curb lanes, a facility that is similar to an on-street bicycle lane.

Using a t-test, significant differences were found between men and women in three destination improvements: clearer signage on campus, more bicycle maps and literature, and wider pathways on campus. The first two improvements were indicated significantly more often by women and the last by men. The first two desired improvements are consistent with findings about women's need for cycling instruction and encouragement. The third finding is somewhat unexpected in that it is not supported by any previous literature. Bicycle lanes continue to be an important amenity on campus and were the most requested destination improvement by both genders. Secure parking, the availability of showers and lockers, and permission to bring bicycles in campus buildings are all improvements that are highly desired by men and women.

CONCLUSIONS

The intention of this research was to gain information both from people who currently cycle to a university and those who have considered doing so. The online survey method allowed the entire campus community access to the survey, which ensured that possible cyclists and occasional cyclists also had an opportunity to voice their opinion. This method also proved very successful at reaching commuter cyclists to campus as over 85% of the estimated cyclists on campus responded to the bicycle survey.

Possible and occasional cyclists are an important demographic to consider because they present a huge possibility to increase bicycle modal share. The distribution of respondents to the survey suggested that women are more likely to belong to the possible and occasional cyclist groups, while men are more likely to be regular cyclists, either in favourable conditions, or throughout the year. Because of this, women's cycling needs should be addressed in order to attract a large proportion of the possible and occasional cyclists to regular bicycle commuting. In analysis of barriers to cycling for possible cyclists, women were found to have a greater concern for safety while cycling than men were. Women older than 33 years of age often indicated a concern with feeling unsafe riding on the road, while younger women showed concern for not knowing a safe route. When desired improvements were analysed, women indicated a much stronger desire for bicycle maps and literature. These two findings together suggest that a combination of improving cyclist safety to and on campus and informing women about safe routes would increase the likelihood of women possible cyclists beginning to commute by bicycle. Female possible cyclists shared similar on-route facility preferences with male possible cyclists. Both indicated a strong desire for more bicycle lanes, more direct routes, and more bicycle pathways.

Analysis of current cyclists to the University of Calgary indicated that women are cycling less frequently than men in the same cyclist categories, and cycle shorter distance on average than men do, although this was not found to be significant. This suggests that even in the current cyclist category, women present a large opportunity to increase bicycle commuting if their needs were directly addressed. A clear desire for more bicycle lanes became apparent when the desired improvements for current cyclists were analysed. There was no difference in the desire for bicycle lanes between men and women. Although women indicated more concern for safety than men did, analysis of the occurrence of falls and collisions concluded that male and female cyclists experience similar fall rates per measure of exposure, and male cyclists experience more

collisions per rate of exposure on average than female cyclists do, although not significantly so. Cycling also appears to become safer as people age, with older respondents reporting less falls and collisions per exposure measure than younger cyclists.

There are many improvements that can be made on campus and by the City of Calgary to increase the modal share of bicycle commuting to campus. The single most important improvement that could be implemented by both the City and University is the provision of bicycle lanes on roads to and on campus. The most requested improvements by both possible and current cyclists clearly indicate a desire for a connected, direct, and safe cycling network. Considering that women possible cyclists identified safety concerns most frequently as a reason for not currently cycling, improving safety could encourage these women to try commuting by bicycle. Many of these suggestions could be implemented to and on campus to create a better cycling environment. In addition, women at the university appear to need more encouragement and support to begin cycling then men do, so the promotion of cycling to and on campus by increasing the amount of available literature and bicycle maps may encourage women to cycle more.

ACKNOWLEGEMENTS

The authors would like to thank the City of Calgary, the Natural Sciences and Engineering Research Council, and the University of Calgary for financial support of this research project, Jean Gomes, the Coordinator of Assessment and Retention Studies at the University of Calgary, for all her help in survey design and distribution, and Jo Wright, Sustainability Coordinator at the Office of Sustainability on campus for her help in creating the on-campus questions in the survey and in providing background information. The authors would also like to thank the many people on campus who assisted with questionnaire testing and publicity, and of course those 1128 people who responded to the survey.

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APPENDIX C: List of All Problem Locations Mentioned on the Digital Route Maps

The list is ordered firstly by the number of respondents who indicated the problem area and then alphabetically. The location has been identified from their map submission; the description of the problem has been simplified from the respondents wording.

Location	Problem	Number of Times Reported
Across Shaganappi Trail from Montalban Cres. NW to Childrens Hospital	Pedestrian/Cyclist Bridge Needed	6
32 Ave NW and 39th St NW	Signal not Activated	2
Capital Hill Cresent	Snow not cleared	2
Tunnel under 14th St NW (Confederation Park)	Icy	2
16th Ave and 19th St NW	Dangerous Intersection	1
33 Ave SW and 20 St SW	Dangerous Intersection	1
23rd Ave NW	Icy	1
24th Ave and University Gate NW	Dangerous Crossing	1
24th Ave NW and Collegiate Rd NW	Dangerous Crossing	1
32nd Ave and 33rd St NW	Signal not Activated	1
32nd Ave and 49th St NW	Dangerous Intersection	1
32nd Ave and Collegiate Blvd NW	Signal not Activated	1
32nd Avenue	No Shoulder	1
4th St near Travender Rd. NW	Rude Motorists	1
Across 16th Ave from Foothills Hospital to Utah Drive	Pedestrian/Cyclist Bridge Needed	1
Banff Trail Station	Icy	1
Bow River Pathways by Bowness Road NW	Poor Quality Facility	1
Bow Trail SW to Worchester Dr SW	Facility Needed	1
Bowness Road and 43 St NW	Snow not cleared	1
Bowness Road and Shaganappi Trail NW	Dangerous Intersection	1
Collegiate Blvd and Collegiate Road on Campus	Dangerous Intersection	1
Confederation Park	Icy Bridge	1
Crossing Under Bow Trail Flyover	Dangerous Intersection	1
Crowchild Trail and Kensington Rd NW	Noncontinuous Facility	1
Edworthy Park	Snow not cleared	1
From Pumphouse Parking to Railroad tracks	Poor Quality Facility	1
Hospital Dr NW	Poor Quality Facility	1
Overpass from 21st NW across 16th Ave to Capital Hill Cresent NW	Poor Quality Facility	1
Parkdale Blvd and 29th St NW	Dangerous Intersection	1
Pathways between Sovereign Cres. SW and Bow River Pathway	Icy/Uncleared	1
Pathway along 32nd Ave	Noncontinuous Facility	1

Pathway between Scimitar Bay NW and NoseHill Trail NW	Snow not cleared	1
Pathway north of 16th Ave NW (between 19th St NW and Tye St NW)	Snow not cleared	1
Pathway on Campus	Icy Spots	1
Pathways over Shaganappi from Bowness to Childrens Hospital	Snow not cleared	1
Pedestrain Pass from Uxbridge Dr to Underhill Dr	Poor Quality Facility	1
Richmond Rd and 17th Ave SW	Dangerous Intersection	1
Shaganappi Trail NW	Dangerous Roadway	1
Tuscany Blvd. NW East of Stoney Trail NW	Snow not cleared	1
Uxbridge Dr NW near 16 Ave NW	Rude Motorists	1
Varley Drive NW	Dangerous Roadway	1
Varsity Estates Drive	Icy Spots	1
West Campus Way	Noncontinuous Facility	1

APPENDIX D: Verbatim Responses to the Open-Ended Question, "Are there any specific roads or pathways on your bicycle route to or on the University campus you would like to see improved?"

A total of 480 responses were received. The responses appear in the order the survey response was submitted. No attempt has been made to categorize the responses.

- Northmount Dr. and 32nd Avenue
- I want to see better access to the bike paths from McKenzie Towne.
- 19 St West
- Charleswood between Crowchild and Northmount Drive. Possible bikepath installed South side of street.
- The pathway by Banff Trail School needs curb cuts at both ends.
- The overpass by the University C-Train station needs a curb cut on the east (residential) side.
- A bike path/lane along Charleswood Drive.
- Connection between the river pathways and the university (from montgomery area/foothills).
- The overpass over Crowchild Trial at 13 Ave NW only has stairs and taking the overpass over 16 Ave at 21 St. NW requires road travel to access the west campus.
- 32nd avenue bridge over Crowchild Trail: there is not much room between the driving lane and concrete barrier. There are many busses that use this road and the lack of space in the right lane creates dangerous situations.
- Capitol Hill Crescent is never plowed. Access to campus from south east is not terribly convenient. Access to pedestrian bridge at University C-train station from Capitol Hill Crescent needs a ramp and a no-parking zone.
- Around Market Mall Gravel is bad on the road In the winter, lack of snow removal prohibits biking to work.
- Have a dedicated bicycle lane on main sidewalks on campus. Pedestrians tend to walk the whole width of even the widest walkways, making safe passing impossible.
- Elbow drive needs improvement!!!! I know there is the 5th st bike route but it is garbage. It is indirect, horrendously slow (Heritage Drive crossing, dirty 90% of the time, etc. Elbow drive even though it is too narrow poses a GREAT way for calgary south cyclists to get into downtown. Unfortunately it is too narrow with no space alloted for cyclists, which tends to give truck-driving calgarians the need to run us of the road not realizing a crash at 40 or 50 kph could be fatal. In addition Elbow drive has too many potholes which happen to occur on the right hand side of the road mostly. This is bad for road tires inflated to 100 psi (for commuting tires as well for that matter). Also since I live in summerset the fishcreek poses a problem since there is no other way to cross it other then the paths. The roads that cross it are too large and dangerous to bike on.
- University Drive - the most direct way for me to cycle to the University - but too dangerous when the roads are bad in winter.
- 32 ave is usually a very scary place to ride. a bike lane would make a HUGE difference there. I ride it from Campus Drive to 37 Street, and usually get narrowly missed by at least one car each time I ride on that road.
- 24 ave nw
- Snow removal on new path adjacent and parallel to 14 St NW.
- Gravel clearing on the roads. very heavy from snowy winter
- river to university access, in particular through home road

- Access to the campus from Charleswood. CHarleswood Drive is very busy and dangerous and once on campus there is no direct way of getting to the centre of campus without going through parking lots, or buildings, jumping curbs, etc.
- Between the foothills hospital and the main campus
- Crossing 29th street in front of hospital - and internal route from their to Health Sciences Building. Traffic light is short; volume of traffic is heavy (out of and into hospital).
- The controlled intersection at the west corner of campus married student quarters, which now feeds a large volume of traffic to the childrens hospital. I cross 32 Ave. at the crosswalk and find that it is awkward getting on the road/path to the centre of campus
- dedicated bike paths around / through campus
- I live on the bow river pathway, and I would like to see a good path that goes through the hospital, and one that goes by the hospital. Most of the paths that I take are somewhat round about.
- Would like to see a bike path added to the sidewalk on the north side of 24th Ave, south side of the Mormon Church and on University property. I use the sidewalk because it is safer than being on the road but it is really for pedestrian use not bikes.
- University Drive
- University Drive
- Better signage on bike paths around 19th St/park
- I'd like to see the LRT go below grade at 17 ave and 45 st when it crosses the cycling route
- Campus drive should have a bike lane leading from 32nd avenue into the kinesiology complex.
- The pathway along 32ave to market mall. Winter clearing is important.
- Difficult to get to the University. Few paths around University Drive. Very dangerous to ride bike on that road. Why I don't ride more often.
- Pedestrian/cyclist overpass on shaganappi from Montgomery to Children s hospital
- Charleswood Drive / 32nd avenue
- The Varsity Courts (Family Housing) bikeways are getting old and the tree's roots are creating dangerous bumps on the bikeway's asphalt.
- getting from 29 st. to the University is not quite ideal, the connection between Uxbridge Dr. and Underhill Dr. is inconvenient
- The overpass above 16 Ave south of the Children's Hospital requires cycling against traffic (on the sidewalk essentially) , then crossing the road at an unsigned crosswalk to enter the grounds south of the hospital. this is a bit dodgy. Also, the crossing of 24th Ave NW just east of the hospital leaves pedestrians and cyclists invisible to traffic until they enter the roadway. This is a very, very dangerous crosswalk. I expect to see accidents here unless signage is greatly improved.
- (1) Pathway between 14 St. NW and 19 St. NW next to the John Laurie is hard to use for bike commuting since there are so many dogs off leash, toddlers, and walkers with earphones impeding the journey. We need a dedicated bike path to facilitate this journey. (2) There should be a priority on cleaning gravel and dirt off of the Charleswood Drive bridge deck over Crowchild. (3) There should be a priority on repairing the potholes on all major roads leading into the university.

