



BICYCLING ON GROUNDS AND BEYOND

Encouragement Group

Global Sustainability, Fall 2011

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ABSTRACT

In collaboration with the UVA Parking and Transportation Department, the main objective of the Encouragement Group was to encourage more people to use biking as a mode of transportation. Targeting students, faculty, and staff, we encouraged those who already bike to continue biking, and those who do not, to begin. Over the course of four months, we conducted a survey to better understand our target market, determining trends in demographics, as well as reasons behind habits in regards to transportation on grounds. After analyzing results from the survey that indicated road safety, convenience, and lack of equipment as inhibiting factors to biking, we developed methods of promotion that more specifically addressed the concerns: handing out fliers, bike shop discounts, and informational signs. We used handing out fliers that varied in content and appeal as a method of promotion to gain face to face interaction with our target group, and a chance to field questions about the benefits of biking and our efforts. Developing a bike-deal discount with a local bike shop in order to give a 10% discount to any member of the UVA community with a current ID was another method employed to encourage biking based on the survey results. Finally, putting up informational posters with the health, efficiency, and energy benefits to biking was a method used to encourage the convenience and advantages to biking as a mode of transportation. At the conclusion of our project, we were successful in determining how to appeal to our target market based on their habits, and using the methods discussed to promote biking, as well identifying successful methods for the future.

INTRODUCTION

Background

Biking provides numerous advantages in comparison to other forms of transportation such as walking, driving, and taking the bus, including speed efficiency, parking ease, and beneficial environmental impacts. For these reasons, the Department of Parking and Transportation at the University of Virginia is trying to initiate a bike-share program. In order to include student perspective and ideas, they turned to the Global Sustainability class taught by Phoebe Crisman in the fall of 2011, to help them in their efforts. More specifically, they were assigned to a smaller discussion group made up of around 20 students of different backgrounds led by a graduate student, Harsh Jain- an architecture student from India studying at UVA. Representatives Becca White and John Monceaux from The Department of Parking and Transportation addressed our workshop section about breaking up into teams to work on the following issues regarding biking around grounds in an attempt to develop a successful bike-share program:

- Education: Increasing awareness of road rules, safety, and other necessary biking knowledge
- Engineering: Implementing bike counts, taking inventory of available parking, and how to improve parking
- Encouragement: Designing strategies to increase the number of students biking and promote the benefits of biking
- Enforcement: Making sure that bikers follow the rules, both on the road and parking their bikes
- Evaluation and Planning: Evaluating the potential of the bike share program on grounds

Our team selected to work on the issue of Encouragement. We felt that based on the collective strengths and background of our team, we would be able to adequately perform this task. Our team consisted of:

- Jacqueline Gannon: 3rd year, Global Development Studies Major and French Minor

- Andy Stafford: 4th year, McIntire School of Commerce, Concentrating in Marketing and International Business
- Kelsey Vitullo: 4th year, Architecture School, Sustainability and Architectural History minor

Project

The main goal of the Encouragement Group was to promote the use of biking as a mode of transportation for students, faculty, and staff at the University of Virginia. In order to do this, numerous ideas to promote and market biking were developed that focused on the benefits of biking, that affected the UVA community members directly and indirectly, with respect to themselves personally and to the community that they live in. These ranged from the health benefits to the environmental impact of biking in comparison to using buses and cars. To better understand the students that we were targeting, we created and distributed a questionnaire, whose results allowed us to come up with targeted promotion techniques. We brainstormed methods of encouragement, and analyzed the potential success of each before employing the chosen methods. They will be discussed in detail later in the report.

METHODOLOGY

Who to Target

Our task was set as encouraging biking on grounds at UVA. This is a broad and multi-faceted issue that our team carefully dissected. Our first task was to identify the stake-holders involved to better understand where to focus our attention and how all the parties will be affected in relation to increasing biking. The stakeholders identified were students, professors, staff, UVA and Charlottesville Police, and the residents of Charlottesville. The students, professors, and staff would have the most to gain from biking more for numerous reasons that will be elaborated later. An increase in biking would be both a positive and negative effect on the residents of Charlottesville. There would be a decrease in traffic congestion, but an increase in bicycle traffic, which comes with a greater risk of accidents. The University and Charlottesville police will be affected by this greater risk of accidents as well as deal with bikers that do not obey the proper safety and road rules. The police will have to deal with the increased chance of the bikes being stolen due to the increase of bike usage, as well.

Based on identifying these stakeholders and how they are affected, it was determined, that we would best fit our goals by focusing on students, professors, and faculty. The other teams such as Enforcement and Education would be more relevant in addressing the remaining stakeholders. The remaining stakeholders became students, professors, and staff. While they all represent a sizeable amount of people to target, the most students live on or near grounds, which limits their actual need for using transportation such as cars or buses. The university employees, on the other hand, may live near grounds, but many live in surrounding areas, resulting in an unrealistic expectation to use a bike as their sole means of transportation. However if they use a bus to transport themselves from where they park to where they work, there remains an opportunity for them to use a bike. This was taken into consideration in producing initiatives and marketing campaigns targeted at students, for we wanted to make sure there was overlap in both the placement and generality. This would allow university employees to still become exposed to the encouraging messages without our team directly targeting them.

What to Say

Now that we knew we were mainly targeting students within the UVA community, we brainstormed ways in which we could successfully reach students and transfer the message of encouraging them to bike. There

were several aspects that needed to be considered. First, for students to start biking, it would be necessary to replace their current method of transportation. For students, this is primarily walking or riding the bus, as any other form of transportation is not used enough to be considered.

We compared the benefits of walking to biking and determined that the most effective benefit to promote was the speed at which students get from A to B. Standard walking pace is judged to be 3 mph, but we estimated that students walk to class probably somewhere between 2-5 mph. This accounts for both a leisurely walk to class and a mad dash when students are running late. The speed at which people bike varies more than walking pace, but we estimated that bikers can expect speeds of 10-15 mph. Based on this information we determined that students could get to or from class about 3-5 faster by biking. The amount of energy expended by humans to bike is also about one third less than that of walking the same distance. The results of these facts show that by biking, students can get to class faster, while using less energy.

For riding the bus, our focus was on coming up with alternatives to the convenience the bus offered, both in terms of speed and general convenience. In terms of speed, biking allows students to directly go to their final location, in contrast to taking a bus and walking from where you are dropped off. Biking also has the advantage of not having to stop at bus stops, again contributing to a more direct route. Buses not only have to stay on roads, but only go on specific paths, whereas bikers have a lot more freedom in where they can go, as long as they follow safety laws. Being slowed by traffic is another bus issue that bikers do not have to deal with because they are often within bike lanes, allowing them to go past traffic with ease. There is then the waiting issue. Students often have to wait a significant amount of time for their correct bus to come, which again would be irrelevant to bikers. In comparison to riding the bus, bikers can get to their destination without worrying about waiting for a bus, being stuck in traffic, stopping at irrelevant bus stops, not being taken exactly where you need to go, and having to walk from the bus stop to class.

Biking also provides numerous health benefits which we wanted to promote as well. This would be relevant to any student, not just those comparing the current mode of transportation to biking. The health benefits include but are not limited to:

- builds stamina
- improves cardio-vascular fitness
- improves heart health
- improves coordination
- reduces stress

Additionally, we wanted to advertise the environmental impact that buses have, and more importantly how much less of a negative environmental impact riding a bike has in comparison. This is the most important message out of all of them, and the purpose for the project in the first place. This became the focal point for most of our fliers. The energy efficient details include:

- the most energy efficient mode of transportation ever invented
- has virtually NO carbon footprint
- reduces air pollution--bicyclists emit few poisonous gases. For example a four-mile bike trip keeps 15 pounds of pollutants out of the air

For a quick means of saying how energy efficient biking is we found an image of a basic green bike with the phrase '\$0/ gallon' beneath it. This soon became our logo for our team and was implemented on all of the fliers. These little details can provide an eye opening realization to students, encouraging them to alter the way they get from place to place. Through the soliciting and advertising of energy efficiency we hope to cause a domino effect of realization that will lead students to want to change their natural habits of riding the buses and try something new and better for the environment.