- Certain areas along the Edworthy Park trail are in terrible condition. In addition, the path between Stampede Park and Eau Claire has been closed, and has also been in terrible condition for a long time. i would LOVE to see those improved!
- The section of 24th Avenue NW that runs between Confederation Park to the Crowchild Trail intersection needs some thought. Why not forbid on road parking and introduce a painted bike line? It wouldn't cost very much, and it could save lives. I've nearly been hit by vehicles on several occasions because of poor snow clearing while traffic trying to pass so they can 'catch' the light.
- There is a section of my ride / walk that needs much improvement. There exists a nice paved path from campus to the new pond behind Kids hospital. What is needed here is a continuation of paved or groomed path beyond the new road connecting the foothills Hospital and Kids Hospital. Presently there is a mud path going down the open hill to Shaganapi Tr. It would be nice to see the trail improved and connecting to the city bike path system at Edworthy bridge area
- The access road to the SAIT campus from 10 ST NW 2. Add a bicycle lane to 29 ST NW
- Along 29th st from Memorial drive up to the university and through the residential area
- Route through C-train/McMahon Stadium plowed through winter (most importantly the side streets on either side of the pedestrian bridge, west of 19th St) Improving 20th Ave or other East-West st as a bike route (including lights that are accessible/changeable by cyclists as is used on most bike routes in Vancouver)
- The top of Home Road to 32nd and Crowchild Trail. There is only a narrow sidewalk on the south side of home road/32nd ave. I generally walk this section of road as the lanes are too narrow for both a car and a cyclist and cars don't slow down for the space provided. Where there is a bike path, it abruptly ends where you have to get off your bike and walk it to either the sidewalk or cross the street to transfer to the road when it is clear.
- The two most dangerous parts of my commute in my opinion are: -going up 29th crossing 16th is often very sketchy in the morning- the intersection is extremely rutted and there are a lot of people turning and speeding through the intersection only to stop and turn right in front of you to turn into the tim hortons (right-hook). -The portion of 32 ave between home road and 50St NW- very narrow street with cars parking along the side- so I am trying not to get doored by the parked cars (a few close calls) and traffic is trying to pass my on a blind hill- which means that they often encounter a car coming in the opposite direction and have to move right quickly and are forced into me. I try to move very quickly through here- I have tried taking the lane too- but drivers still insist on trying to pass.
- 53rd street bike lane has parking traffic in it and does not get plowed in the winter.
- sarcee
- bicycle access to 32nd AVE NW
- 1) the bridge over Chrowchild Trail, where Charleswood Dr. changes into 32 Ave. NW, should have a bike lane added on both sides. 2) the corner of 14. Street North and 24 Ave NW appears very dangerous for bikecommuters. Cars should slow down to 30 / km per hour or something else. 3) 23 Ave NW could be made a bike route
- Paths between maths and science buildings that parallel the internal road (that comes in off 32nd Ave....you can't walk safely along there when it snows...and either have to walk on the road or in

deep snow/ankle-breakers!!! On Calgary roads, a line should be painted to enable cyclists to have a valid pathway

- Access to the Foothills Medical Complex from the West or East. There is very little direct access to FMC at this time, but the new overpass from ACH helps access from the North. It is also relatively dangerous to bike around the FMC area.
- This is more of a general statement, but the bike connectivity between the campus and the surrounding community is very poor. I find that there is a lot of confusion created between cyclists and cars because there are no real entrances to the Uni by bike - cyclists are switching between roads and paths and sidewalks. When I ride to campus I am a “vehicle” on the road, but then when I get into the campus, I ride through a parking lot and then change to the pathways and become a “pedestrian”. And I'm not even sure if I am allowed to be riding my bike on the pedestrian pathways on campus. Bottom line: it's just not very clear.
- Yes, I'm at the Foothills Medical Centre. The intersection of 16th and 29th is dangerous. There are no sidewalks for either pedestrians or cyclists on the West side south of 16th on the hospital campus! -Getting across 32nd Ave at 37th St could be improved -- there is a crosswalk, but on the south side there is no path or sidewalk, and only stairs up to access other paved areas. -The bike path around past the Childrens Hospital is shared with pedestrians through the park, but there is no bike lane on the road from the Childrens south to half way down to the bridge over 16th. People drive fast down there and it is particularly dangerous in Winter when the curb side was not plowed. -From the Shell Calgary Research Centre, there is an unofficial path to the light on 32nd. This indicates that it gets lot's of use, so there is need for better access there. - The intersection at Crowchild and the Brentwood C-train parking lot is a dangerous place for cyclists, with drivers getting impatient due to line-ups to make turns.
- Most of the roads in residential areas are safe enough, but in general riding on busy roadways in this city is downright dangerous, even if there are designated bike routes or lanes indicated.
- 24th avenue between University and Crowchild Trail.
- The 'Edworthy Hill' and parking lot on the south side of the river - there are a lot of potholes. Also, painting a designated 'bike lane' on roads around the university would promote cycling even more. For instance, 24th Avenue has low traffic volumes (especially West of University Drive) and is amply wide enough to accommodate a designated bike lane.
- crowchild trail west of U of C
- Bike pathways or designated bike lanes along major roads s.t. cyclists don't have to ride w/ cars. Eg. Crowchild Tr (both directions from U), 19 St NW, 24 Ave NW
- Bike lane or path on University Drive
- the pathway between 14th street and the pumphouse theatre - south side of the river; it is quite narrow and the drainage slant towards the river makes it very treacherous during melting (ice is brutal); pathway from crowchild to 29th street - improvements were started but there is still work to do, lots of tree roots etc. and poor drainage
- The intersection of 24th Avenue & Crowchild Trai, 24th Avenue itself, 32nd Avenue
- 29th Street NW - needs bike lane painted on road.
- Overpass on 32nd avenue
- I have to mostly bike on the roads with the usual traffic, it would be nice to have more bike lanes, so that cars respect my right of way too. Mostly it is the streets around the Market Mall where

cars constantly turn to and from the Mall and don't respect bikers. One specific corner is 49 ST and 32 Ave NW, cars always cut bikers off when they turn right onto 32 Ave from 49 ST or they never respect the yield sign at this intersection coming from the 32 Ave.

- YES. The path along 32nd Ave, all the way from Home Road, is abysmal. You have to cut across the sidewalk at one point, and traffic is scary!
- Fix pot holes on 32 Ave
- The road from the bottom of the cycle path beggining up the hill passing by the foothills hospital. Needs a bike path both ways up and down to get safely to the memorial drive pathway system. Going up is only okay but down is very dangerous.
- The connection between Uxbridge and Underhill that is used to go between main campus and Foothills.
- 49th St / 32nd Ave around Market Mall
- Proper crossing of Shaganappi Trail from the neighbouring community of Montgomery at the Children's Hospital. Bicycle lanes marked on roads. Ability to leave the campus towards Shaganappi Trail without having to cycle the WRONG WAY down the traffic ramp bringing cars from Shaganappi Trail northbound into the campus.
- bike lane on 32 ave north to brentwood
- All of them! I know, wishful thinking... mainly I would like to see a realization that a bike route is more than just posting a few signs along a pre-existing street. Add bike lanes, bike level intersection crossing buttons, etc.
- Going on 14 Ave in the area of SAIT and North Hill Mall, and paralel to Crowchild Tr up to 24th Ave -- better signs, specified space on the street for bikes
- connection south of Market Mall (along 32nd Ave) to Home Road needs to made bike-accessible - right now, one is forced to go on the side-walk against traffic
- 10th street between the Bow River and 20th avenue nw
- I think there should be a wider sidewalk for bicycles along 24th Ave South of the University. A bicycle overpass across Crowchild following along 24th Ave would also be safer and more convenient.
- Shag north of John Laurie, bike lane would be good. Shag to Dalhousie Dr (Churchill High School) bike path required.
- Paths near Crowchild trail NW/university Ave NW
- add bike lanes along 32 Ave NW
- There is no direct and easy way out of my area in Hawkwood which avoids John Laurie Boulevard and Sarcee Trail, other than big detours through surrounding neighbourhoods
- there is a section of trail from the top of porcupine valley on nose hill that leads almost directly to the bridge over John Laurie Blvd that really should be paved this would save me a lot of time and reduce damage on the hill
- Pedestrian/cycling (no stairs please!) bridge over Shaganappi near Children's hospital. Completion of hospital drive bike/pedestrian pathway.
- better cycling lane up 19th street NW
- The south parking lot and the bridge in Edworthy park is never cleared in the winter time, even though the north lot is. The south sidewalks and bridge are often icy because it is not cleaned, making it more difficult to bike when the weather is nice, but there is still snow on the ground

- A bike route along Crowchild Tr. This is a major missed opportunity given that this road (University in direction NW) has been majorly renovated in the past few years.
- 19th Street NW (but I think there is already a city in plan to improve this bike route) 5th Ave NW - it would be great to have a dedicated bike lane on this street and a ramp/overpass over Crowchild would be fantastic! 24th Ave NW - would also be nice to have a bike lane on this street Bike path could be widened just east of Kensington Road NW (where the foot path and bike lane come together)
- The roads through the research park are not very well maintained.
- Nose Hill pathways
- Only cycle bridge across Deerfoot is the one near memorial for the North side of the city. Would like to see a bicycle bridge/lane addition on 16th avenue or McKnight deerfoot bridges.
- Bike lane on University Drive connecting main campus and Crowchild Tr.
- The bike path along 32nd Ave (West of the U of C) is often not cleared or has large puddles that force me to use the road.
- 24th - potholes and gravel. winter ice buildup from insufficient ploughing
- University research park. Sometimes the snow is not cleaned
- Crowchild
- 14th st nw crowchild
- Although there was some work done on the pathway that parallels Memorial Drive West of downtown, there are still large bumps because of the freeze/thaw cycles. It would also be nice if this heavy-traffic route was dimly lit just before dawn and after dusk.
- link between tuscany and scenic acres
- 14th street SW could really benefit from a bike lane to the bow river pathway.
- 32 ave / charleswood is terrible 24 street is now used a through-road when it shouldn't be the entrance to the university where the eeel building is, the worst big mud pit I can't believe I haven't died there it is so bad the intersection at the ramp to crowchild and 32 ave I almost get hit there 4 times per week, with cars trying to turn left and race the oncoming bus almost run me over.
- From Ranchlands into Dalhousie
- pathway along memorial/parkdale east of 29th and west of crowchild -- terrible!
- side streets plowed when it snows
- The sidewalk connecting 16th Ave NW at 19th Street NW to Capitol Hill Dr (it runs alongside the C-train line near the Banff Trail station)
- It would be great to see a bike path along university drive. There is space to add one on either side of the road. The road there can see high volumes of traffic leaving no space for bicyclists.
- Brisebois rd
- Via northwest, higher than the bow river pathway.
- All routes from the river valley (e.g. Parkdale) up to the University are pretty busy for bicycles. Some bike lanes (perhaps passing by the Foothills hospital) would be good.
- Edworthy Park to campus via west campus, particularly crossing Bowness Road.
- Unwin Road. Very narrow, dangerous hill.
- All of them! none have bike lanes!
- 24th Ave and the bus loop could have designated bike paths, as well as the university loop.

- I would like the path behind the Children's hospital across Shaganappi to be permanently opened up with a flashing yellow light for safety - or an overpass
- Access to campus from the North along 32nd.
- more bike lanes in downtown calgary and on all other roads. Biking on the street without dedicated lanes is pretty nasty. Car drivers in Calgary still seem to be surprised by seeing a bike on the street.
- Paving on campus itself could do with an overhaul. There is no shortage of adjacent sidewalk blocks which are vertically offset by an inch or more. Especially on the route to Mac Hall from Lot 10.
- There are many places where the sidewalk curb is not sloped down to the road to make it easier for bikers to cross roads and get back up on the sidewalk. I primarily stay on the sidewalks because there are hardly any biking lanes around where I live and driving on the road is more stressful.
- Plowing of Capitol Hill Crescent down to 16th Avenue during the winter
- All of the parks through Dalhousie with the bumpy cracked walkways. I now take the road instead.
- There aren't many real bike paths or bike lanes on roads, and most drivers don't understand the rules of the road regarding cyclists, so it's pretty dangerous. So... all roads should be fixed up. The rare bike lanes present are full of gravel & garbage, which is awful if for a road bike.
- Going up the hill to the foothills medical center on 27th St. from memorial drive.
- 24th Ave NW
- A dedicated bike route from the Foothills Hospital (29 St and 16 Ave NW) through University Heights to the south side of campus. The only current route is a back-alley pedestrian path with gates.
- route from bowness
- It would be nice to have a bicycle path along University Drive, between the University and Crowchild Trail.
- Moving between Royal Oak and Arbour Lake
- A pedestrian/cyclist crossing is very much needed over Shagganapi trail behind the children's hospital, from Mackay road. In fact the city frequently repairs the fencing along the highway which promptly gets torn down by what are surely hundreds of people crossing there.
- I like to 32 ave improved. Perhaps from Safeway or Brentwood mall to Montgomery community where it leads to Bow River cycle path.
- 40th ave
- along the west side of 29th St. along Foothills hospital - there's no bike path and it's dangerous to bike with traffic!
- Need paths down University Drive. The traffic is to crazy to ride on the road.
- During the spring, it would be nice if the sides of the road on 24th avenue could be cleaned early on, so bikers don't have to take up the car space on the road. I get beeped at a lot.
- 24th Ave (it is often so crowded that I have to use the sidewalk)
- The access to the university for cycling could be greatly improved. There is no dedicated pathway from the Bow river system to the U of C. Travel up the 29TH street hill and continueing on to the university should be improved and have dedicated pathway system. I often travel from the NE

across confederation park to the university, which is a good way to go but ends in some on street cycling. When I first started cycling to the uivesrsity I was supprised that the pathway system going to the university is less complete than other parts of the city.

- 24th avenue - in the winter, the shoulder is not plowed so the space for bikes is filled with snow and gravel. there should also be a pedestrian/cyclist overpass over crowchild
- passing by market mall
- on street bike lanes for going under Crowchild Trail on Brisebois Drive NW
- University Drive needs a bike lane from 5th Ave NW to 24th Ave. The speed of traffic on this route and the number of on/off ramps makes it dangerous for cyclists to share lanes with cars.
- Pathway on south side of 32 Ave NW from Shaganappi Trail to 39 St NW
- Pathways on the shore of the Bow River east of DT (south under construction, north not ride-able in winter due to frozen bridge-ways and lack of traffic lights (Edmonton trail) - it would be great to schedule the construction NOT around the winter time (or finish it finally)
- the bow river pathway from carburn park to riverdale (this is the only unpaved section)
- entering campus from the corner of 24th ave and crowchild. Cyclist have to do a big loop around or pedal on the grass.
- University Drive
- There is no sane way to get across the river. The route from 17th Ave SW (the old Children's hospital) to the pathway on the North side of the river is INSANE
- Everything in the winter (32nd ave NW, Varsity Dr NW, 37 st NW, etc...)! With all the snow and ice pushed to side, there is not enough space for cars to safely pass. Also the roads that are less plowed (residential - Varsity Estates and 53rd St NW especially) develop a layer of ice that is hazardous.
- having actual bike lanes on major roads (24th ave, crowchild). 24th ave has a lot of cars parked along the sides, making biking more dangerous because i have to ride into the lane to get around them, and i have to watch for car doors opening. the sidewalks on 24th ave (east side of the university) are incompatible with enjoyable cycling because they do not have ramps connecting with the roads, so i ride on the streets.
- the road around Banff Trail School is terrible in winter. Very icy and does not get plowed at all. The ramp on the University side of the train station can become icy and slippery in the winter as well.
- A designated biking lane on 24th Avenue NW would be great, with the cars removed from the street.
- 24th/20th avenue - a bike lane would be appreciated.
- cycle lane on 14th avenue NW
- Charleswood bridge over Crowchild trail
- Brentwood mall area
- Bow valley pathway (between crowchild bridge and 28th st) is often quite icy due to large puddles resulting from poor drainage and has significant frost heaves that could be repaired
- 10 ave from 4th St SW to 14th St SW
- I know its not really street claening season yet but getting the gravel off of the sides of the roads ASAP would be very appreciated (I take 53rd almost all the way to/ from school to edgement)