How to Say it

The way in which you promote the benefits of biking is very important in achieving success. We realized that even if we had great content and ideas, the mediums through which we brought these ideas to students would make or break the project. The ideas we had for distributing this biking information among the student population were:

- Posters-Hanging posters in different strategic locations across campus
- One-on-One-Standing on grounds and talk to students one, while giving them informative fliers
- Social Media- Using the internet to spread the message quickly to the masses
- UTS- Having the buses put up advertisements promoting biking
- TV Monitors-Having different schools and buildings add a biking slide to their TV monitor slide-shows

Instead of trying to produce marketing campaigns covering all of these ideas, we decided to focus on a few of them. This was to make sure we didn't spread ourselves too thin, as well as not sacrifice quality for quantity. The first idea eliminated was having a slide added to TV monitors throughout campus. This was due to the fact that many schools and buildings have their own individual slideshows; there isn't a single campus-wide slideshow to add our slide too. Therefore, we decided it would be more efficient to direct our effort towards other ideas. Next, we eliminated putting up advertisements in the UTS buses. This was due to a variety of reasons, the first being that we had no budget and therefore could not pay to have this happen. There was also concern that it would upset current advertisers that have ads in the buses. Finally, social media was eliminated for now, as it has become saturated with promotions and advertisements, and there is a high chance of little impact among all the other noise.

The distribution methods that were selected were putting posters and fliers around campus, combined with handing out fliers and speaking with students one-on-one. This is slightly different from our original idea of standing at a table. We decided to drop the table because not only was it not possible to reserve one because we were not members of a CIO, but also because without a table, we would be able to spread out and move with crowds. Instead of trying to get people to come to us, we would be able to go to the people. We also wanted to hang fliers in strategic places around campus where people are stationary and have time to read, such as waiting at bus stops or studying in the library.

Survey

Design

As we stated earlier, we wanted to better understand our target market- the students. In order to achieve this, we conducted a survey. The purpose of the survey was to conduct both exploratory and descriptive research. We wanted to know as much as we could about the students' transportation habits and what factors influenced these habits. We were interested to see if there were any trends based on simple demographics (such as school year and gender), and we created the following questions, combined with the simple demographics of the respondents, which we believed would aid us the most in our research:

- How often do students ride buses?
- Why do they choose to ride the bus?
- Where are students riding buses the most?

- How many students have bikes?
- How often do they use their bikes?
- Why keeps students from biking on grounds?

While we knew what questions we wanted answered, we had to decide how administer the survey to students. There were multiple methods that we considered using to obtain the desired results. First we considered conducting focus groups. A focus group is where a moderator leads a group of the people in question to determine their opinions and attitudes on a specific subject or idea. While a focus group would give us in depth insight into the reasoning behind student behavior, it wouldn't help get numbers on students' actual habits. The next option was conducting on-on-one interviews with students. However, interviews have the same strengths and weaknesses as focus groups and therefore we decided against it.

Finally there is distributing the questionnaire on a wider scale. This would allow us to ask all the questions we wanted both quantitative and qualitative, but has a potential problem of distribution. One option was to print out a lot of the questionnaire, which wouldn't be very sustainable, and try to get people to complete them out on grounds. This would have several drawbacks, however, the first of which being that people would have to willingly stop and complete the surveys on our time, not their own. In order to improve the chances of that happening, the survey would have to be constructed as short and simple as possible, resulting in less data. There would also be the problem of manual data entry, which is both time intensive and leads to a high chance of transposition errors.

The alternative would be to send out an online survey. While this allows for easily down-loadable data that is safe from transposition errors, there is struggle of convincing people to take the survey on their own time, because you aren't there to convince them. Despite this drawback, this is what we decided would be the best course of action.

The survey was designed through the website, SurveyMonkey.com, using the techniques learned in a Marketing Research class. These techniques aided in the creation of the questionnaire by making sure that the following problems were not in the survey:

- leading questions
- answers that are not all inclusive
- confusing questions
- answers that do not provide actionable data

After the survey was created, it went through several steps before it was finalized. The first step was to have several students complete the questionnaire and then be interviewed about it. This brought to light any confusing questions, answer choices, or other general issues with the survey. Once this was done, the survey was altered to correct the issues found. Next, the survey was tested by trying all answer choices to verify that all were functional and that all possibilities were available as designed. Once this was complete, (see exhibit 1) the issue of distribution had to be decided.

Distribution

Once again, the survey was being hosted through Surveymonkey.com and therefore could be easily and rapidly sent out over the Internet. We decided to use Facebook as the main medium of distribution along with emailing it to the rest of the Global Sustainability class. There were three concerns before we sent out the survey. First, that not enough students would complete the survey. Second, that respondents would be heavily skewed towards upperclassmen, since the distributors were all upperclassmen. Finally, that the respondents would be heavily skewed in either a male or female direction. To combat the first concern, the contingency plan was to print out surveys and get people to manually complete them if we couldn't get

enough online responses. To combat the concern of unequal class distribution, we contacted first and second year students to send the survey from their Facebook. To address the final concern of unequal sex distribution, we used the same contingency as the first concern.

We released the questionnaire through Facebook encouraging UVA students to take it as a transportation habit survey. In the first 24 hours, there were about 150 respondents, which was more than anticipated. This satisfied the first concern. The next concern, the distribution of school year, was not heavily skewed and therefore no longer a concern. The final concern was an unequal distribution of gender, which there was. When the survey was first released, the ratio was a 3:1 Female to Male ratio. However, as more survey responses came in, the ratio dropped to 2:1 which is still higher than preferable, but due to the high volume of responses, we still obtained enough male responses to be satisfied.

Results

The complete results of the survey can be seen question by question in the appendices. The purpose of the survey was to determine if there were any trends to be aware of in the bus riding or biking habits of different demographics of students. This was determined based on pivot tables and using a cross tabulation analysis combining different demographics and responses to transportation habits. This analysis was used to determine if there was a relationship between certain demographics and their frequency of either riding a bus or bike.

The demographic choices were school year and gender. The transportation habits that they were analyzed against were bus-riding frequency, if they had a bike, and bike-riding frequency. While most of the cross tabulations proved there was not a significant relationship, there was still one that did show significance. This was the relationship between school year and tendency to ride the bus. The cross tabulation as shown in exhibit 2 has chi-squared values that jump the hurdle rate based on the degrees of freedom available to the contingency tables of both school year by bus riding tendency and with first and second years combined and third and fourth years combined. This means that students will ride the bus less as they progress through their school years. While some may take this to mean that promotions should only be directed at underclassmen, the results still show enough upperclassmen riding buses that it would be foolish not to target them as well.

The next analysis was done on two qualitative questions on the survey. These questions were “why do you ride the bus?” and “If you don’t bike on grounds, why don’t you?”. These questions allowed respondents to choose multiple answers, as well as the opportunity to write in an answer. The first question, “why do you ride the bus?”, showed that the number one answer (as seen in exhibit 3) selected was the weather, which is out of our control, and is not worth pursuing with bikes. However, the second most selected answer was speed. Numerous people also wrote alternative answers that they had too long of a walk between classes to make it on time. This was a key insight, as we knew what to then target with our marketing campaign and a flier was designed to specifically target this issue, and which is discussed in depth in the next section.

The next qualitative question was “If you don’t bike on grounds, why don’t you?”, which also had numerous written response to further give us insight into the opinions and perceptions of students. The overwhelming response (as seen in exhibit 4) was that the respondents did not have a bike on grounds. This was another key actionable item that was developed into a whole marketing campaign, and will be discussed in the “Christmas Campaign” section below. The second most selected answer was concern over road safety, which we felt was more relevant to be addressed by the Education and Safety team. This question was also analyzed separating male and female responses as seen in exhibit 5, which showed that females were much more concerned about road safety than males. This is a potential issue to address in future encouragement campaigns.

The final bus related question on the survey obtained the travel patterns of where students were taking the bus to and from. The results from this question clearly showed us that central grounds was by far the most used hub for bus travel. Based on this information, we choose central grounds as the location to hand out fliers. The survey also got a positive response of students interested in getting a UVA specific discount from bike shops. Due to this response, we contacted local bikes shops to negotiate a discount for UVA students. However, after talking with students one-on-one, we discovered that many students have had a lot of difficulty purchasing bikes and related equipment from stores that are not close to grounds. We took this into consideration, and chose the closet bike shop to grounds and focused our effort on them. This will be described in detail in the section labeled "Discounts" below.