- I'm often ignored at the 4-way stop by lot 10 -- however, I don't have any ideas of how to improve this. Also, the lights at the intersection of 16th street and 32nd avenue aren't reliably triggered (they're on some kind of sensor) by cyclists. I don't really feel safe on this road leaving the campus as I've been repeatedly cut off by buses and other vehicles that want to go in the turning lane while I want to go straight and they either don't feel like they should respect cyclists/know the comfortable space requirements of a cyclist/don't have a good handle on the amount of space they're taking up (especially with buses). A bike lane would be nice -- it would be nice to have more of these everywhere, actually.
- Roads are in fine condition for cycling, but sometimes it can be dangerous to ride on the road when there is a lot of traffic (of course), so it would be nice to see some bike lanes added to the roads but of course this can be difficult due to space restrictions. One might say why not just use the pathways instead of the roads if you find it too dangerous, but, the roads are much quicker to ride on than the paths and so that is the reason behind my desire to ride on the roads.
- Path to the actual university coming from the south. There is no easy bike path, it would be nice if the city could plan one on University Drive or some other road. Most of the roads around the university are fairly major busy roads, making bike riding a challenge for the last km or so to reach the actual campus.
- It would be nice to have an entrance from the 16th overpass from the Children's Hospital into the Health Sciences building (or around that area)
- There's no easy way to get up the hill on the south side of the river after crossing over under Crowchild. I currently either have to walk my bike up the path that's there (it's way too steep) or ride all the way over to downtown before heading up (where it's less steep). Changing the path to switch-backs or having a bike path on the same level as the Crowchild trail bridge would help.
- University Drive -- Bike lane??
- Trails between Residence and the bulk of the University Campus. Currently it is a bumpy sidewalk, which is acceptable, except the transitions between sidewalk to road (In front of Dining Center/Beside New International House, Coming out into the road beside Rundle Hall, In front of Glacier Hall... etc (I live in Cascade Hall, the furthest from Campus)) could be improved. They are much too narrow and pose a safety risk when a cyclist meets a pedestrian in these areas.
- 14th street
- 24 Avenue NW and University Drive
- Add bicycling lane (not multiuse pedestrian path!) along 32 Ave, North of University. + Improve access from 32 ave onto campus drive to avoid having to deal with drop-off traffic.
- bike lanes everywhere. I took my girlfriend back to Vancouver and she asked me “what are those tiny little lanes on the side of the road?” She's not dumb, she's got a 3.8 GPA but she is ignorant and I blame Calgary.
- Northmount Dr is a good slightly-less-trafficked road that goes straight through, but isn't wide enough for parked cars, traffic and cyclists. A bike crossing over Crowchild that is not a heavily trafficked street.
- It would be nice if there was a circuit that went all around the perimeter of the university. A path across the field to the research park (from 32 ave)would be a good idea as well.
- the plowing of the roads in the winter makes it extremely difficult to bike to school.

- City bike paths, they're designed for pedestrian speeds not commuter travel and the roads are too narrow. So you can risk life and limb on the road or you break the law by speeding on the pathways or sidewalks.
- 24th avenue is my main road of commute, as residential streets are filled with stop signs. 24th is very busy with cars, with parking available on the outside lane. There needs to be more awareness for motorists to know that, this is a road to be shared by cyclists. a painted bike path until you reach the bike path at crowchild or 14th street is needed.
- Yes north-west of the university near the fire station there is a field which I would like to be able to bike across year-round. It isn't possible to do so during the winter.
- I would like drivers to actually stop at the pedestrian cross walks when the light is flashing.
- Transition from the top of montgomery/home road area to the path south of Market Mall.
- Getting from Dalhousie Station to the main campus (by ICT); I'm not a fan of cycling on Shaganappi, and there are a lot of elementary schools along that route too, so biking on the sidewalk is difficult and dangerous with all the children. A bike path would be nice.
- The T intersection where the C-train steps come down from the Overpass over Crowchild. Drivers are not cautious here and the sightlines are really bad for cyclists.
- A bike path from John Laurie Blvd to Campus Dr. on Charleswood/32nd ave.
- snow and ice cleared from the sides of the road (University Dr., Uxbridge) between the University and the Hospital campuses.
- UNIVERSITY AVENUE!!!!!!!!!!!!!!!!!!!!
- Northeast edge of campus, people turning left onto Crowchild Southbound from 32nd should be warned about pedestrians. Glass removal from sidewalks
- I am located at the Health Science Center. There are no bike routes through the hospital grounds.
- The “bike path” (really a sidewalk) along 32nd Ave is in such bad shape that it's not worth using. Instead, I cycle on the street, which is probably not as safe as it should be.
- BIKE ROUTES! or lines /lanes for bikes. Albertans are horrible to share the road with
- Turning the corner at 32nd and University drive on the sidewalk isn't much fun because you can't see around the corner --- but I think I am supposed to be riding on the road anyway. Regardless, I wouldn't consider driving my bike on the road because I don't feel safe. Getting rid of some of those bushes on that corner would be nice. Having designated bike lanes on campus would be cool if possible.
- university drive and 24th
- crowchild
- For 32nd and 23rd Avenue that circle the university, a bike lane would be great. Getting onto the pathway is difficult with the route I take, and the road is much faster, but crowded with cars.
- It is always difficult to drive on the road. Often drivers are unsure exactly how bicycles interpret the rules of the road. Some yield excessively to bikes, while others are impatient and dangerous. A bike lane along busy roads is imperative for cyclists to feel safe and comfortable on their bicycles.
- From 33rd Street SW down to Memorial Drive. Bike path not maintained and is sometimes dangerous. Otherwise, path from Memorial to U of C quite good. :)
- There is a section of road from the top of 29th St (by the Foothills) to the 4 way stop on ?(Unwin or Uxbridge Dr) and then to the University that isn't very bike friendly - it is made for pedestrians

or cars, so it is hard to bike on the sidewalk due to pedestrian traffic (sidewalks are very narrow for the most part) and it is hard to bike with cars from the 4-way stop to the university (there is virtually no space for cars to pass cyclists.

- 29th Street West
- I'd like to see a more direct pathway from Edworthy park to the Univeristy.
- no bike path From market mall to Foothills hospital. Some paths exist, but many are no developed near the childrens hospital. Also the paths on south side of 32nd ave re in terrible condition for riding, and south of Market mall is never cleared in the winter
- bike lanes on Universty Drive would be a big help
- 24th ave
- Any pathway leading from dalhousie across crowchild leading to the university. There are some major roads that are dangerous for cyclists, especially during rush hours.
- pathways along parkdale blvd & memorial drive....too bumpy
- Shaganappi Trail. going North from Memorial Dr up by the Children's Hospital either needs a specific bike lane, a wider shoulder or a pathway.
- From Market Mall to the UofC, the sidewalk is very cracked.
- 24th Ave NW - needs bike specific lane from 14st NW to Children's Hospital University Dr from campus to Crowchild - bike lanes please! From campus to Foothills and down 29th st to the river - more bike specific lanes!!
- 24th avenue leading up to the university has a lot of cars parked on it and when cycling on the road the cars can get pretty close to you. A bike trail from confederation park to the university would be very helpful.
- I take Centre Street NW to 4th Street NW to Northmount Drive NW and follow that all the way to Charleswood Drive/32 and then to the University. Bike lanes would be nice on these streets.
- along crowchild.
- Make a bike path parallel to Crowchild Trail between the major intersection of 32 Ave and Sarcee Trail.
- University Avenue
- Northmount Drive and Charleswood Drive. Its brutal... tons of traffic, and busses. It has terrible sidewalks, and you cannot ride on the road because its too narrow and busy.
- I haven't biked from my new house, though I don't see a trail going up the hill from Kensington to campus.
- Entering Edworthy park from the south the hill has several springs which create dangerous icy conditions throughout fall winter and spring 29 St NW is narrow and could really use bike lanes. It is busy and congested during drive times
- dedicated bike lane on 16th Ave
- The top of home road. The transition to the bike paths or just being on the narrow turn is dangerous.
- There is a great pathway that leads right to university avenue from Kensington road but it is usually out of my way to cross Memorial drive near Crowchild Trail. A bike lane would be great on University Drive. Heading north most cyclists are much slower than the traffic and this would give an added comfort level for traveling on the road. The pathway on the West side of the university is excellent has an easy connection to the river pathway.

- on campus, I don't like riding on the sidewalks
- a shoulder on 32nd ave across from Market Mall A pedestrian/cyclist overpass over Shaganappi Trail as access to the Children's Hospital (the spot at which many pedestrians dash across the road south of 32nd Ave. This is a particularily dangerous spot.
- the walking/ cycling path along Edgemont Blvd, it is very cracked, bumpy and destroyed from many winters.
- Need a bike path on University Avenue.
- 32 Avenue
- 10th Avenue bike lane between centre street and 14th street.
- from the University to Sunnyside
- I have to cross the big parking lot (I don't remember what it is called - it's the one near the Olympic Oval). I would like it if it was more bicycle friendly. Also, during the rush hours it's not very easy to get around the campus on my bike... I have seen one cyclist driving into a guy who did not hear cyclist's bell ringing.
- East/west along 32nd Ave, heading to/from Market Mall. The road needs a bicycle lane... the pathway is only on one side of the road on 32nd and disappears before/after crossing Shaganapi (plus the current pathway is not efficient as it is short and drops quickly at the first set of lights; both sides need a bike lane on the shoulder, especially when heading West along 32nd Ave before it turns to 46th ST.
- 32nd Avenue and the road around the mall
- Bike lane on 16 Ave. NE to NW
- Between the city's centre (where I live) and the Trans-Canada Highway, dedicated cycle routes and cycle lanes on roadways are properly developed and convenient. Though between the Trans-Canada Highway and the University, there are very few dedicated routes or cycle lanes. I attempt to conform with cycling laws and stay on roadways, though I am at times forced onto sidewalks due to certain road conditions (high speeds and traffic) which make cycling dangerous. 19th St NW and 14th St NW immediately comes to mind as one in need of cycle reform.
- A better link between SAIT and the bike path just north of 16th Ave near Home Depot
- Paths approaching the University Campus coming from Market Mall on 32nd Avenue.
- 16 Ave is very dangerous
- Around Construction sites, especially in front of mchall it is a the moment quite messy- some mud when snow was melting and I never know if there is some car coming behind the fence. An sometimes circling around mchall to get on the other side is kind of a pain- you cannot take the bike through because of anti-bike policy.
- Within campus where there is high foot traffic - difficult to maneuver around them.
- Crossing Crowchild at 24th Ave NW
- 24th Ave.
- From Sunnyside to the University of Calgary there is no a particular bike pathway. I have to go through neighbourhoods and sometimes if I choose my second option, I have to go through roads.
- A path through nose hill park would be nice
- 32 Ave NW From Northmount Dr. to the University . Need more shoulder room.
- Direct Accessibility to a bike path accross 22x.

- The path that follows alongside Crowchild Tr. from Shaganappi Tr. to Brisebois Dr. is hard to access and is in poor shape.
- Wherever there are highly used foot paths that cross large portions of grass.
- a continuous bike path from the northwest to southwest corner of nose hill- at the moment in only connects part way.
- I often ride up the path along the west side of Crowchild (heading north). There is a great path up the hill but once you get to the top there is no easy way to get on to University Dr. I find University Dr very intimidating to ride on as cars get very close while trying to pass you.....a bike lane would be great there!
- 24th Ave NW has a rather large shoulder but this is often rendered unsafe due to rather excessive amounts of gravel on it. 19th could use a larger shoulder even though it does have two full lanes. Poor road conditions and small shoulders often force me to ride on the sidewalk, which is not only of dubious legal standing, but can be rather dangerous.
- 14th street between John Laurie Blvd and 24th Avenue. 24th Avenue between 14th Street and West Campus Blvd.
- 16th avenue from the University to Blackfoot Trail
- The pathway disappears part way down 14th Street NW (by John Laurie). I often have to cross the road multiple times to get back on the path.
- Fish Creek
- from varsity drive to campus
- A better link to the bow river bicycle paths would be wonderful.
- possibly better ramps on the sidewalks leading up to the 32nd Ave (Charleswood dr.) bridge over Crowvhild.
- 24th ave NE heading east all the way to 19th st and 19th st NE to memorial
- I think that the cycleways on campus and in the near proximity to campus can generally all be improved. Specific sections of sidewalks and roads should be painted specifically for cyclists to alert drivers and pedestrians. Many people in Calgary do not really care for the well being of cyclists and basically think that because they're driving a truck or SUV they have more right to the road.
- Approaching Crowchild on 24th ave NW westbound, the traffic at that light needs a clear bicycle lane. Most days that I cycle, I almost get hit by a car not paying attention here, since it is a confusing network of roads at the intersection.
- Pathway along memorial road past the Crowchild bridge
- The bike path by 16th Ave (from the corner of 19th St/16th Ave) to the road along Banff Trail. The road by Banff Trail (on the east side of the C-train line) doesn't get plowed enough in the winter, making it required to bike on the sidewalks... which aren't always shoveled either! The bike path leading to this road isn't cleared either.
- North - South pathways where you don't have to cross heavy traffic on streets. Also, Nose Hill Park is nice but I come in from the NW and have to cruise to the East before getting to the flyover between Brisbois and Charleswood.

- having a pathway on the North side of the oval so that we do not need to take our bikes through the building to reach the other side.
- installing a connector trail to the bow river bike path
- numerous roads and pathways. Need improvements in surface width dedicated lanes to ride, better cleaning of gravel,
- 29th st NW by having a bike lane
- Maybe an overpass across Memorial Dr. into Edworthy Park would be nice
- 45 Ave SW needs a dedicated bike lane. The needs to be a pathway around the north side of the Foothills campus that connects the existing bike path to 29 Ave NW
- I would love to see bike lanes on or parallel to University Drive, in both directions. There is no bicycle friendly direct route to the University once you cross Crowchild Trail NW on one of the 4 crossing over Crowchild Trail between 5 Ave and 24 Ave NW (The first being the pedestrian bridge at approx. 9 Ave and the last being the pedestrian bridge to McMahon Stadium). The options are either ride on University Drive or take a really convoluted route. University Drive is busy and fast at any time of year and with snow it is dangerous and scary since you are forced out into traffic due to ice and snow banks building up at the edge of the road.
- 32nd AVE NW
- Parking lot 32 needs a pathway from lot 32 to the sidewalk on 24 Ave near the church lot.
- bridge on Charleswood & area toward U of C ie London Drugs to U of C - busy and dangerous
- All of Brentwood. Calgary is a terrible city for cyclists.
- I bike from my house to the C-train, and from the C-train to the South Campus/Foothills Medical Building complex. Biking along 16th avenue is TREACHEROUS and needs a designated bike line or at least a sidewalk for the majority of the way.
- The residential area around the university c-train station: potholes.
- Getting out of downtown is a challenge.
- Bike paths all the way to campus would be very much appreciated instead of sharing the road with other vehicles.
- Kensington Road travelling east - there are many dangerous potholes and dips near the sewers that require me to veer further out onto the road.
- 24 Avenue NW, from the intersection with Crowchild to the intersection with University Avenue, both east and west bound. It is dangerous!
- crossing Crowchild
- Instead of improving numerous routes, having bike specific lanes going to/from the university will improve safety and accessibility to the University.
- Bike Lanes on University Drive.
- 29 St NWshould have a bike lane on both sides from the river pathway all the way to at least 16 Ave NW and preferably all the way onto campus via a direct route (Uxbridge-Udell without the barriers that force cyclists off their bikes). 24th Avenue should have bike lanes on both sides from 14 st NW to the Childrens Nospital University Drive should have bike lanes on both sides of the road.

- Overpass over 16th Avenue NW near Motel Village should be improved, widened, updated Snow clearing along Capitol Hill Cres NW would be great, since it is heavily used by cyclists and often snow and ice covered well into the spring.
- Some good bike routes (separate from walking paths) around and through campus. Specifically by the daycare and along the north end of campus.
- I want a direct bike route from 16th east to west.
- There needs to be a better route from the river pathways to the university. Riding on the street past the foothills hospital is not a pleasant route to take during traffic hours.
- There is no bikepath from the river north to the University. A bikepath is desperately needed to paralell University Drive and Crowchild Trial.
- The addition of bike lanes to 24th Avenue, and 29th Street/Uxbridge Drive. Better paving on the cut-through between Uxbridge Drive and the University (across from the junior high school). Overall my route(s) are fairly good.
- I would like to see cars stop and wait for me to cross the road at the cross walk between the reaserch park and the engineering buildings. There is flashing lights and everything but I have altered my route as there has been far to many near misses at that crosswalk.
- We need a connecting pathway system from Campus to the 24th ave nw pathways system...
- Anywhere from bowness- up home road!
- Bike paths or designated bike lanes along major roads. 24 Ave NW from Crowchild Tr to 19 St., 19 St N and S, 14 St N to MacEwan
- the entrance on the north side closest to the Crowchild trail exit which has all the construction going on... it's made for car entrance only into parking lots, etc. where bikes are ignored for not wanting to enter those places.
- Travel from Canada Olympic Park to University/Foothills Hospital- From Sarcee Trail to Edworthy Park- road rarely cleaned in the winter to ensure safety
- I'd like a bike lane or bike path for the 24th Avenue N.W. (I work at the Department of Pediatrics which is located at Alberta Children's Hospital so I cross communities, U of C campus and the final part I'm on 24th Avenue N.W. which does not have a cycle path).
- Hard to get from campus entrances on 24th Avenue to Kinesiology Complex without using routes also used by pedestrians. City should clear winter gravel from 24th Ave as early as possible in the spring.
- Need a bicycle/pedestrian crossing over Shaganappi Trail from Montgomery to campus.
- between main campus and foothills
- 24th Avenue
- Bike route to be extended from Varsity up through Dalhousie, Edgemont to Hawkwood
- I bike on 53rd Street NW this takes me to several trails and even leads to the bow river.
- 49st NW
- Biking from the river pathway up towards foothills..or the university. There is no real real pathway to take, just busy sidewalks or busy roads.
- The connecting roads from the Bow River pathway to UofC campus are very poor options for cyclists; Many commuters travel up Mackay Road to the top of the hill, and make an uncontrolled crossing of Shaganappi Trail to the NW corner of campus (onto the exit ramp for ACH).
- more room along University drive

- Clear Bicycle path silver springs gate to varsity. of snow Clear snow Varsity estates drive to 53 then down to 40 ave past market mall across shaganappy to 42 street throught Varsity to the lights on 32 ave near family housing
- Better lighting on the paved path on the hill up from Memorial at Sunnyside Bank Park. I ride my bike home after my night courses.
- shoulder pass along 32ave linking to lot 10 and ict.
- I would like to see a bike lane on 24th Ave. NW as that would shorten my commute instead of taking side roads. Secondly, I use bike/walking paths in the Collingwood/Brentwood area and some of them do not have ramps so I need to either jump the curb or get off my bike to get from road to path.
- I do not feel that there are many nice bike paths leading right to the University. While Calgary has some nice paths by the river or through parks, developing nice biking lanes along main routes would help. I live in Ranchlands, and I have to bike in the street with cars or on shabby sidewalk to get to any bikelane or the train. Closer to the university, if I go through Silver Springs, Varsity, etc., there are still problems by Market Mall and biking along 32nd AVE.
- On campus grounds
- The challenge going north on a bike is that essentially the buildings form a wall around the center of campus. I usually cut through the kines. link, but if I stay late its locked. Would be nice to see that link remain open all night.
- A designated bike route on streets perimetering the campus, i.e. 24 Avenue NW, 32 Avenue NW, West Campus Blvd NW.
- a pathway needs to be built connecting the church parking lot in the southeast corner of campus, to the daily parking lot just to the northwest.
- a path along Stony Trail south and north (they are doing construction right now on it)
- Please repave bike/walk pavement on 32nd avenue, from Shaganappi trail to Grounds buildings. Very bumpy!!
- I would like to be able to safely travel on a more direct route. At present I have to travel beside cars going 80 kmph or meander along the river, which takes considerably longer.
- The bike path west of crowchild to the foothills hospital. It has had some improvements but is still very rough.
- It would be great if there was more room for bicycles on 24th Avenue East of the University
- Leaving confederation park and coming up 24th Ave can be very dangerous. There are technically 2 lanes (one for parking) but in the fall/ winter that is where the ice, snow or gravel/sand accumulates and you are forced into one lane with the traffic which does not go over well with people driving.
- 20th Ave NW 24th Ave NW
- I would like to see a pathway or direct road from Edworthy Park to campus.
- An East-West route North of 16th avenue needs to be created
- Nose Hill
- 16th Ave near Banff Trail
- I don't like crossing through downtown...it's a bit scary with all the big trucks that may/may not see me.

- My route has me crossing Crowchild Tr. using the pedestrian overpass at 14th Ave NW. I have to carry my bike over this bridge since there are only stairs (no ramp). This is especially annoying when I am commuting with a laptop and other heavy bags. The stairs are also really icy during the winter, which discourages me from cycling to work then. A ramp for this overpass would be wonderful!
- from Dalhousie to the University
- NW area around Nosehill, hawkwood, John Laurie, Crowfoot. Alot of traffic and not many bike options.
- ACCESS FROM 29TH ST BELOW FOOTHILLS HOSPITAL TO CAMPUS, AND ESPECIALLY FOR THE TRIP AWAY FROM CAMPUS
- Bike path along 32nd ave in poor condition
- 24th Avenue NW University Dr NW 32 Ave NW
- i think that 29th st nw needs to have on-street bike markings from bowness rd (memorial) all the way up past 16th ave leading to the UofC. currently, there are no markings on the road and traffic tends to squeeze me into the curb sometimes.
- on campus around construction sites, specifically between lot 10 and the International house construction.
- 32 AVe. NW
- Better link from Confederation Park to University area.
- It would be best if bike paths followed light rail routes.
- varmoor road, and especially the traffic light at 39th St and 32nd Ave NW. going south on 39th st a bike does not trigger the traffic light and the separate traffic movements for northbound and southbound traffic often means having to wait extended periods at this light or simply cross the intersection “illegally” - ie on red.
- It would be really great to get sidewalks on both sides of 32nd Ave or creating a bike lane (anything to increase the room on the road)
- walking/cycling paths to Alberta Children's Hospital from health sciences
- from Bowmont park to UofC
- It would be fantastic if there were bike lanes marked on some main walking paths on campus so it's not so hard to navigate around people.
- 32 Ave needs a bike lane.
- Pathway west along 32nd ave. needs resurfacing and complete to home road. Snow clearing to be on 700 Varsity Estates Place (just continue the pathway clearing for one block)
- The back of ICT, near 32nd AVE, even before construction was not great for cyclists. Around lot 30 near Scurfield Hall, there is no room for bikes unless they go onto the pedestrian sidewalk.
- 85th Street Bridge. Requested a “Share the Road” sign be installed but instead the City duplicated an existing “Cyclist Dismount” sign...both signs are still in place on the same post!
- Road to access Edworthy Park parking lot from the Wild Wood community
- The uphill lane next to foothills hospital
- Make a bike lane on 32 Ave
- the gravelly stretch of road between Mac Hall and the construction site for the new library, the bit of sidewalk on the route to go to the Brentwood Safeway (it's past Bio Sci, along the road where

the transit buses go, and it's behind some trees) because it often floods during rainy days/days where the snow melts

- Separate cycling from walking at the sidewalk from the C-train station.
- lane for bikes on 20 Ave NW
- Bike path from LRT
- 20 Avenue NE to NW
- 32nd coming from Home RD. It is a bus route so biking on the road can sometimes be treacherous, and the path is not a great alternative because it is uneven and has many hills.
- 24th Ave & Crowchild Trail to University Gate.
- 37th st sw
- I would live to see more pathways for getting around campus. Once you get to campus you have to basically go around rather than go through campus and this is annoying.
- Bike Lane for charleswood dr/ 32 ave
- A sidewalk or pathway along campus drive across from the daycare would be a benefit, as the sidewalk abruptly stops at Scurfield Hall.
- 24th Ave from Confed through to Crowchild is too narrow, terribly busy, need overpass over Crowchild (lights take forever). Also Charleswood is too narrow and busy. Also
- The intersection of 24th ave and Crowchild is set up to maximise the danger to pedestrians, cyclists, particularly going north or south. Cars are given a very clear way, so they often don't see you or race you to the intersection.
- The pedestrian bridge over 16th ave near motel village The east side sidewalk entrance on to the University station overpass coming from the south
- Bowness Road
- Signs for alternative routes around construction zones
- I dislike having to cross/ride on the main roads (ie. 24th Ave, or University Drive). Also, it is annoying trying to ride across campus, I don't know where people are choosing to walk, or they will randomly stop ;it is hard to bike through groups of people, esp. when no one moves. But, it is stupid to ride to campus, and then walk my bike across campus.
- The bike route from the river pathway, up the hill to the Foothills Hospital and to the University. The space in front of the hospital is ironically the most dangerous section of my entire route.
- 20th Avenue, this time of year, between 10th and 14th NW, is covered in gravel and broken glass, has a lot of damage, and is really narrow.
- Street Cleaning would be nice. There are no specific problem areas.
- 29 street NW from memorial drive to the university. 29 steet SW from Bow trail to 45 AVE SW More bike paths/dedicated lanes to and from the river. Pedestrian over pass at memorial drive, bow trail
- 20th Ave NW between 19th St NW and Edmonton Trail
- Charleswood overpass to 32nd Avenue, bike access along crowchild. Bike path along John Laurie is dangerous because of roots along certain areas.
- the pathway along 32nd street from Shaganappi to University dr. has alot of cracks in it
- Cleaning the rocks off the shoulders off all roads
- There is no street between 19th St. N.W., 24th Ave. N.W., Crowchild Trail, and 16th Ave. N.W. that is consistently cleared of snow in winter. Because of the location and sun angle, all streets

become rutted, icey, and dangerous for much of the Jan - March period. I've fallen several times despite studded tires.

- pedestrian/bicycle overpass across Shaganappi near Children's hospital. This has been in the city's plan for ~5 years.
- Access from the Foothills Hospital / Children's Hospital areas / Medical school campus
- There is no safe way to cross Crowchild riding a bike. 1. Charleswood has no shoulder in places from Northland to Campus, including on the bridge. 2. Brisbois is just hazardous 3. Pedestrian bridges are for walking. If I wanted to walk I'd leave the bike at home.
- Royal Oak... I am forced to ride on CrowChild Tr. from Rocky Ridge Rd. to Nose Hill Drive. There is no safe or 'improved' way to commute.
- On the road between the Children's hospital and Foothills, the path crosses the road. That spot is still unfinished when both sides of the road are finished.
- The residential streets all around the university are never cleared. The snow and ice builds up all winter long, making it very treacherous at times.
- 24th Ave and Crowchild intersection
- Bicycle path and road
- 24th Avenue
- improve the condition of the bike paths along the river, they are really rough
- no parking on 19th street 7am to 7pm.
- All roads in Calgary should have larger shoulders! Especially 14th Street, 19th Street, 32 Ave, Northmount Drive.
- I ride from the south and the bike paths from the southeast are never plowed in the winter making them impassable and forcing me to use the road.
- Confederation Path Underpasses
- Would like a pathway from bow river to university past foothills hospital.
- traffic lights at intersection of 32nd ave and 39st (can't turn the light, even if you press the pedistrian walk way when turning eastbound onto 32nd from 39st - on either a bike or scooter) Also, collegiate blvd could really use a bike lane
- 29th Street from Bow River Pathway to Health Sciences Centre
- Going Around Market Mall does not feel safe (Traffic Wise)
- I would like to see roads that are bike routes plowed and swept more often (and earlier in the spring).
- The path going around market mall. All of the roads are fine, except there is always gravel, or cars parked in the bike lane!!!!
- Getting across Memorial Drive after using the bridge across the Bow that runs underneath the Crowchild Trail
- Getting from Royal Oak you have to go down Stoney before ducking back into Scenic Acres. There needs to be a connector from the NW to the path system.
- Mainly I would like to see more bike paths or shared roads to get from Marda Loop to the bike path by the river. Presently I have to cycle through heavy rush hour traffic.
- I live in the south and in general all roads or pathways going to the University is not in good condition for riding. There are no well planned bicycle routes and widened streets for bicycles even going through downtown. I would like to see the city having a very comprehensive review

on having a more DIRECT and TRAFFIC SAFE biking path running north and south, not just a route supposedly going in the side streets.