Fliers

For a tangible attribute to the Encouragement team, we identified fliers as a useful form of advertisement that reaches the students at a physical and personal level (in contrast to electronic forms of advertisement, such as email or Facebook). Having this direct relationship ensures that people come into contact with our fliers and glance over the information. This avoids the possibility of people ignoring or deleting information sent through Facebook posts or email. Another benefit to handing out fliers to students around grounds is the opportunity for direct feedback, that could then be used to our benefit to better our fliers and way of encouraging.

The basis of the design for the fliers was to encourage people to bike by providing an aesthetically pleasing, eye-catching flier. The goal for the design was to grasp the attention of people and to encourage people to bike by providing little facts about the benefits and efficiency of biking. The information that was provided by the fliers is the following:

Time efficient:

- biking is 3 to 5 times faster than walking

Health benefits:

- easy way to exercise
- builds strength and muscle tone
- builds stamina
- improves cardio-vascular fitness
- improves heart health
- improves coordination
- reduces stress

Energy efficient:

- the most energy efficient form of transportation ever invented
- has virtually NO carbon footprint
- reduces air pollution -- bicyclist emit few poisonous gases- a four mile bicycle trip keeps about 15 pounds of pollutants out of the air we breathe

The reason that these facts were specifically chosen to be on this flier (as seen in exhibit 6) was to keep it simple and basic, while at the same time providing motivation and incentive to purchase a bike. We thought this information would help the students to come to the realization that having a bike may be more beneficial than initially thought. Other techniques that were utilized were coming up with some catchy phrases that would help grasp students' attention in a different way. For example, on one of the fliers (as seen in exhibit 7), we quoted a song by *Queen* called *Bicycle Race*: 'I want to ride my bicycle, I want to ride my bike, I want

to ride my bicycle, I want to ride it where I like...'. Using lyrics from a popular song allows for students to relate to the poster on more than one level. Other design moves that were utilized to display encouragement faster were a variety of images such as bikes, people biking, and a bike with \$0/gallon underneath it, as pictures help stimulate the viewer into thinking more about the idea of a getting a bike. An additional move that proved useful was adding a piece of candy to the flier, which provided more incentive for people to take the fliers.

Another design approach (seen in exhibit 8) for the fliers was to appeal to a particular group of students--those that ride the bus. The strategy for this flier was to point out the cons of riding the bus such as waiting, stopping at unnecessary stops, carbon emissions, traffic, etc. By listing the cons of the bus as an inefficient means of transportation, the flier then also provided a solution--the bicycle. All in all, the basic technique that was utilized to promote biking was listing the benefits and pros of biking and then also comparing to other modes of transportation, such as the bus.

Discounts

Because a large portion of our target group is those who do not use biking as a mode of transportation at all, we came up with the idea of creating discounts at local bike shops around the UVA area in order to encourage those who would like to start. Realizing that biking equipment is expensive and not necessarily easily accessible, we identified the bike shop closest to UVA grounds as our target shop- Blue Ridge Cyclery. We chose this bike shop because of its proximity to UVA grounds (which allows students who do not have cars to still be able to get there by way of the UVA bus system), as well as their interest and enthusiasm about encouraging biking at UVA. After negotiating specifics with Shawn Tevendale, they happily agreed to give a 10% discount on all biking equipment, valid with a UVA ID. In addition, they offer a "bike-up" discount for anyone that arrives to the store on their bike.

CONCLUSION

Throughout the duration of this project, we used various methods to encourage people in the UVA community to use biking as a method of transportation. We believe that we accomplished our goal of making people more aware of the benefits- time efficiency, health, and energy efficiency- of biking, as well as encouraged a broad population to bike. A barrier or question that remains is measuring exactly how many people our promotion methods affected, and how that can be improved. Because more time is needed to gather accurate statistics on the changes of behavior, it is something that we were not able to do in the course of the semester, but we will be doing it next semester after winter break (numerically measuring our success). All in all, the method of encouragement that we found to be the most effective was handing out fliers. The nature of handing out fliers allowed us to have face to face interactions with the people, as well as ensure the delivery of our information to our target group. Handing out informative fliers also enabled us to engage with our target group, and answer any questions they had, as well as gather reactions about our efforts. Through this method, we collected the most useful data about why people are hesitant to bike, as well as did the most direct encouragement of biking. Although the bike discounts are also a tangible benefit of our efforts, it is harder to know at this point exactly how many people have taken advantage of the deals, and will be something to evaluate going forward. At this point in time, based on the methods we have used and the results we have received, we would recommend handing out fliers as a worthwhile method of encouragement. Through this report, we have documented and assessed our work, and we hope that it proves useful as a reference for those interested in encouraging biking at UVA in the future.

FUTURE WORK

Christmas Campaign

One of the problems we encountered in encouraging people to start biking is the weather. The deeper into the semester, the colder and worse the weather was getting. This makes it difficult to encourage people to brave the circumstances and deal with a cold, windy trip to class when a heated bus is available. When this came to our attention, we realized that we would have to drastically change our marketing efforts if we actually wanted to make an impact over the winter months. Instead of letting this just be a semester long project, we decided to take the phrase "Think Global, Act Local" to heart and wanted to make a difference. This is why we decided to continue our efforts with the "I want a bike for Christmas" campaign. Given the impending winter weather, we deemed this to be best way to successfully promote biking in a sustainable way that lasts beyond the end of the semester.

If we had just ended the semester with normal biking promotions, the students that we encouraged to start biking this fall may not start up again after winter break. We want to make a lasting effect on students that will alter their future behavior for the better for years to come. It is our belief that getting students to start biking will increase their sustainable tendencies in other aspects of their life, as well. The Christmas Campaign is an initiative to get students to ask for a bike for Christmas, or simply to get a bike over winter break. If students already have a bike, but have not taken it to school with them, we believe this campaign will also encourage them to bring their bike back to school.

To further the encouragement of the Christmas Campaign, we created two fliers to specifically appeal to the Holiday season. The fliers were designed to shadow holiday festivities by using the colors red and green. We implemented a Santa Clause riding a bike and added in a catch phrase saying, "All I want for Christmas is a bicycle!" (seen in exhibit 9), or "All I want for Christmas is...not my two front teeth... or a hula hoop... but a bicycle." (seen in exhibit 10). To add additional incentive, we included the advertisement of the 10% discounted deal at the Blue Ridge Cyclery that we were able to attain throughout the semester.

Spring Survey

During the past semester, we may have encouraged people to want to bike, but without owning a bike, that is all they can do. The Christmas Campaign is anticipated to be most effective marketing campaign that we do in actually encouraging people to bike. It will allow students to go home and take the time to make an educated purchase whether they buy the bike for themselves or are gifted it from their parents. When students return from winter break we eagerly anticipate a rise in students with bikes on grounds. This is why we are going to conduct a survey next semester to measure the impact we made. The questionnaire we will distribute will be similar to the original survey, but with some changes and additions. Some of the changes that we are considering adding are more demographics, such as school choice and political preference. Additionally, we are considering asking people their intentions for transportation habits in the future, such as "Do you intend to bike to class when weather permits in the spring?" or "Do you intend to ride the bus less in the future, if so why?" and provide choices such as lessening environmental impact, intend to bike more, and intend to walk more. With these additions, the survey should not only describe the impact of the Fall and Christmas marketing campaigns, but also provide more insight going forward to encouraging biking on grounds at the University of Virginia.

LESSONS LEARNED

In conducting this 4 month project, we learned a lot about what is effective, what isn't effective, and what would be useful for future encouragement efforts.

Firstly, we have learned a lot about dealing with a target group. In analyzing our choice to target mainly students, but also faculty and staff, we have realized that although this is a logical group, it is a broad one and was at times overwhelming trying to determine how to best reach so many people. We tried to overcome this barrier by using a variety of advertisement methods that would reach people from all over grounds. In the future, we would suggest promoting on a smaller lever, or to a smaller concentration of people. For example, targeting first-years, those who live on the lawn, or people who live in the corner area respectively, may lead to a more manageable and effective promotion of biking. Targeting specific groups with smaller numbers may allow for more tailored advertising methods that would lead to a greater impact of convincing people to use bikes, and would also make it easier to measure the effects of the promotional methods.

Secondly, we have constantly been learning about what to say to the target market. After targeting the specific group of people, we decided to use the time efficiency, health benefits, and energy efficiency advantages to biking in our promotion, specifying particular statistics and facts. Overall, we think that this method was productive- our facts and statistics were compelling and all-encompassing, and short and to the point. Our suggestions for future efforts would be to create a separate flier for each topic, instead of cramming all the different benefits on to one flier. This would allow for more variation in the fliers, as well as allow for more explanation of the particular benefits. This would also most likely result in less content per flier, making it more appealing to look at for the viewer. Creating fliers based on the data and feedback we received from the survey was beneficial because it gave us feedback as to why the majority of people were not biking, and allowed us to tailor our fliers towards that (Ex: a lot of people don't have bikes, so we made fliers about the bike discounts they can receive at a local bike shop). Therefore, in the future, we would suggest (as we did) collecting data from your target group to create the most effective fliers.

The survey was an integral part of our project, and one of the most successful components. We feel that the questions were well-designed, and the responses were what we hoped to get out of it because of this. The data effectively showed the habits and trends in the UVA population in regards to biking, and allowed us to create more targeted methods of advertisement. A barrier that we initially faced was getting enough people to take the survey to have accurate data, and we overcame this by aggressively sending it out on list serves, to friends, roommates, and classmates. We were successful in getting a large number of responses, although we learned you must be proactive and convincing in getting people to participate. We would definitely suggest creating a survey if biking promotion is going to be done again in the future.

We have also learned a lot about the process of handing out fliers. Handing out fliers was more successful than we anticipated. We found that the opportunity to have face to face contact with the people we were handing the fliers to was advantageous. We received some comments from people after they looked at the fliers (including: "cool!" "I'm not biking 5 miles" and "oh, candy!") that gave us further data points about our target group. Having candy attached to the fliers as incentive definitely lured people in and got them to read the fliers. Additionally, not having a table and being able to move fluidly with the crowds of people was effective. A barrier to success that we had to overcome was the awkwardness of trying to get people to take your flier. In order to overcome this, we made a conscious effort to be enthusiastic and upbeat, and lure people in with the candy attached to the fliers. We suggest handing out fliers and posting fliers as a main marketing method in any attempt to promote biking in the future, and would suggest printing between 400-

500 fliers per session. The only constraint we faced in this method was money: we used our own funds to print the fliers and buy the candy, which is something that we would try to work around in the future.

Finally, discounts. Although we do not have specific data on how the set up of a discount deal on bike gear at Blue Ridge Cyclery has encouraged people to bike due to its recent implementation (if we collected the data now, it would not be a large enough sample size to obtain accurate data points), we believe that this is a successful method in promoting biking. We have heard from peers and friends that the deals set up at Blue Ridge Cyclery have encouraged them to update their biking equipment, and get back into it. We would suggest setting up similar deals at other bike shops in the Charlottesville area, in order to cover more ground and have plenty of options for UVA community members. Additionally, we would suggest going to the bike shops in person to speak with managers about the deals, as corresponding through email was not the most efficient way of doing things and often there were great periods of time in between emails and responses. We overcame this obstacle by sending repeated emails, to ensure that our recipient was reminded and receiving them.

Originally, we had other ideas of methods of advertising, but we cut down our list to focus more intently on just a few. The justification for this choice can be seen in the "How to Say It" section, which provides explanation for why we may not have achieved some of the goals stated on our original conceptual design. We believe that in narrowing and specifying our goals throughout the semester as we learned how hard it is to create change, actually led to a more successful project.

In culmination, we have created a "how to" for biking promotion:

1. Target a specific group that is small and manageable (somewhere in between 100-4,000 people)
2. Create a survey with the goal of identifying trends and habits of your target group in regards to biking practices
3. Create fliers and discounts at local bike shops, and employ any other methods of promotion you see fit based on the survey results
4. Analyze your results and reevaluate!

We learned that creating change is hard, and takes time and effort. It isn't enough to be passionate about what you're encouraging, but that you have to design methods of promotion that best target your intended group. Although creating such a large scale change is difficult, we found it a worthwhile effort that seems to have at least reached and convinced some to ride their bikes.

EXHIBITS

Exhibit 1

Biking Survey

1. Sex

Male

Female

2. Year

One

Two

Three

Four

Other

3. How often do you ride a bus during the week on average?

Never

Occasionally

Few Times a Week

1-2 Times Dally

Very Frequently

4. If you ride the bus, why do you ride it? Check all that apply.

Faster

Don't Want to Walk

Weather

Convenience

Other (please specify)

Biking Survey

5. If you ride the bus, what areas do you ride the bus from (vertical) and to (horizontal)?

	Central Grounds	North Grounds/ UHall	McCormick/ Alderman	JPA	Rugby/14th St	Hereford	Hospital
Central Grounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
North Grounds/ UHall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
McCormick/ Alderman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JPA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rugby/ 14th St	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hereford	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

6. Do you have a bike here at school?

- Yes
- No (skip to #8)

7. If you answered yes, how often do you bike on grounds?

- Never
- Occasionally
- Few Times a Week
- 1-2 Times Daily
- Very Frequently

8. If you don't bike on grounds, why don't you? Check all that apply.

- I just don't use my bike
- I don't want my bike to get stolen
- I'm concerned about road safety
- I don't have a bike

Other (please specify)