- i ride from the intersection of 34 Ave and 49 st along 32 ave going east to the university. Where 32nd Ave merges with 49 st there is a yield sign that some drivers don't obey when cyclists are involved. Also, the bike trail along 32nd ave near the western campus is in pretty bad shape, so I end up riding on the road, which can be dangerous sometimes.
- bike lane on campus, to eliminiate the need to zig-zag between people
- the bridge over Crowchild Trail at 32nd Ave - too narrow considering the very large volume of buses and large trucks
- More paths into university - I have to go around from Crowchild at the baseball stadium. A path cutting through from the Mormon (?) church to the parking lot (32, I think) would be nice.
- In the winter the path from the ctrain station to bike racks near sciences is terrible. There are so many people and it's icy trying to bike off the path. Would be great it it was wider to accomodate bikes and people.
- Major arteries leading to the campus should have bike lanes on the side to facilitate safe bicycle commuting. University drive, 32 ave, and others.
- I have to go around Nose Hill to get to the University. Any improvement south-west of 14th NW and south of John Larrie would be wonderful
- Crossover at bottom of hill on Crowchild, across Memorial Drive, to connect with Bow River pathway (there's nothing between 19 Street and 29 Street
- Stairs at the crosswalk behind student housing. Stairs are in poor condition, often icy and hazardous in the winter. A pathway linked to the university system would be much better. Intersection of 32nd Ave NW and 37th st NW. Stairs are in heavy use by cyclists, pedestrians, children.
- bow river path intersection with bridge east of kensington
- 19th street
- Perhaps a bike path on the bridge over Crowchild.
- twin the pathway between 14 st NW and 19 st. NW next to the John Laurie in order to reduce conflicts with walkers and dogs (2) get the gravel off the roads near the university early in the season
- Side streets on the other side of crowchild to Hillhurst/Kensington
- All of them. Calgary has the poorest bike paths imaginable. There should be bike lanes on all roads.
- From C-train station to Science/Engineering: When I bike this I try to be careful of pedestrians, but if there were a separate bike path or bike lane, then probably both groups would be happier. 2) If there were any way to have a bike-specific connection between Charleswood Park and the C-train station, it would be much appreciated!
- 32 Ave sucks for riding on. I don't feel safe on that road. I tend to ride on the sidewalks, but going up and down those hills aren't that enjoyable, especially when you are coming up to an intersection.
- That there is no good connection for the bike path from the university campus through the children's hospital and across Shaganappi Trail.
- yes. the pedestrian bridge that runs over 16 Ave. NW. to Motel Village

- 19th street nw, 24th ave nw, entering campus from 24th ave via bike/walking
- all of them- most are unsafe
- Pathway between Shaganappi and University apartment residences is cracked and bumpy, especially when riding a road bike. (I know that's the city's responsibility)
- 24 Av Nw between 19 St & Crowchild Trail NW: (westbound: lines of cars several blocks long get too close to the sidewalk while waiting for the lights, forcing cyclists to ride on the sidewalk, but there are no sloping surfaces allowing you to get on and off the sidewalk, killing your wheels.
- 10th street N.W.
- Since the main part of my job here at the U of C involves cycling extensively on campus from April to November the main pathway in eed of repair is along the south side 32 AVE NW from Shaganappi Trail to 34 ST
- There are no bicycle pathways on campus, I would like to see one from the train to the gym.
- I'd like to see a bicycle route on 53 street NW between Dalhousie Dr. and John Laurie Blvd. , not the sharing situation like the current. Also, if there are bike routes along major roads, such as John Laurie, Deerfoot, Crowchild, etc., it would be very helpful to the cyclists to get around. That makes it easier. As a driver and cyclist myself, I don't want to share those roads with the drivers while I bike, since it's too stressful for both the drivers and cyclists.
- There is no safe way to ride by the Children's hospital. The road is not wide enough for bikes and bikes should not be on the sidewalks.
- I work at the Foothills campus and use two different bicycles -- one is my 'home' or usual bike (which I use for commuting in the summer months only) and the other is a bicycle that I use to travel to/from main campus (teaching, meetings, etc.) and to/from the parking lot near McMahon stadium. To cycle between the parking lot at McMahon station my office at the Foothills campus, I often use the sidewalk on the north side of 16 Ave. I climb the hill in the regular road and then switch to the sidewalk. I would like to see a bike path separate from the sidewalk installed all along that route. I find the designated bike route through University Heights to be inconvenient and prefer to use the residential road running parallel to University Drive, over to Uxbridge, and then down to the Foothills. I would like to see this route formally designated for cyclists -- signage, chevrons, etc. I would also like to see the bridge over University Drive connecting West Hillhurst to St Andrews renovated for cyclists -- i.e., sloped approach on eastern side -- which would provide an alternative to the 29th St route. Not only is the 29th St pathway steep, it is at capacity in peak hours as it is shared by cyclists and pedestrians.
- I find the lights on 32nd Avenue (especially the one at the end of Collegiate Blvd.) cannot be triggered by a bike, and are even slow to respond to getting off and hitting the crosswalk button. Also, I think it would be useful to create a bike lane on 32nd Ave, as this is a busy road used by a lot of cyclist, and motorists are not very respectful (and the dedicated pathway is impractical with all its hills and intersections). As a general comment, I think the infrastructure created “for cyclists” in Calgary is impractical and serves the needs of motorists more than those of cyclists. My impression is that infrastructure planning and development for uses other than motorized traffic (automobiles) is pretty much an afterthought.
- Connection over Shaganippi at the children's hospital. Some sort of sensible connection down to the river pathway near (but please not along) Crowchild (they all require massive detours/sketchy crossings at memorial.)

- I think that a bike lane along Bowness road would be beneficial. The Bow River pathway through Bowness could use some improvement
- Northbound access to the university is severely limited due to Crowchild Tr University Drive is anything but bicycle friendly
- Need bike route along 16th ave on which to travel from NE Calgary (Pineridge) straight to the University.
- charleswood drive
- It is very difficult to get from University Drive to 5th Ave NW. I wind up biking along Crowchild Trail which is not legal or safe. I would also like to see a bike lane along 24th St NW. The road is unsafe for bicyclists.
- Biking us from Edworthy Park along 16th Ave, upon reaching the Foothills hospital there are no paths the the University. I have to cross 16th and bike along side roads. There should be a main bike path along University drive.
- in downtown (beltline), there are either no bike lines (10th ave SW) or they are filled with dirt (11th str SW). in the winter time, when there are indicated bike streets, they seem not to be on the priority list of snow removal: for example, around parkdale blvd.
- not really roads, but during winter, the areas to the bike rack on campus have piles of snow sometimes. Therefore, it is hard to park my bike.
- 4 st. N.W. has small curb lanes filled with pot holes.
- The bike/walking path along 32 Ave NW between Shaganappi Trail and 39 St NW has some rough spots.
- A crosstown bike route paralleling 20ave North needs to be built. It would make it safer and funner to ride your bike to the university. It is currently difficult to cross all the North-south roads on a road parallel to 20th ave eg, 19th, 14th, 10th, 4th, center street and Edmonton trail. Additionally, 2nd street NW is currently designated a bike route. But it has a total of 7 stop signs on it between 32nd ave and 16th ave. It could be improved by removing all the stop signs and implementing a 30km/h speed limit to limit short cutting by cars.
- Entry via the northeast corner of the main campus - awkward at best! These are the lights by the exit ramp to Crowchild where it intersects with 32nd Ave.
- trail along bow river beside memorial needs desperately to be resurfaced
- Dalhousie to campus is a little rough (have to use 50kph roadways for bits and pieces of the ride)
- Segregated cycling lanes on all roads
- bike lane on Varsity Drive
- campus drive. the city bus almost hits me everyday. Paint a simple line on the road, write BIKE LANE in it, and it will make things a lot safer.
- Crossing Crowchild Trail on 32 Ave
- 24th Ave NW - East of Crowchild Trail
- would like to see a bike lane on 32nd ave NW
- university drive and 24th ave.
- In the Winter: 1)the path going through Edworthy park picnic area on the south side is maintained and free of snow & ice. 2)the path that starts at the Shaganappi/Bowness Road intersection and goes up the hill to the Foothills Hospital is cleared of snow. 3)More direct bike rout to the TRW building from this bike path described in the last point.

- From Holly acers building on 4501-37 st to 32 ave and then to UofC.
- 29th street nw
- Good commuter pathways across Nose Hill would be desirable, although I think that is wishful thinking because the city sees the area as purely recreational. The pathway around that Nose Hill along 14th street is again designed for recreational use with large exposed sections where the West-East winds can easily challenge your stability and elevate the wind chill to uncomfortable values. The goodthing about Calgary is that there are path ways, the bad thing for cyclists is that they are planned and thought for recreation, not communting. The maintenance of the road markings where there are cycling routes is poor generally speaking, and even if it where good there is need for a curb or some physycal separation for cyclists and cars... to make it safe for both.
- 32 Ave pathways, 40th Ave pathways, pathways INSIDE the campus (since there aren't any)
- bike lane on 24th avenue, and snow clearing on the parallel bike path along 24th between university drive and crowchild trail
- actual bike lanes on 20th ave NW and 24th ave nw
- Yes, I would like to see a pedestrian overpass across Shaganappi Trail between Montgomery/Montalban Park and the Children's Hospital. This is a dangerous crossing that many pedestrians and cyclists take every day. There is a great need for an overpass here. It would be highly utilized.
- From the bike path that comes up from the river valley at home road to the intersection of Shaganapi Tr and 32nd Ave
- Shaganappi Trail - not bike friendly at all! Also, an overpass would be helpful for bike and pedestrian traffic
- The bike/walking path from Tuscany Blvd that crosses over the Stoney Trail berm into Scenic Acres. It is currently a crushed asphalt and extremely difficult to navigate.
- Pathway linking Uxbridge Dr. with Underhill Dr. could have dual fences/barriers reduced to one barrier. This would make the cycle more convenient. Also, bicycle lanes on all roads around the school, including university drive would be safer and convenient.
- Home Rd. - excessively gravelly
- Bus route through varsity from NW
- I ride mostly to the FMC where I am a Assoc Prof in Surgery. The quality of pavement along the Bow River path from Crowchild to 29th St NW is poor. The city did patch the worst segments last fall but the rest is still very rough.
- 29th street going south from 16th ave.
- 20th Avenue is a quick route and needs a bike lane 10th Street to 20th Ave is a quick route out of Sunnyside and needs a a bike lane 5thj Avenue is a route i often use. It needs a bike lane
- From university to Home Road
- the intersection of Crowchild Trail and 24 Ave NW is dangerous. People driving east on 24 Ave, and trying to turn left in order to go north / west up Crowchild have a green arrow, but take the turn very late, when walk signal is on, and even when they stop, they stop well into the intersection. Once the green arrow is done it should be a red light, just like it is for traffic which is moving south / east down Crowchild, turning left onto 24th avenue... also, 24 Ave and 20 Ave

are terrible for bikes. would be great to have bike paths along both streets. there is a lot of bike (and car) traffic headed to the uni along both.

- from Arbour Lake in NW to University
- University Drive from Campus to Crowchild Dr path.
- Gravel sweeping along 20th ave NW and 24th west of 10th St so that I can be less of a block to other traffic (I ride where the roadway is clean).
- I would like to see bicycle lanes on the road. Drivers do not watch for bikes. I was hit by a car while riding to school at Crowchild and 24th Ave.

APPENDIX E: Verbatim Responses to the Open-Ended Question, "Which road or pathway on your bicycle route to the University do you feel should be a priority for snow clearing?"

Responses are in the order the surveys were submitted, and have not been collated or categorized.

- University Dr.
- Charleswood
- The pathway by the Banff Trail School needs to be sanded for ice.
- Bike pathway along 14th Street N.W.
- 18th Avenue NW (not that I feel it SHOULD be cleared in winter, because it is an unimportant road, but in view of the next question I felt I was supposed to mention it)
- crowchild to 37 st pathway along the river.
- 12-13-14 Ave. NW
- Bow River pathway
- Capitol Hill Crescent (north and south of 24th Ave)
- I am from the East, all roads should be cleared as they do there. It is very dangerous driving and punitive to the elderly, handicapped and strollers.
- 24th avenue, east of Crowchild Trail to 14st
- n/a: I take Confederation Park, which is always cleared very quickly.
- Well since biking in calgary is extremely dangerous year round, I don't know whether this question needs to be answered since it is really the last of your worry. But I suppose Elbow all the way into downtown as well as 4th st downtown would be important (that is if they were bike friendly)
- University Drive NW
- Varsity Drive. 37 street. scenic acres drive. silver springs road. silver ridge drive.
- New asphalt path adjacent and parallel to 14 St NW.
- All of the pathways and roads within the University grounds are cleaned to my cycling needs. It is the roads the city operates that are the concern. Personally I need Capitol Hill Crescent cleaned by the city.
- 24th ave
- Snow clearing is not an issue, ice is, but I do not believe you can appropriately address that danger.
- Between foothills and main campus
- 13th Avenue N.W.
- Silver Springs Blvd.
- University Drive, 19th Street
- 20 th Street SW; 45 St SW
- Montalban Rd
- memorial, 16th ave, 29th st, 32ave
- none
- University Drive
- 19th St, Charleswood Dr.
- Bow River Pathway
- Edworthy Park to west campus blvd (Foothills Hospital)
- 53rd street, despite having a bike lane, does not get cleared of snow (the lanes at least)

- 19th street n.w.
- Bike path on hill by Foothills hospital.
- Varsity Drive - but I ride all winter anyway.
- roads in University Heights
- University Drive
- Charleswood Drive
- Parking sidewalks and curbs in front of the Olympic Oval.
- The path along the Bow is already plowed, which is good, not sure about the path that goes along Shaganapi Tr. and 16 Ave to the Foothills Hospital then near the Childrens Hospital to the University, but that route is convenient for staying off the roads...
- None. This is far more of a problem when walking.
- Part of my route is through residential streets which are never plowed, except the main routes. But the worst seems to be in Scenic Acres: they never seem to clear any of their paths in/out of the district.
- Downtown to Edworthy, along Memorial Drive.
- 24th Avenue NW
- Pathways around the Glenmore Reservoir and through the neighbourhood of Scarboro
- As mentioned in answer to Question #41, The path that winds beyond the otherwise dead end of paved or real pathway beyond new road that connects the two hospitals. The present rough foot path that carries on down the big steep grassy Hill to the bottom of Shaganappi Tr would need to be replaced with a short series of switchbacks and then could be cleared of snow. Thus connecting the city path along Bow R. to the far south corner of campus grounds (south of kids hospital)
- 5 ave NW
- path along memorial drive and 29th st
- Streets East & West of McMahon Stadium and C-train stadium - there is no safe way of accessing this pathway in the winter. I fell a couple times.
- Bowness Road and Home Road bike pathway. The others seem to be cleaned fairly quickly.
- the hill going down after 24th street SW which allows to reach the bridge under Crowchild.
- Residential streets! Then I could stay off the heavily trafficked streets
- 53rd street
- 16 ave NW
- path through park east of Jerry Potts school
- Morley Trail and 23 AVE NW
- The road which leads in from 32 Ave....not everyone on bikes can connect on to the internal bike path that sits between the LRT and the internal roadway.Plus all of the raods OR footpaths (if allowable) from Varsity Acres/48th Street. I would be happy to go on the footpaths if that were legal. If not, happy to have a bike lane (because some drivers are hostile, even to 'slow' bike riders like me.
- Silver Springs Blvd (a long hill).
- I take separate routes to the campus depending on the weather - in particular, I take westbound 24th Avenue rather than the neighbourhood streets in the winter because it tends to have reasonable snow clearing. I would prefer to take a less busy road, but I understand that all of the

neighbourhood streets are not a priority for snow clearing. I would, however, suggest that Capitol Hill Crescent (parallel to the train tracks and Crowchild Trail) be cleared because there is significant traffic and pedestrian activity throughout the winter because of the Banff Trail train station.