9. Would you be interested in discounts on bikes and biking gear from local bike shops specifically for UVA students?

- Yes
- No

Exhibit 2

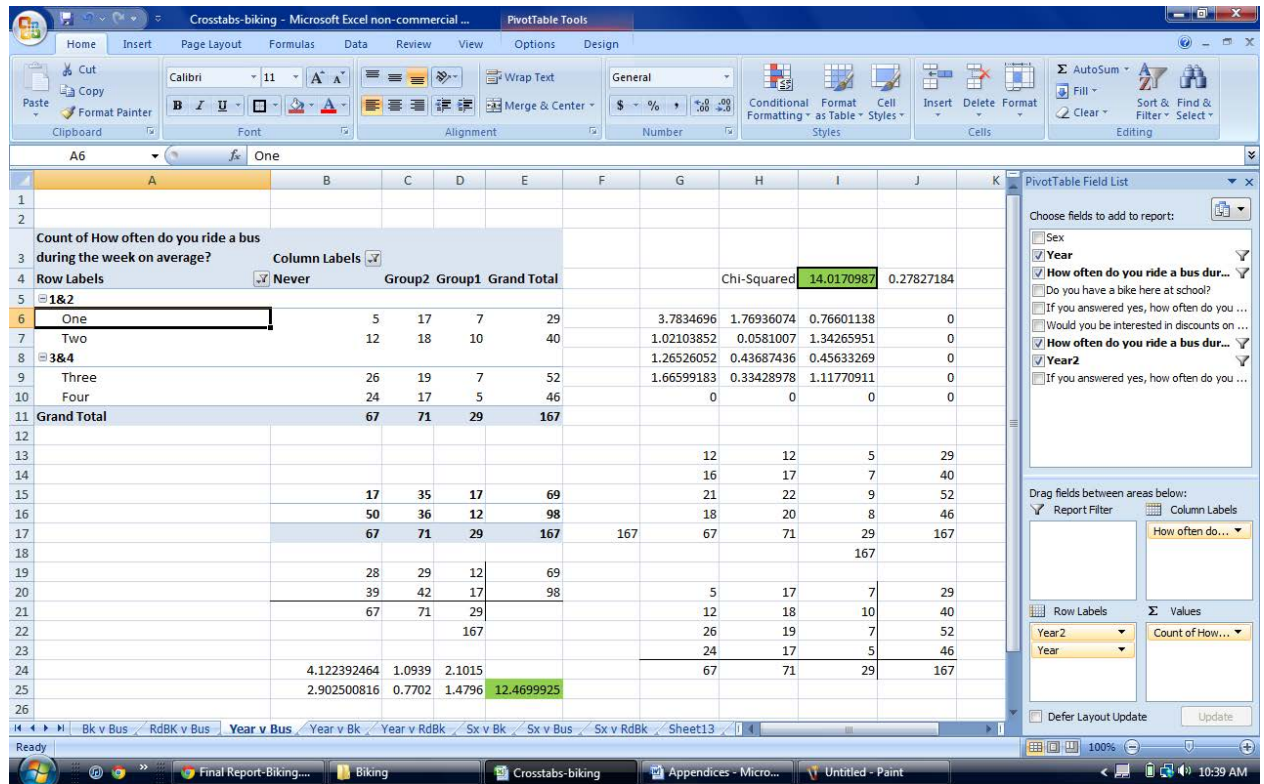


Exhibit 3

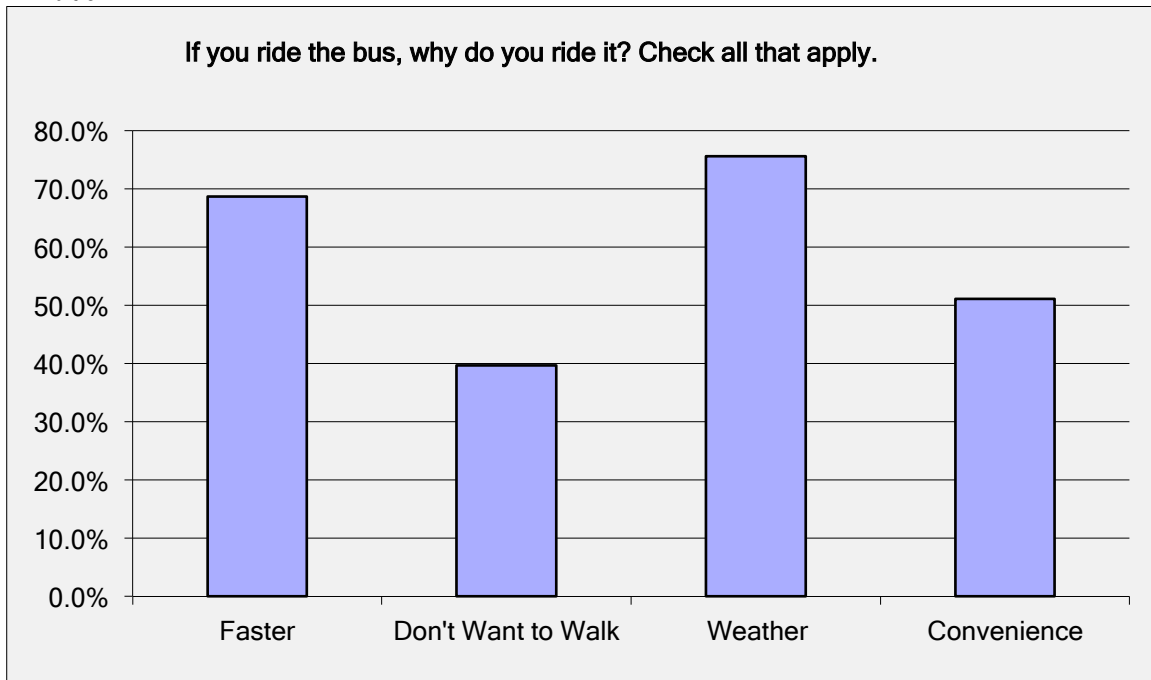
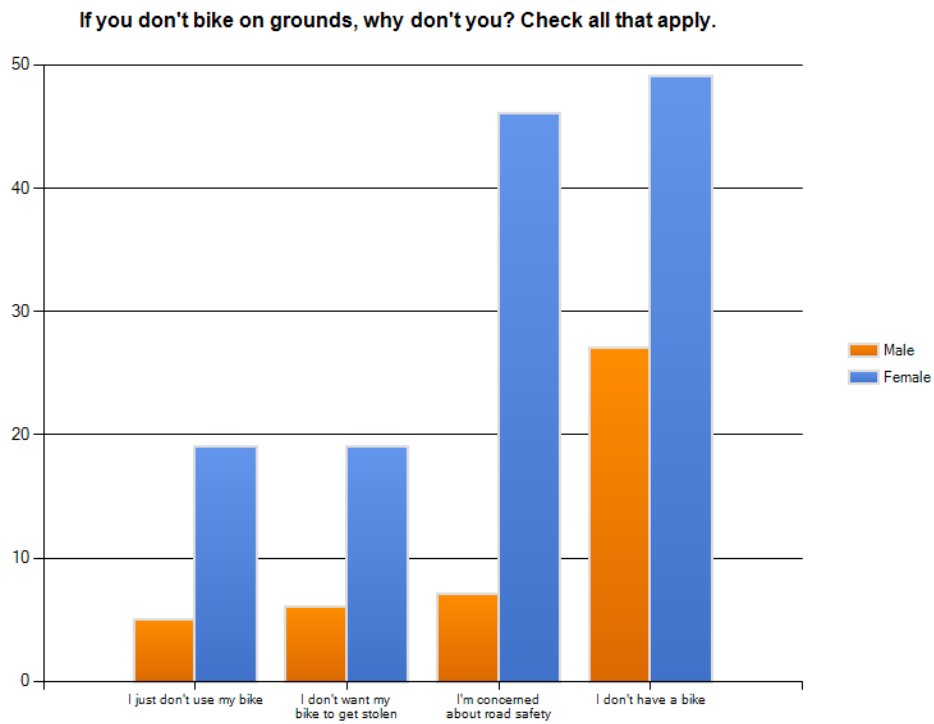


Exhibit 4



Exhibit 5





time efficient

- biking is 3 to 5 times faster than walking

health benefits

- easy way to exercise
- builds strength and muscle tone
- builds stamina
- improves cardio-vascular fitness
- improves heart health
- improves coordination
- reduces stress



energy efficient

- the most energy efficient form of transportation ever invented.
- has virtually NO carbon footprint
- reduces air pollution -- bicyclist emit few poisonous gases. A four mile bicycle trip keeps about 15 pounds of pollutants out of the air we breathe.

I want to ride my bicycle....

I want to ride my bike where I LIKE!

(you either get it or you don't. if you don't look up the song Bicycle Race by Queen)

Exhibit 7

I want to ride my bicycle....
BICYCLE....
BICYCLE!!!!

A white silhouette of a person riding a bicycle, enclosed in a square frame.

MORE time efficient
MORE health benefits
MORE energy efficient



\$0/Gallon

I want to ride my bicycle....
I want to ride it where I LIKE!!!!

(you either get it or you don't. if you don't look up the song Bicycle Race by Queen)

Exhibit 8

Get off the bus

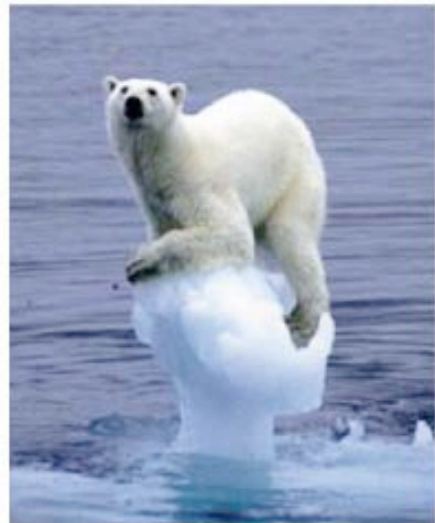
Ride a bike!!!!



Tired of waiting for bus to come?
Tired of being late?
Tired of sitting in traffic?
Tired of stopping at unnecessary stops?
Tired of contributing to the extinction of the polar bears?

well **WAKE UP!!!**

and get a **BIKE!!!!!!!!!!**



It's the most efficient mode of transportation!

Exhibit 9

All I want.....

for Christmas.....

is a.....

BICYCLE !!!!!!!



who needs reindeer?
when you can get a BIKE for
Christmas!!!!



\$0/Gallon

UVA Students receive a 10%
discount at Blue Ridge Cyclery
behind Barracks.

time efficient

- biking is 3 to 5 times faster
than walking

health benefits

- easy way to exercise
- builds strength and
muscle tone
- builds stamina
- improves cardio-vascular
fitness
- improves heart health
- improves coordination
- reduces stress

energy efficient

- the most energy efficient
form of transportation
- has virtually NO carbon
footprint
- reduces air pollution --
bicyclist emit few poisonous
gases.

Exhibit 10

All I want.....

for Christmas.....

is.....

not my two front teeth

or

a hula hoop,

but a



UVA Students receive a 10% discount at Blue Ridge Cyclery behind Barracks.

BICYCLE !!!!!!!