- Campus drive from Foothills to Childrens. The block parallel to University drive, just south of 24th that keeps bikes & pedestrians away from University drive traffic.
- Pathway on 32nd Ave.
- Shaganappi Trail
- Pathway from Heritage park to the water treatment plant on the North side of the reservoir
- I have not cycled in the winter yet, so I can't comment.
- 14 St NW (from MacEwan to U) & Confederation Park / golf course
- university research park pathways
- the city already does a very good job of clearing the pathway that I use; it's the side streets that are terrible
- Capitol Hill Crescent 24th Avenue NW
- 29th Street NW
- Bow R. pathway from downtown to 29 Street S.W.
- I user a designated bike route which is pretty well maintained.
- Not sure, as I never bike in winter and I don't know conditions on the specific roads
- It is the worst in my neighbourhood of Bankview.. the streets aren't cleared, and I don't like riding on slush, especially on a hill.
- 32 Ave / Charleswood Dr.
- memorial drive pathway. That goes across the city.
- Anything that is marked as a bike path should be cleared.
- All roads on campus should be bicycle friendly in all seasons.
- 32 ave
- Pathway along Sarcee Trail from the Ranchlands/Dalhousie bus trap south to the varsity/silversprings connection.
- Crescent Road NE
- 40th street nw
- all of them
- 20th avenue from 10th street to 19th street
- Sidewalks and new runnning/bicycling pathway along 24th Ave South of the University.
- Shaganappi trail, bike lane required as well.U
- niversity ave, 6th ave NW
- route from Hawkwood
- Nosehill park pathways
- I use only small roads that I wouldn't expect to be cleared so I can't really answer this.
- Hospital drive
- sidewalks on 24th avenue.
- snow clearing is actually not that much of an issue

- As mentioned earlier, it would be the south parking lot of Edworthy as well as the bridge. As well, the route from Edworthy park up to the Foothills hospital is sometimes cleared only part of the way. It should be cleared all the way to Edworthy park parking lot. Edworthy road (south side) also could use some cleaning....it gets quite icy in the winter.
- Currently isn't a useful pathway to the University.
- 19th St NW, 24th Ave NW, 5th &6th Ave NW
- bow river path
- The underpass under crowchild near brentwood station.
- the University itself, including all its pathways
- 40 Ave N, west of Brentwood station.
- 32nd Avenue NW, between Shagnappi and Crowchild.
- Varsity Dr NW
- Nothing more than there already is. Streets are clean enough for my commute.
- Bow river pathway.
- University Drive
- The path along 32nd Ave (it's particularly bad West of Shaganappi)
- university drive
- 20th & 24th
- North west of the research park
- University ave
- From foothills hospital to bus loop
- Morley Trail
- 14th st nw crowchild 16th ave
- 14th St SW.
- silver springs blvd
- Walkway along Brisebois Drive that goes underneath C-train
- 14th street, and when there is a lot of snow on the road, the sidewalks should be clear. All other sections are usually cleared very quickly, however, it is very difficult to ride over trampled but uncleared sidewalks.
- Chicoutimi Drive
- The route from Ranchlands into Dalhousie
- behind brentwood mall
- Capitol Hill Drive, NW and 24th Ave NW
- Sidewalks along university Drive
- Bow river pathways
- All river valley pathways
- 37th st. NW
- From Family housing to Olympic oval, especially the slope beside lot#10
- Northmount drive and 24th Ave.
- c train walkway overpass
- Research Rd.
- The smaller streets. But they should not use salt to clear the streets.

- 24th Street
- Bike path through Canmore Park has been well cleared this year, but this was not always so. Morley trail and residential streets leading up to the University of Calgary C-train station.
- Unwin Road. It seems that no one in the University Heights community can be bothered to shovel their sidewalks. This leads to a trecherous community which is dangerous to even walk through, let alone cycle through. Furthermore, the city ploughs only the center of this road, leaving the sides equally trecherous for pedestrians and cyclists.
- 32Ave NW
- University Dr
- Capitol Hill Crescent from 32nd Avenue to 16th Avenue
- Bridges over bow river
- Pathway on 14th st nw and on charleswood drive
- It would be great if the roads were cleared ALL THE WAY TO THE CURB. Other than that, I have no priority for snow clearing.
- I will not cycle in the winter. The cold causes me jaw pain.
- 53rd, 32nd/Charleswood, Northmount Dr
- Side streets, Capri, Charleswood. the University campus is always very well cleared of snow.
- Memorial drive and 27th street NW
- 24th ave NW
- Northmount Drive
- The road that parrallel's Crowchild
- Bow River pathway from 10 St SW to 29 St NW
- 29th ave
- 24th Avenue
- the road that goes past the vrsi recycling center.
- 24 Avenue
- bow river
- Morley Trail NW
- 24th Avenue, Confederation park
- University Drive and Crowchild Trail
- In my case the streets between 16th Ave NW and the improvised shagganapi crossing are the biggest problem.
- Foothills hospital area where students may bike from Bow river pathway up to the stadium mall. 2) Children's hospital park area where students may also bike from Bow river pathway up to the university student housing area.
- Morley Trail
- Charswood
- 29th St. NW
- n/a (see comments at end)
- charleswood drive
- University Drive and its sidewalk
- 24th avenue NW

- 24th Ave
- The pathway along 32nd Ave.
- 24th Avenue
- confederation park system and 29 th street.
- Capitol Hill Crescent
- Northmount Drive
- 24th avenue
- Pathway along 14th Street NW
- 32nd ave
- side streets
- Brisebois Drive NW
- Family Housing to University (ICT)
- There are no pathways on my route, so this really just applies to the roads, which are too dangerous to cycle on in the winter.
- Castle Rd. NW between Morley Trail and the University C-Train station
- around campus
- Bowness Road, 32 Ave NW
- Collegiate Blvd NW
- The pathway leading from the train station towards kinesiology.
- either shore of bow river - east of DT
- bow river pathway
- 32nd ave nw
- Research Way
- University Drive
- ALL BIKE ROUTES!
- The pathways are usually promptly cleared.
- 32nd Avenue NW
- 5 ave NW, universtiy ave
- 24th ave nw and 19th st nw
- pathways close to the engg building
- charleswood drive
- Morley Trail
- The Edworthy park paths would be one of the most important to improve on because they usually have the most snow in the winter time.
- 24th Avenue NW
- 20th/24th avenue
- 14th Av NW
- the one beside Mcmann stadium and neer the hockey rink
- Northmount Drive
- bow valley pathway

- Varsity Dr.
- road to the gym
- 10 Ave SW
- 53rd
- 20th Ave and all major roads
- I've never really had an issue with snow on roads on my route but I have found when I walk that the pathways between the Children's Hospital and the University are very snowy and hard to walk on -- some cyclists might go this way. The small residential area I go through is often extremely snowy but I don't think this should be a priority as probably not many people go through there.
- Morley Trail NW, Capitol Hill Crescent NW, and Castle Road NW.
- university drive
- charleswood
- 24th avenue
- university drive NW
- The road that turns into the University/Children's Hospital, the first set of lights east of Shaganappi Trail NW
- The pathway along the river is used by so many people that it ought to be cleared frequently.
- Varsity Drive
- Capitol Hill Cres. NW
- 53rd Street.
- Not sure.
- Residence Pathways
- sidewalk along 32nd from Market Mall to UofC
- brisebois dr and 32nd street
- 14th street pathway
- Udell Road NW & Underhill Drive NW
- 32 ave nw
- side walks approaching the ICT building coming from the brentwood side
- Memorial River Pathway
- university pathways and those that cross Crowchild
- I ride on not so busy roads, where the speed limit is only 60km/h or so and a lot of the time they aren't up to par with road conditions.
- 53rd street and 32 avenue
- I usually take back roads to avoid the traffic and the road-raging suv driving motherfuckers
- glenmore path from hospital to 14th st
- residential streets
- Varsity Drive
- 20th street2
- 4th ave.
- Crowchild & University Dr
- 29th Street West

- 24th avenue. all the way to the curb. Lots of times, if I would cycle, I would almost be in the driving lane, as all the snow will cause me to slip, swerve, just make it dangerous to cycle with cars.
- I take many routes so can't say one specifically
- pathway along the south side of 32nd ave.
- Brisbois Drive & 40th ave.
- Any smaller residential streets - all streets in my neighborhood remain covered in snow and ice until it melts.
- 32nd ave pathway between campus and market mall.
- the bike trails in Silver Springs, and into Varsity, especially where the bike path ends and you have to bike on the road.
- Boulton Rd NW
- 19 St N.W. and Morley Trail
- 14th st. NW pathway
- University Drive
- University avenue, and all bike pathways
- charleswood drive
- Charlsewood
- By Sunnyside Station
- 24th Ave
- The bike path that parallels the Bow River
- Path in front of Kinesiology complex front entrance.
- Pedestrian walkways around campus, especially around the perimeter of campus
- 53rd St. - note: it would be HELPFUL if the snow clearing did not involve dumping the snow ONTO the bike lane, which appears to be the current practice. GRRRR.
- bow river pathway, hill off memorial leading up to the foothills hospital/back route to U of C
- The random sidewalks / pathways because the roads are very dangerous in the winter for a cyclist.
- The sidewalks being covered in ice makes driving on them much more difficult. I used a mountain bike with awesome tires this winter, but even then, the snow would get in the tires, accumulate, and then you hit some ice and you're in trouble. Snow and ice removal on all paths would be very appreciated.
- The sidewalk up foothills, since it's a pretty long hill, it causes bike tires to slip and it makes it a hassle to get up.
- university drive
- crowchild
- No preference - the pathways along the river are in great conditions during the winter. NOTE: I'm not going to answer the next question because the pathway is already cleared of snow.
- N/a. I don't take a specific bike route to the university.
- I find the most difficult and dangerous roads are in the residential areas. I could not specify one road in particular as I find them all dangerous, but realize it is impractical to clear the snow on all of them.
- Unwin Road

- Pathway between 33rd Street SW and Memorial Drive.
- Dalhousie
- Path that goes up the 29th St hill.
- 29th Street West
- 24th Ave is extremely busy and needs more attention for bicyclists
- NOT sure
- Northmount Dr
- LRT Ramp and Along 24th Ave
- Pathway on the South side of 32nd ave NW
- not too sure
- Edgemont Boulevard
- 24th ave
- 53 ave.
- 29th Street W.
- 32 Avenue and the paths within the University (especially by Science Theaters and Bio Sci.
- they are usually all clear within a reasonable amount of time.
- The one along 14th street.
- 23 and 24 avenue
- bow river path
- Shaganappi Trail
- Pathways on UofC.
- 14th Street SW & NW
- The path from Home Road to Shaganappi, which is rarely cleared in the winter.
- 24th St NW
- confederation park, specifically the tunnels, and 24th avenue
- Centre Street NW, 4th Street NW, Northmount Drive and Charleswood Drive
- 20th street, that runs parallel to crowchild is a must. snow should be cleared all the way to the curb!
- I wouldn't anyway because there is too much ice everywhere else.
- up 24th
- Morley Trail
- I live in a smaller neighbourhood where the “main roads” are never cleared until late in the day. Solely relying on the city to clear that during the winter months is a problem. I have problem taking my cars out into the main streets sometime, let alone my bike.bFor this program to be successiful, we will need much more involvement from the city on all roads.
- 14th st pathway, John Laurie pathway between 14th st and 19 st
- University Avenue
- Varsity Drive
- Northmount Drive, Charleswood Drive, 32nd Ave NW, and any road that has designated “bike route” signs.
- The safest and quickest road to campus.
- 29 st NW

- 32nd Ave/Charleswood Dr.
- Bowness Road
- University Avenue
- 32 Ave NW, 40 Ave NW, 37 ST NW
- the pathway in the ravine parallel to 53rd st NW in varsity
- the walking path/ cycling path along Edgemont Blvd
- All roads I travel on are major roadways and are quickly cleared of snow.
- 32 ave
- The pathway along bow trail between 69th St. and Sarcee trial.
- 37 street
- morley trail
- 5 ave NW, and side paths down crowchild
- 29th NW and Uxbridge Dr
- 32 Avenue
- Memorial Drive.
- Entire river system.
- 10th avenue sw
- 32nd Ave.
- the City bikepaths
- The big parking lot near the Olympic Oval.
- Ranchlands Blvd and 53rd st.
- The road near the hospital and field hockey field. I fell on that road so many times.
- Main Uni Drive
- Path which borders the University land on 33rd Ave
- I will never ride my bike to U of C in the winter, so it doesn't matter to me.
- 14th St N
- pathway along Memorial Drive
- 19th St NW is often not cleared close enough to the curb to allow safe riding in the curb lane. The sidewalk on the 14 St NW hill (which must be used due to the absence of a bike lane and rather fast traffic on the road) is not very cleared and is often covered in gravel.
- path that lies along 32nd Ave coming from Market Mall
- Ranchlands Boulevard NW
- None. The cars tend to move the snow the side. If there is a laneway that is parallel, then the gravel of the laneway provides better traction, and there is less traffic.
- Any sidewalk that has ice on it, ice the most demotivating reason for not cycling in the winter
- 16 Ave
- every pathway and/or road around mc hall and library for sure. I use all the time pathway from back doors of cascade hall beside olympic oval and usually I hit the road after behind he dining centre and cycle beside construction side and mchall to earth sience building or libray.
- All of them
- Pathway from the Brentwood parking lot to the intersection of 32nd Ave NW and Campus Drive.
- 19th St and 24th Ave NW

- 24th Ave and pathways and roads within the university
- That road leading to the ICT building.
- From Franklin Station all the way to Sunnyside stn.
- The path from the c-train down to mac hall
- Varsity Drive.
- 32 Ave or 24Ave NW also roads going to foothills ie. university drive
- the street from 32nd to brentwood station through the research park
- The hill leading up to the Foothills Hospital from the river.
- 29 st NW
- 52 Street NW -- it's the primary route for cyclists coming out of Bowness. There should be a painted cycle lane coming up it so that we don't break the law in doing so.
- Crowchild Tr. and the pathways that run parallel to it as I travel alongside it for the majority of the ride.
- Sidewalk on 16th ave
- main roads
- 14th street nw bike path (64th aveue to john laurie blvd)
- The pathway that goes from 32 Ave and parallels crowchild, goes past the university ctrain station, and ends at the childcare centre/Haskayne.
- Bow River pathway
- University Dr
- 14st nw and northmount drive
- 37 St NW; 32 Ave NW
- 19th St SW and 24 Ave NW.
- The bike path that runs beside 14th street from Brekshire Blvd NW to John Laurie Blvd.
- The pathway along the River.
- Either down 24th Street (sidewalk), Charleswood (sidewalk) and/or 14th Street pathway (by golf course).
- 32 ave
- different roads within the campus
- 29 St NW / Unwin Road
- The path along 32nd Ave
- capitol hill crescent
- on 32 ave
- Can't think of any at the moment...
- The walking paths that are actually on campus.
- 24th ave westbound
- pathway on 24th ave
- Pathway in Silver Springs downhill through Birthplace Forest by Sarcee Tr
- I don't mind cycling in the snow. Snow clearing isn't a big priority for me. What I'm more concerned about is cycling where there aren't cars. I hate being forced onto major roads in bad conditions. So the most helpful thing for me would be dedicated lanes, even if they're not cleared. As it is, I stick the marked city bike route along secondary roads with very little traffic.