\$0/Gallon

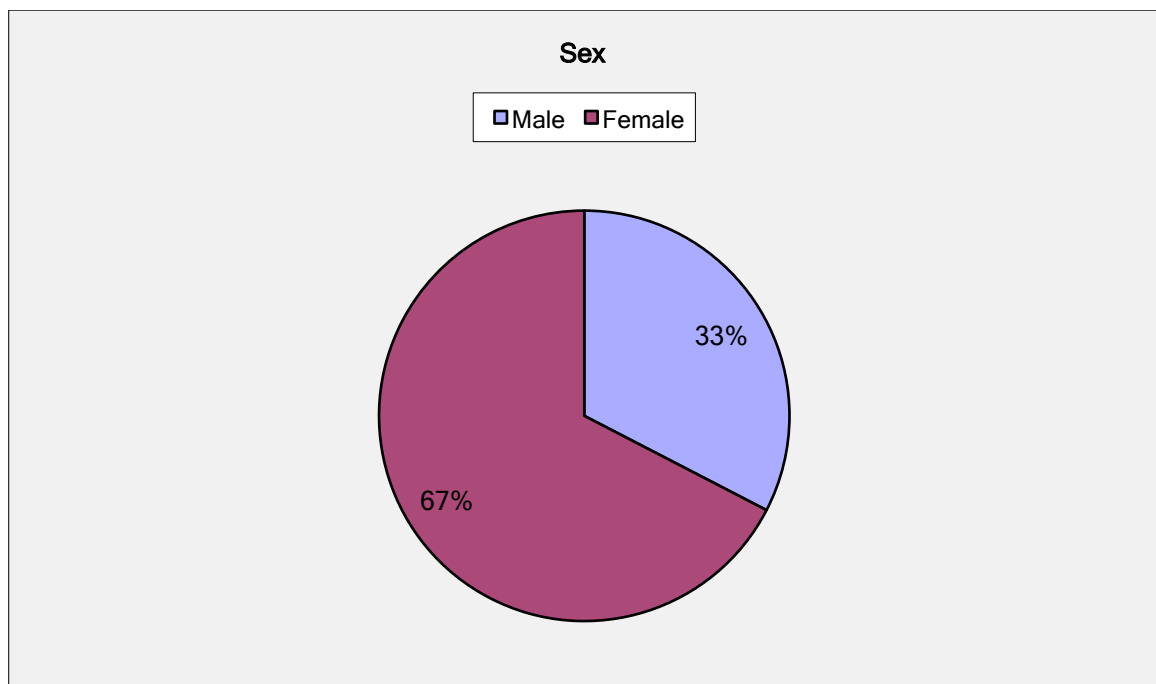
Ask your parents for a bike before they are all finished with Christmas shopping!!!

APPENDICES

Appendix I-Survey Results

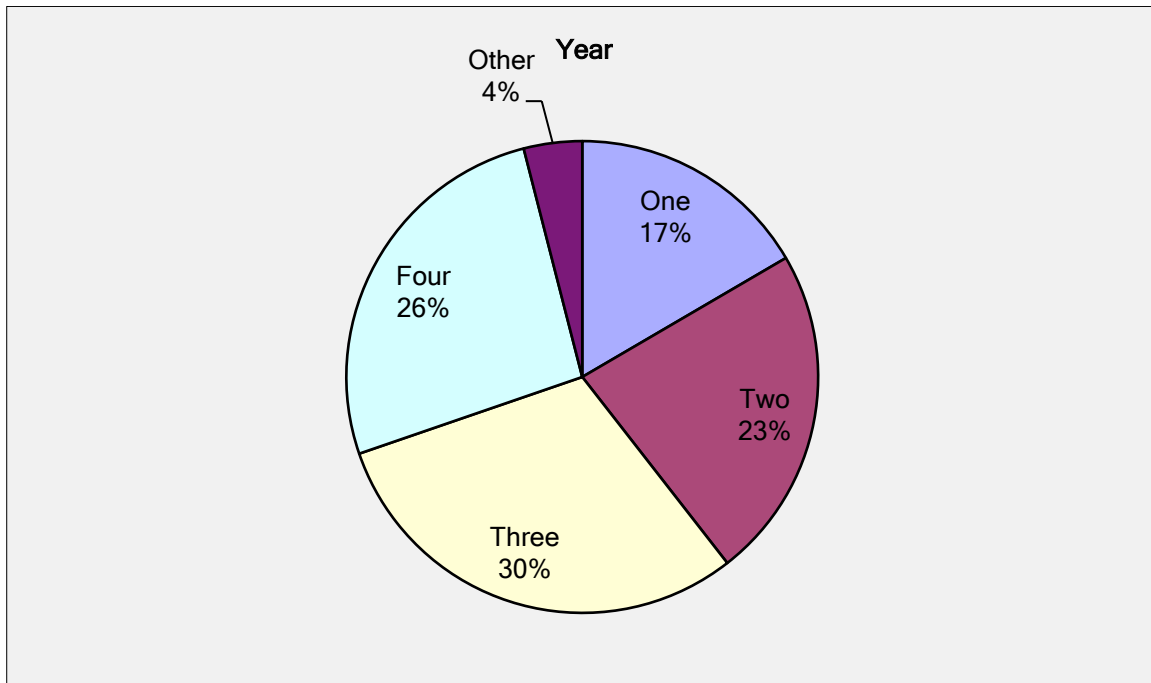
Question 1

Sex		
Answer Options	Response Percent	Response Count
Male	32.6%	57
Female	67.4%	118
<i>answered question</i>		175
<i>skipped question</i>		0



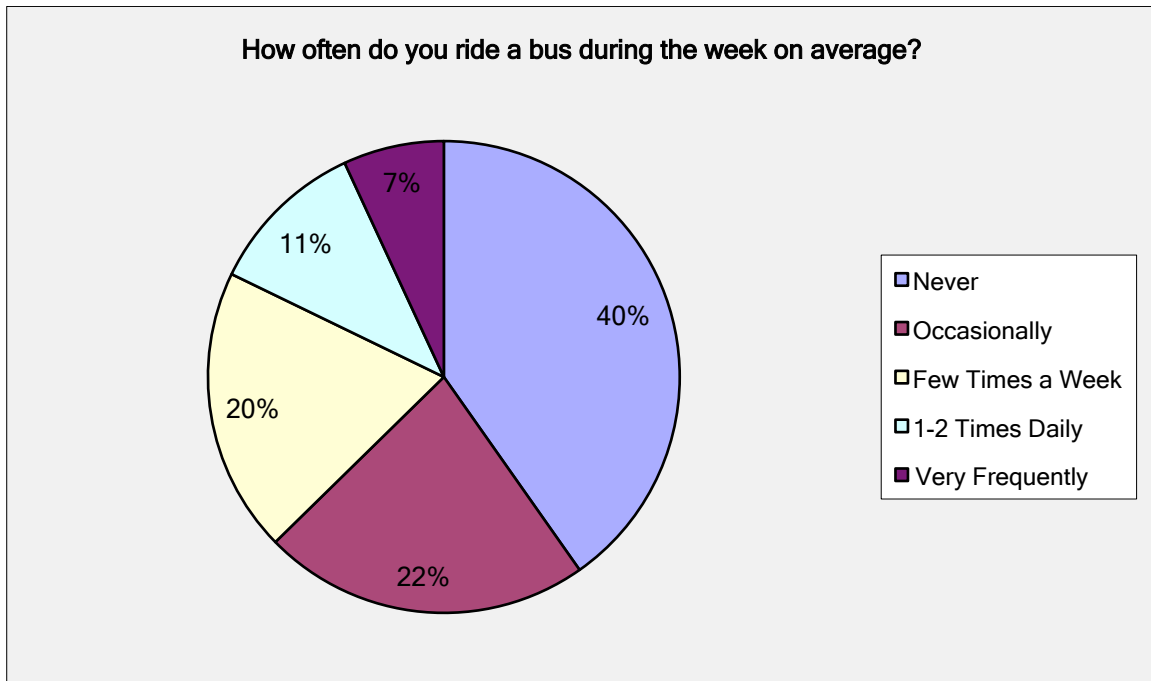
Question 2

Year		
Answer Options	Response Percent	Response Count
One	16.6%	29
Two	22.9%	40
Three	30.3%	53
Four	26.3%	46
Other	4.0%	7
answered question		175
skipped question		0



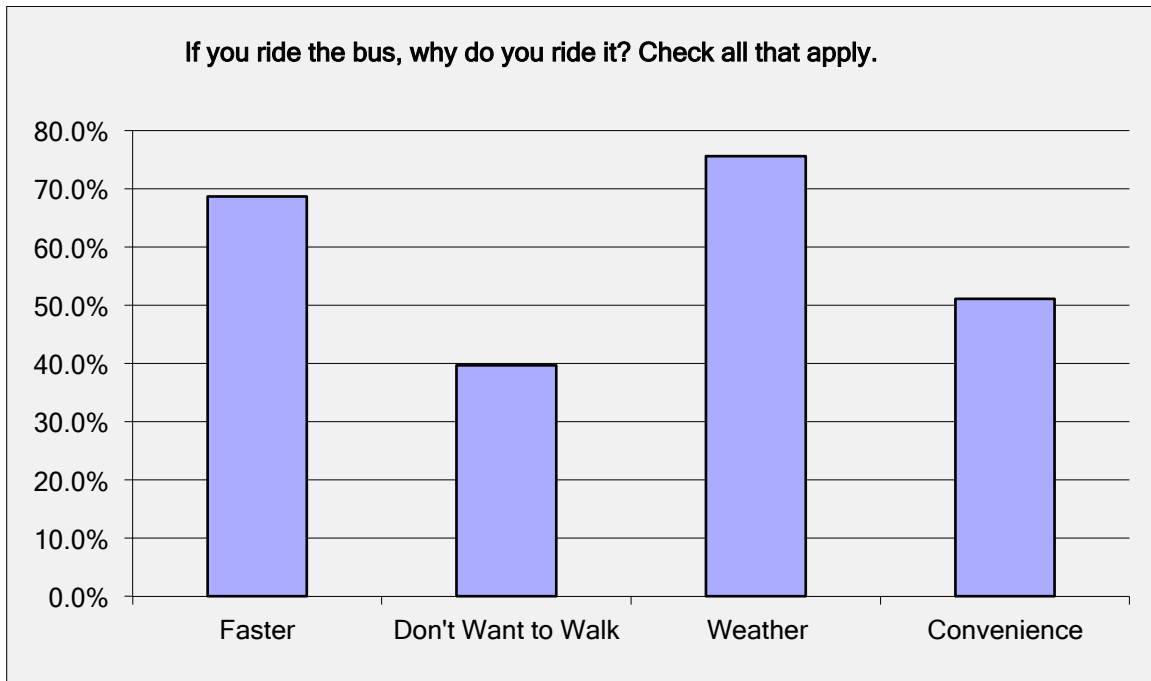
Question 3

How often do you ride a bus during the week on average?		
Answer Options	Response Percent	Response Count
Never	40.2%	70
Occasionally	22.4%	39
Few Times a Week	19.5%	34
1-2 Times Daily	10.9%	19
Very Frequently	6.9%	12
<i>answered question</i>		174
<i>skipped question</i>		1



Question 4

If you ride the bus, why do you ride it? Check all that apply.		
Answer Options	Response Percent	Response Count
Faster	68.7%	90
Don't Want to Walk	39.7%	52
Weather	75.6%	99
Convenience	51.1%	67
Other (please specify)		8
answered question		131
skipped question		44



Written Responses to Question #4:

My morning classes are on the opposite side of campus, therefore it is between a 25 to 30 minutes walk, and in the mornings I don't have that time

10/31/2011 6:59 PM [View Responses](#)

copeley's too far to walk from

10/31/2011 10:48 AM [View Responses](#)

Only way to make it to class on time sometimes

10/31/2011 9:31 AM [View Responses](#)

didn't feel like driving/no gas

10/31/2011 1:45 AM [View Responses](#)

no bike

10/30/2011 10:54 PM [View Responses](#)

Late to class?

10/30/2011 10:10 PM [View Responses](#)

long distances

10/30/2011 9:33 PM [View Responses](#)

I can do homework on my to class

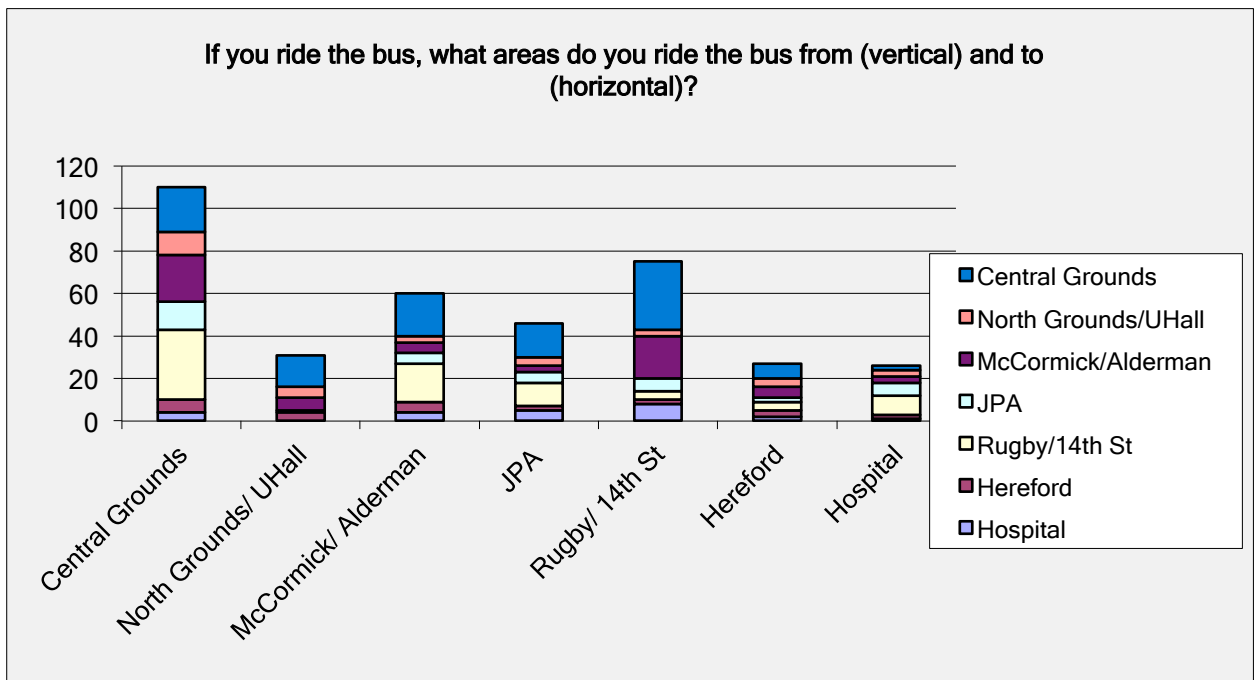
10/30/2011 8:43 PM [View Responses](#)

Question 5

If you ride the bus, what areas do you ride the bus from (vertical) and to (horizontal)?

Answer Options	Central Grounds	North Grounds/ UHall	McCormick/Alderman	JPA	Rugby/ 14th St	Hereford	Hospital	Res C
Central Grounds	21	11	22	13	33	6	4	
North Grounds/ UHall	15	5	6	0	1	4	0	
McCormick/ Alderman	20	3	5	5	18	5	4	
JPA	16	4	3	5	11	2	5	
Rugby/ 14th St	32	3	20	6	4	2	8	
Hereford	7	4	5	2	4	3	2	
Hospital	2	3	3	6	9	2	1	
Other (please specify)								

answered question
skipped question



Written Responses to Question 5:

Lambeth to central grounds and central grounds to lambeth

10/31/2011 9:31 AM [View Responses](#)

I never ride the bus

10/31/2011 7:23 AM [View Responses](#)

Lambeth to Central Grounds

10/31/2011 2:20 AM [View Responses](#)

Central Grounds to Downtown

10/31/2011 12:35 AM [View Responses](#)

McCormick to Chapel

10/30/2011 11:54 PM [View Responses](#)

UHeights to Grounds usually is all I use it for

10/30/2011 9:00 PM [View Responses](#)