- Sidewalk in front of engineering towards Nickle arts all the way around
- Charleswood drive
- Charleswood Drive - 32nd Avenue
- The one on the left side of the C-train line by Banff Trail
- The road connecting 40th and 36th Avenue, near the fire station. Also the road that runs past the Universtiy.
- Park pathways
- bow river pathway
- 29 st and memorial drive
- My route varies depending on destination so hard to specify one route
- 29th st NW, Unwin st (spelling?), University drive
- Not sure
- I don't know it's name, but the closed off road between the hospital and the university
- The path along 29th stree nw that runs by the foothills hospital hill.
- Edworthy Park SW
- University Drive
- The hill on the west side of the Foothills campus
- The University is usually pretty well cleared. Thanks. I don't like the white chemical pellets used to keep the pathways free of ice. When you are on a bike it sprays up all over your clothes. Sand is great!
- 13 Ave to University on university drive
- 32nd AVE NW
- Capital Hill Crescent NW
- It's too dangerous to bike in winter!!!! I just wouldn't do it.
- Northmount, Brentwood station. The snow clearing in this city is terrible as well.
- 5th avenue & 29th street
- 32nd avenue NW
- 16th Avenue
- The road leading from the University towards 14th street - i'm not sure what it's called, it is intersected by Crowchild Trail travelling east-bound.
- The side streets in the residential areas (e.g. cochrane rd; exshaw rd)
- Pathway along the Bow River (beside Memorial Drive)
- University Drive
- 19th street NW (from Kensington Road to 24th ave NW)
- 24 Avenue NW
- 20th Ave NW
- Home Road
- 20th Ave North
- Capitol Hill Cres NW and Edworthy Park between pedestrian bridge and train tracks. Also Edworthy Park hill
- 24th AVE NW
- 19th Avenue NW from Memorial Drive

- 20th and 24th.
- foothill by the hospital
- The south leg of the on-road bike lane (5st, Haddon Rd, Elbow drive, etc)
- 29th street hill by the Foothills hospital
- Crowchild Trail / University Drive needs a) a bike path and b) snow clearing.
- 24th Avenue... this was a mess this year, and wasn't even walkable let alone cycle-able. 29th Street pathway. Not entirely sure, haven't really cycled this particular route to school in the winter
- The sidewalk of the bridge on 32 Ave NW crossing Crowchild...
- Varsity Drive, then through the area through the duck pond.
- 24th ave nw pathway system should be cleared all winter...
- 32nd Ave
- home road hill
- 17th Ave
- 14 St W, Confederation Park / Golf Course
- not sure
- the roads in the university research park area.
- 5th/6th Ave NW
- 24th ave NW
- Edworthy Park- major hub for cyclists in the SW from Bow Trail connecting to the paths
- Capri Avenue N.W.
- 24th Avenue between 14th St. and campus entrances.
- 37 Street
- 53rd St & Varsity Dr.
- 32nd Avenue - the ENTIRE route from campus west to Home Road, not just the portion of pathway east of Shaganappi. 24th Avenue
- Side roads around 3'st and 26'th ave NW
- 53rd Avenue, Existing Bike route in Varsity - need something for ice as well.
- All roads leading to C-Train Stations
- Main pathways, such as the one along Memorial and adjacent to the Bow River.
- 53st NW
- university drive
- Deer Creek pathway
- pedestrian crossing at C-train station
- answer in other question
- On the north side of Country Hills Boulevard between Nose Hill Drive and Citadel Way NW
- There really isn't any one road or path that would make the difference. Campus is always kept really clean - thank you, but the 40 minutes of roads before I get to campus are an unpleasant combination of ice and gravel.
- the pathways along the river (although they already have priority and the City does a great job clearing them).
- highway 1A
- Shaganappi Drive

- Parkdale Blvd
- 24th Avenue NW
- 24th Ave. NW
- 32nd AVE would be a priority for me, but also even more direct would be a good route through Brentwood. I have a tendency to follow the same route as the 43 bus loop, but going through the neighborhoods means not bike lanes at all.
- Bike paths (along the Bow)
- All streets leading to campus.
- all of them
- 32nd avenue
- Home Road
- 24th Ave NW
- River pathways
- Residential neighborhoods in general in the city.
- 24th Avenue West of the University
- 24th Ave. between 14th Street (confed park) and Crowchild.
- 20th Ave NW
- Pathway alongside Hospital Hill
- The underpass at 14th street between Confederation park and gold course needs to be kept clear of ice formed from meltwater.
- Nose Hill
- Shaganappi Trail
- 20th Ave and/or confederation park pathways
- I'm a bit afraid of winter biking due to the dark and ice (I leave home at 7 and get home ~ 7 when I bike).
- 14th Avenue NW - From SAIT to the Crowchild pedestrian bridge
- All of them
- Lot 10/12 and the student housing complexes along 32nd ave
- Home Road
- Brisbois Drive
- Any residential road
- University Drive NW 24 Avenue NW
- 29th st nw from memorial north all the way to the university.
- Edworthy Park (the hill)
- 45th st sw
- bike trail through the golf course
- 32 AVE NW
- 20th and 24th Ave. NW
- I am not certain.
- 24th Ave
- Path up/down hill from Memorial to Hospital area.
- 39th st/west campus drive

- 16th ave on the sidewalk
- the path close the the c-trail, going up towards the brentwood mall complex
- Roads throughout Ranchlands are deadly on a bike due to the hills and ice.
- 32 ave
- the bike path on 24th Ave by MacMahon Stadium close to u of c
- 53rd St; 32nd Ave
- 700 Varsity Estates Place
- All should be cleared to accomodate not only cyclists, but pedestrians as well.
- 20th ST SW
- Exshaw Road
- 16th Ave/Memorial to Foothills medical centre pathway. Often cleared but not always.
- Northmount drive
- Along the bow river
- 40th Ave, 32 Ave
- street behind the C-train stations of banff trail and coming up to the university stop.
- 29th St
- the one that extends from the c-train to science theatres all the way to in front of Mac Hall and going along the side of the Kines building
- 19th and Crowchild - very bad.
- Road on the other side of the C-train station.
- 20 Ave NW
- 20th Ave N
- Sidewalks and side roads along University Drive south of the University.
- from the LRT
- Carburn and Beaverdam parks
- 20 Avenue NE to NW, Pathway along Deerfoot Trail to 16th Avenue
- 32nd St. Home Road
- Edgemont Blvd, 53 st NW, Varsity Dr
- 32nd and 24th Aves. NW
- pathways leading to Crowchild crossing, mostly on the south side of the Bow River
- pathway connecting vegas way nw and shaganappi nw. goes through a small park.
- All of the pathways within a three block radius
- 31st St. NW between Brentwood Station and the University
- 40th ave
- 24th Ave.
- road on east side of transit right of way in residential area from 16th ave to University transit overpass over Crowchild - trees there ensure that snow melts to ice and making it quite dangerous.
- all
- All of them.
- 32nd avenue and the pathway beside it. There should be a bicycle ring road around campus, too
- Bow river pathway

- University Dr NW as well as the pathways throughout campus, the snow brushes just move the snow, the ice is still there.
- sidewalk along 32nd from Market Mall to the campus
- 24th Avenue
- Shaganappi
- charleswood drive
- University Drive
- 20th Avenue NW
- the pathway running from 41st ave and 4th st NW to confederation park through queens park cemetary
- University Drive NW and 24th AVE.
- 20th Ave NW
- charleswood dr
- Campus Drive
- pathway along 16ave west of 19st
- 53rd st
- shaganappi
- See previous question.
- pathway on north side of river between Bowness footbridge and Home Road
- Varsity Drive, 32nd Ave NW
- West Campus Way and connector paths from Medical School
- see last question
- Any route that would connect Royal Oak to SIlver Springs, efficiently and directly.
- Near Children's and McDonald House
- Firstly all the routes on campus. It's nice that once on campus the snow is no longer an issue. Next I'd say the river path.
- Side streets
- 32ave close to VollyDome
- Morely Trail
- 24th avenue and 25th avenue
- 19th street
- Northmount Drive
- Home Road.
- not sure
- home road
- All pathways from fish creek park to foothills hospital
- collegiate blvd, all the way to the edge.
- 29th Street
- 32nd avenue
- University Drive
- 37th Street SW
- confederation park

- 19 ave NW (parallel to busier Bowness Road)
- 37th St.
- first one
- Crowchild up where you have to ride it, West of Stoney.
- Collegiate Rd NW
- The pathway by the Bow River.
- from 40th Ave NW to around Brentwood station. But I would probably bike to brentwood, then take public transit.
- Charleswood/32nd Ave.
- 5th street south to Elbow drive.
- 32nd Ave
- Pathway to the u of c family housing and campus drive
- From Foothills Hospital across to main Campus.
- Brentwood Blvd.
- Any major sidewalk system around the university! Actually hand out fines for lazy people who do not shovel their walkway! and fine people for shoveling snow onto the road! University maintenance should get paths cleared a little earlier then lunch time!
- Small back streets which are safer but don't get plowed!
- 24th Avenue
- 14th street heading north.
- 24th avenue east of crowchild
- The most direct route from the ctrain all the way across campus to engineering.
- All the roads that form a ring around campus....32 ave, 24th ave etc.
- All!
- Path along the river. Memorial rd.
- Already very good. Bow River pathway along Memorial is the biggest help.
- Stairs at 32nd Ave NW and 37th St NW
- Confederation Park pathway - which by the way is cleared in winter for the past 5 or 6 years
- northmount
- 19th street
- Along memorial west or pathways along crowchild.
- Bridge over Crowchild, both the roadway and sidewalk
- bike pathway next to Laurie, 14 St to 19 St NW
- 29 ST. SW
- 18th, 19th, 20th NW
- 4th st sw
- All of them.
- Canmore Rd to Morley Tr., to University C-Train overpass, than on to Murray Frasher Hall
- university drive
- dalhousie drive
- Charleswood Park to C-train station
- Varsity Estates drive, 40th avenue NW

- 5 AVE NW to 16 AVE NW
- 17th street nw
- Charlswood/32nd Ave
- all
- bow river park
- Bow River Pathway between Edworthy and Home Rd. and pathway between Shaganappi and University apartment residences.
- n/a (I am coming from Kensington, travelling northbound on 19 St NW. This route on 19 St is too steep to safely ride in winter.)
- 10 ave S.W.
- country hills boulevard west of nosehill drive. snow clearing is present but not to curb and there is often a lot of ice and obstacles
- The sidewalk from Lot 10 all the way to MSC on the South side of Collegiate BLVD
- All of them!
- The pathway from the train to the gym.
- Around Morley Tr
- Main city bicycle pathes
- Vienna Drive NW, and underpass beneath Sarcee Trail, connecting 66 Ave NW and Ranchview Link NW.
- A pathway connecting the university to the river path. (There are several theoretical options. All suck right now. Would need to be combined with fixing a few crossings - say at memorial: hint hint.)
- The pathway that connects Varsity Acres and Silver Springs (near the old bus route/bus trap)
- University Drive
- 16th ave bike lane
- If I biked in Winter, then pathway from Dalhousie Dr to Vienna Way over Crowchild Trail pedestrian bridge.
- through the dog park at 14st and john laurie
- Varsity Drive
- Actually, I don't really want to bike to school in the Winter...it's too risky for wiping out. This is a bit of a leading question.
- University dr
- Varisty Drive
- Hills.
- The pathway along the bow river. (by edworthy park)
- Charleswood drive
- pathways near c train both by the university station and the banff trail station
- The north/south corridor leading from the 16th avenue N overpass to the university LRT (along Capitol Hill Crescent and 24th St NW) is an excellent bike route with little car traffic which was not cleared of snow this winter.

- as mentioned before, those that are actually have with bicycle signs, should have an equal priority as the multi-line car streets. the pathways are mostly ok, for my route, it would be the bike path along the bow river from downtown leading to the foothills hospital.
- path from the C-trail station since I am coming that direction.
- The bike path from Edworthy Park up to the Children's hospital
- 24th ave nw
- 33rd st. NW
- 19 Str NW
- Center st. and 4th st.
- Mackay Rd NW
- 1. Currently serious runoff problems in Queens park cemetery which make it difficult to cycle there in the spring and fall due to large puddles that can be 6 inchs deep and freeze over. A number of the tunnels in confederation park are filled with ice in the spring/winter where cyclist must get off there bikes to get through safely. This is particularly bad at 14th NW.
- Charleswood (and 32nd) Ave
- path along bow river (which is cleared of snow regularly in a timely manner)
- Memorial bike path
- 24th Ave.
- 24th Ave
- 20th street then down through Scarboro, unsure of the street name, then the path along memorial Dr.
- Varsity Drive
- 24th avenue and campus drive.
- 32 Ave bridge over Crowchild Trail
- 24th Ave NW
- 32 ave nw
- university drive
- Between the Bowness/Shaganappi intersection and the Foothills Hospital
- Most are fairly clear for me. 19th Street between John Laurie and Northmount is the one area that could have better clearing due to its current narrowness.Re Question 52, I already ride all year round regardless of conditions.
- side way next to 32 ave. from family housing to university.
- 29th Street nw
- 14th street pathway
- 32 Ave
- Crowchild
- If there is a snow/ice on the road, I wouldn't bike anyway
- Brisebois Drive / 40th Ave, road leaving brentwood C-train station
- 24th avenue
- university drive
- The roads on campus. Often the sidewalks are cleared but the streets are too icy to bike on.
- 24th ave NW

- Campus pathways.
- 32nd, in particular between Home Road and Shaganappi
- all of them
- 53rd st in varsity, Varsity dr,
- Bike path by the Children's Hospital.
- Scurfield Drive
- entire bow river pathway
- Usher Road.
- Home Rd. It's difficult to bike up the hill normally, more so when you're worried about losing grip from the gravel and falling into oncoming traffic.
- Crowchild bridge
- Bike path through varsity from NW
- 32 ave
- I wouldn't ride in the winter unless the worst global warming predictions come to pass!
- Bow river pathway which already done.
- 10th Street NW from 5th Ave to 20th Ave
- Can't say
- 20 Ave NW, 24 Ave NW
- 53rd Street, 40th Avenue, 32nd Avenue pathway.
- Capital Hill Cr
- My route is 18th Ave (10th St to 14th to avoid 20th Ave traffic) 20th Ave (14th to 22nd St as 18th is blocked at 14th St) 22nd st (to 24th Ave) 24th Ave (to campus)
- 32 Ave. pathway
- all of them
- All pathways leading to the university
- Varsity Drive

APPENDIX F: Verbatim Responses of the Respondents Who Selected 'Other' as their Desired Bicycle Parking on Campus.

- A locked garage or cage for staff. Curtin University in Western Australia offers locked cages for staff and a separate one for students. Access is with a card key. UofC should investigate this type of secure facility.
  Note_ there are high density hanging racks at the foothills site and they are very inconvenient to use- in fact many women cannot lift their bikes onto them. Bicycle commuting websites specifically recommend against their use. I like the current model above but wanted to fill this in to alert you to the problems with then
  probably the U rack because it can't be knocked over!!! The hanging one seems stupid... who would scratch up their shiny new rims to hang their bike??? If the developer says they are rubber covered call me and we'll see how long it takes for the rubber to come off. In any case its not a great idea especially since some people may have trouble lifting their bikes (elderly etc. and yes they bike too)
  Caged, secure high density racks. If I'm using it I will likely be using it a lot.
- I am not aware of all models, but someone simply needs to look into it carefully an dselect best option for university environment.
  I do not know. WHen my bike was stolen it was locked with a Kryptonite lock to a UofC bike rack, obviously not fail proof.
  This survey is possibly biased to main campus vs. Foothills site - answer to question 58, for example is that ones likelihood is directly linked to having one way over here. So, when you say "campus"; what exactly are you referring to?
  Bike lockers
  Rack that can't be moved by Grounds, damaging the attached bicycles
- Cages with security cameras
- the current model is fine, but slots are too close to each other when your bike has panniers.
- Bike Locker
  Current model fixed to the surface. I have seen vandals tip full racks over for fun.
  whichever is the most secure
  Any rack that is bolted down so it can not be moved with my bike attached
- U rack models with a cross section at mid height. Particularly useful for those with rear suspension bikes which the current model doesn't work well with.
- mix of all differen't depending on location
  Any of these ok - but note that most (all?) of the current bike racks are not permanently affixed to the ground. The entire rack + bikes can be easily stolen!
- anything that is user friendly and secure
- weather-proof facilities
  The current model relly is not that easy to secure a U-Lock to. (or a cord for that matter) The rack only comes in contact with the front or back wheel and fork, which isnt the ideal place to lock the bike (and also results in bikes falling over all the time). The U-rack is much better to use, because it enables the cyclist to affix a U-lock to the frame of the bike, rather than to another part. It also prevents the bikes from falling over easily. I have never used a High density model. It seems interesting, although it could be very difficult for those with back injuries or other complications to use. lifting a bike is not easy for everyone.
- Locked racks near major buildings, like UBC has/is working on.

indoor storage

High density racks inside locked rooms to limit access to the racks. For racks outside, I have no preference.

Ones with very obvious cameras. Never had a bike stolen from the U, but it makes you paranoid.

- i would not leave my bike anywhere uncovered and not caged

  Unless the bikes are enclosed, they will be stolen. Please offer enclosures.
- Either current model or U-rack. The “high density racks” are a pain and they're no higher density than the current models.
- Caged. I have had my bike stolen from the racks above (on Campus at a high density area), and I believe only caged racks are the way to go.

  I already had my bike messed with once while leaving it outside. That is why I now go to the trouble of carrying my bike up and down the stairs in the Admin building to my office.

  bikes should be secured in a building on campus that only cyclists have access to. My bike is an expensive road bike and most people I know have fairly costly bikes and are grad students that would be at a huge disadvantage if their bikes were stolen
- Locked cage. I am worried about theft of accessories.

  current model, but bolted to the ground and under covers
- One that is more high security, because my bicycle was stolen from outside the art parkade during the daytime last spring, and I have never heard anything about it from security since.

  something more secure!
- Full on lockers; I hate having to carry around my seat with me and lock up both wheels
- lockers

  i would like to see heated parking for bikes. the reason i dont ride during the winter is that leaving my bike outside in the snow and ice wrecks the drive train and other sensitive parts.
- the racks that also lock in your tires because there is a lot of theft on campus

  Honestly I don't know, I haven't really used any of them so you can say I have no prefence but not from not favoring one but just from not knowing which is more convenient.

  bike lockers

  It doesn't matter to me which kind is used but I'd like to see cameras placed around campus to monitor bike racks. I just had my bike stolen off of campus and there's nothing I can do about it. I rode it all winter and I would continue to ride it, but now I don't have one.

  Someone needs to engineer a new model. The current model is not good for locking both your tire and frame to the rack, the U-rack model is not usable with any of the U-locks because of the diameter of the bars. The high density racks are fairly good, except that if you have wheel fenders (which are a necessity in bad weather), the rack has a tendency to break them. I suggest you give this problem to some engg students to design a better rack
- Caged bike racks, I worry about vandalism and bike theft. Road bikes are not cheap and it would crush me to see my bike stolen.
- anything closed off to the general public
- My bike stays with me unless it's securely locked in a caged bin. I would select whichever bike rack that enables one to lock his bike tires and frame easily.

  Something that is in a visible area, frequented by security. Bicycle theft is my main deterrent from cycling to campus.

U-racks I find to be the most aesthetically pleasing, though they are not as convenient for areas which require parking for large numbers of bicycles. I do feel as though they would be useful as well as attractive if they lined the outside of a building, such as the South wall of the Science A building. If the University wishes for even more aesthetic appeal, a model such as this could be used: http://www.arba.ie/popups/cycle_stand4.jpg The “current” model is very unattractive, too easily moved, and not particularly efficient as it results in some “stalls” remaining unoccupied as they are too narrow to accommodate bicycle handlebars. Bikes are also more likely to be damaged using the conventional model. I feel as though this model should be completely avoided and summarily replaced. The most efficient model is a high density rack which either separates the handlebars by alternating the height of racks vertically, or horizontally. The latter can be seen in this image: http://www.edupics.com/cycle-stand-t5226.jpg Certainly if this type of rack were to be utilised, it should be properly fastened to the ground, as all racks should.

The racks are fine, but they bury them in snow in winter.

- Something where the bike is more covered.
- Racks where it makes it harder for people steal!
- Antyhing that would fit my large cruiser.
- Bike racks of similar style to the current ones, or any design really, that has a cover overtop of the bolts. Most current bike racks are able to be unbolted from the ground and the entire rack with bikes could be stolen. Although this is unlikely with many bikes locked to it, I find it a concern when my bike is the only one attached to it.

  The current model is by far the worst option for bicycle parking. They are not at all aesthetically pleasing as they look cluttered, do not cohere with the look of the university and are scattered haphazardly about. If they are to be continued they need to be properly fastened to the ground and arranged in line with walls. Regardless the current model ought to be replaced due to its poor capacity and their likelihood in damaging bicycles. Bicycle handlebars are forced too close together and this results in “stalls” going unused to act as a buffer. If the rack is full, bicycles will often be forced in and this can damage them and result in the removal of some bicycles being rather difficult. This also leads to more bicycles being fastened to trees and lamp posts. The U-rack is rather aesthetically pleasing as they have a clean look and can be neatly arranged. I feel as though these racks would cohere with the university's look if they were arranged at an angle along some walls, such as along the South wall of the Science A building. The example in this picture could be rather attractive http://www.arba.ie/popups/cycle_stand4.jpg High density racks would certainly be preferable at MacEwan Hall, the MacKimmie Library Tower and the Science complex (preferably below the +15 which connects the Science Theatres with Biology building). These racks could either be vertical or horizontal, but would certainly require a way of separating the handlebars. They need simply to have alternating heights of tyre holders to raise every second handlebar. This would also allow for bicycles to be placed closer together, while still avoiding damage. A horizontal example can be viewed here: http://www.edupics.com/cycle-stand-t5226.jpg Of course proper fastening to the ground is a must. A vertical rack could also have alternating holders, though it may be difficult for some to lift their bicycle and possibly result in a higher probability of damage.
- Something that provides some weather shelter and is monitored against theft. Design is not particularly important to me.
- bike lockers

The biggest improvement for me would be heated, indoor bike parking during the winter, anywhere on campus. It's really difficult to maintain my bike when I have to ride it 'cold' at the end of a day. It's nasty at the end of a day when the chain is covered in snow and all the cabling is gummed up with ice.

Current model, covered and bolted down. Outside ENGG, the rack sits on the lawn, in the snow where it could easily be lifted into the back of a truck.

I use the bike rack closest to my office. I don't really care what type it is.

- Have you considered Dirigibles?
- Secure biking facilities.
- I do not own a bike.

  caged / fully secure units. i have an expensive bike and can not afford any risk of it being stolen.
- I don't know - I am not familiar enough with any of the racks

  Anything covered

  As long as they are secure, it doesn't matter to me. What would be of more benefit would be for theft of bicycles to be taken more seriously by campus security and police.
- I like the current model used, but I'd be more comfortable with them if they were fixed to the ground.

  I like the U-rack model, but can you not make them visually appealing so they are also considered art?

  covered
- Racks that are bolted to the ground - not certain if the U-rack is bolted but if it is, I would select that option.
- Anything that offers more security.
- High Density in a covered location.

  bike lockers (where you cannot see the bike- protected from elements
- Cannot judge - mostly just because I am not familiar with the different types and do not know their pros/cons.
- better surveilence. Extremely deterred that my bike was stolen in a high traffic area while locked.
- secure, locked cage with access for bike owners only. the one at the childens hospital is a good examplre. W
- We really need caged lockups since bike thefts are common.

  I would preffer cages so i can lock up my skateboard!!!! it does not fit in my locker

  One that close around the frame and front tire, and then you put your lock through. People will steal whatever part of you bike they can, so if you are just locking the front tire, they can take it off and steal your frame. Or vice-versa.

  U-rack but in covered locations

  High Density indoors and protected from winter
- 25 Cent lock type -- under the walkover from Haskayne to Education Tower

  Either the current model, or a covered rack (esp. in winter)
- Outdoor covered bike lockers.

  High density rack with caged or security access (eg access with magnetic card). Have had a bike vandalized in a regular rack already this year.
- I don't care what type, if there were better security

- Large racks in well lit public areas
  I Cycled longer distances and used an expensive bike and did not want to leave on campus. So more secure fenced with id check or monitoring would be what I want to see on campus.
  all seem fine. though in higher theft areas, perhaps vid cameras?
  Current or High Density. U-rack model seems not aesthetic or very economical compared to the other two.
  I would prefer the U-rack model since it can't be moved or turned over. Regarding the current model, I've had an incident once where my bike was locked to it outside Machall near the Den entrance, and when I came out, the whole (current model) rack was turned upside down, with my bike still locked to it but pretty beaten up. When I asked Campus Security, who were standing close to it as there was a concert or something, they said something along the lines that they could not do anything about it.
- I would most like to see something secure. I had the rear wheel stolen off a bike parked in the existing racks right outside a set of windows.
- Vertical high density racks that don't contact bike frame, and allow locking through both wheels and frame, would be best, in combination with surveillance cameras (web-cams) with continuous recordings of visitors kept for a reasonable time, would deter vandalism/theft and enhance perceived security, leading someone with more valuable bikes to trust their bike in the parking facility. Live attendant or automatic system with check-in tokens could be even better. My bikes are valued at more than $1000 each (some much more) and I greatly prefer having them under personal observation if possible. It could be easier and more efficient using a central secure parking facility than bending the rules barring bikes from offices, but I'd have to trust the security system implicitly for ease of mind.
- Cages with locks and locks inside too
- Lockers
  I park inside a building, no need for racks.
- indoor racks.
  If parking congestion is a problem then I guess I'd be in favour of a high density arrangement - but it is not a concern with me (I never have trouble finding a place to park), those things look expensive for minimal benefit, and I'd rather see any resources the university/city has to devote to cycling to go into more productive ventures (bike racks on buses, more cycling routes, etc.).
  The kind not buried in a pile of snow. OK - you haven't asked this question so I have to go here. Urack and current are fine (there is better - I like the london W design.) But seriously, stop putting the snow piles ON TOP of the rack. Good example of this is in front of ICT. Those racks a mess from first snow till melt because they put snow piles in and on them.
- If cost was low, then secure “valet” parking might be an option with lower cost for rack construction and improved protection from vandalism and theft. Something like the “park and fly” model for bikes. I've never seen something like this--just a half-baked idea.
- bike racks similar to the u-rack model, hover under some kind of cover and close to the building i'm at (in my case, Math Sciene). there seem to be parking lots all around the campus, why can't there be some kind of better parking for bikes? i don't think that high density parking makes much sense, as it is not really convenient.

- High density racks aren't displayed here so I am not sure what they look like. Otherwise the U-rack looks the easiest o lock on and off. The current design is pretty bad if you want to secure both wheels like I do.
  What ever rack system is the most secure
  I would like to see a secure cage system. I'm not convinced that the racks shown above are a deterrent to thieves.
- My bike was stolen. I am very reluctant to leave my bike at any bike rack.
  1st or 2nd, not 3rd
  lamp posts, trees, railings, parking meters, gas pipes, etc