Barracks Road

10/30/2011 2:01 PM [View Responses](#)

from Lambeth to Central Grounds

10/30/2011 1:17 PM [View Responses](#)

central grounds to lambeth and back

10/30/2011 12:50 AM [View Responses](#)

lazy- i live far from the gym

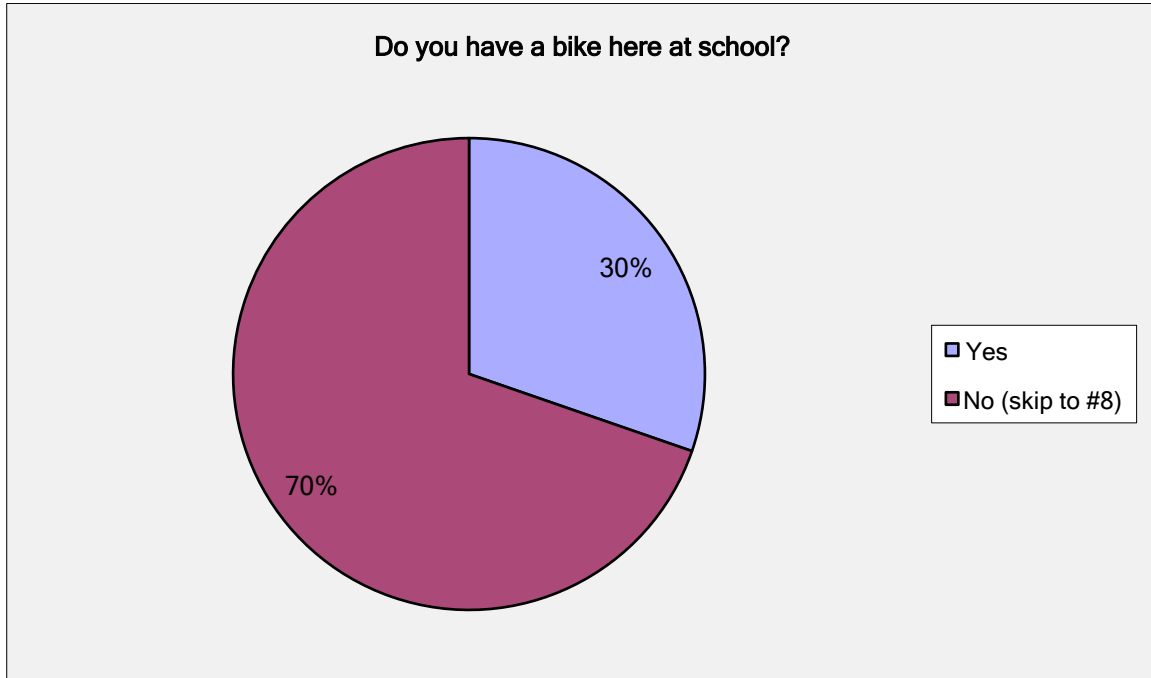
10/30/2011 11:38 AM [View Responses](#)

From Stadium to Hospital/Nursing School & Back.

10/27/2011 11:04 PM [View Responses](#)

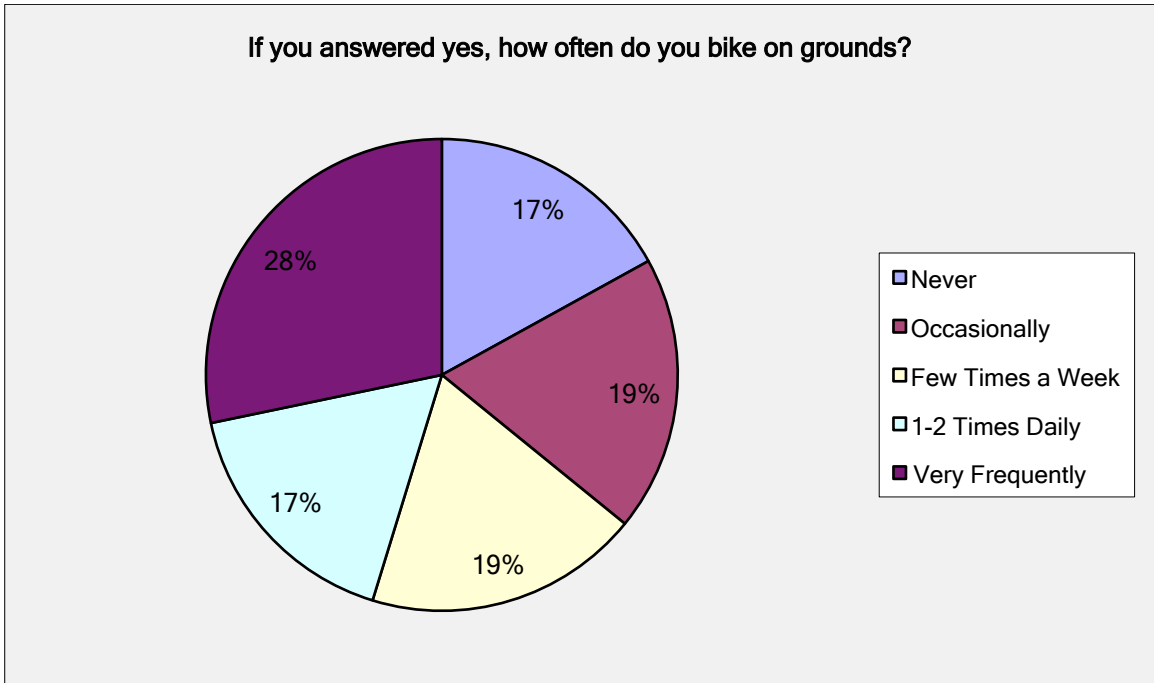
Question 6

Do you have a bike here at school?		
Answer Options	Response Percent	Response Count
Yes	30.3%	53
No (skip to #8)	69.7%	122
<i>answered question</i>		175
<i>skipped question</i>		0



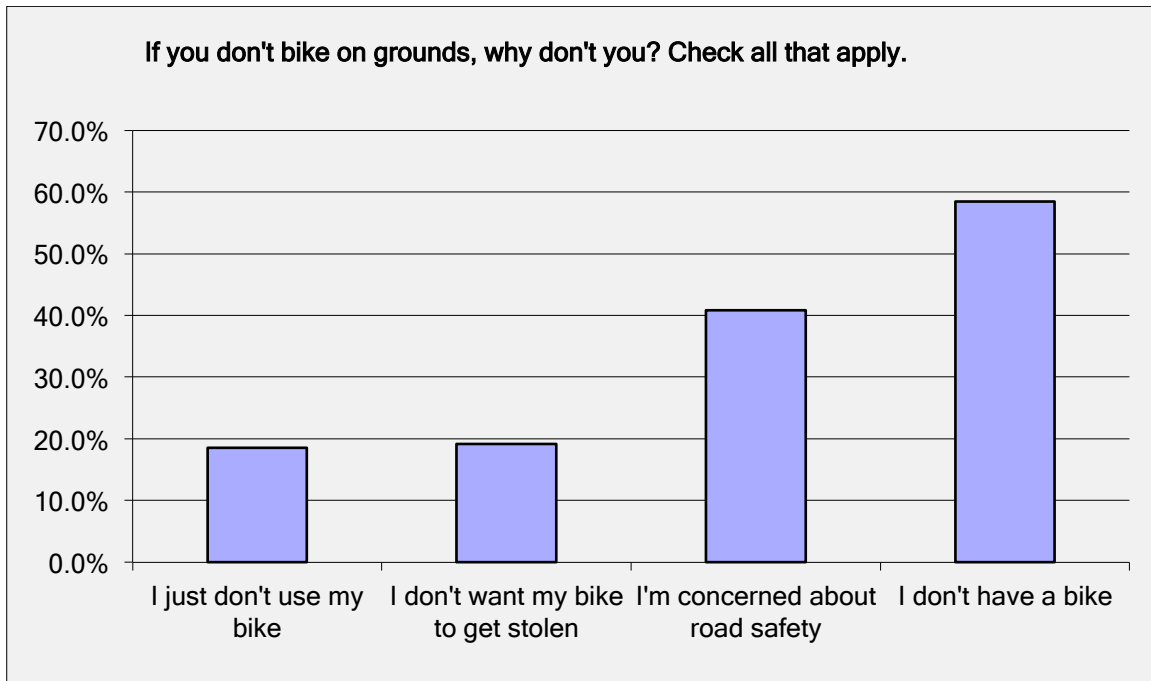
Question 7

If you answered yes, how often do you bike on grounds?		
Answer Options	Response Percent	Response Count
Never	17.0%	9
Occasionally	18.9%	10
Few Times a Week	18.9%	10
1-2 Times Daily	17.0%	9
Very Frequently	28.3%	15
<i>answered question</i>		53
<i>skipped question</i>		122



Question 8

If you don't bike on grounds, why don't you? Check all that apply.		
Answer Options	Response Percent	Response Count
I just don't use my bike	18.5%	24
I don't want my bike to get stolen	19.2%	25
I'm concerned about road safety	40.8%	53
I don't have a bike	58.5%	76
Other (please specify)		21
answered question		130
skipped question		45



Written Responses to Question #8:

I ride a skateboard

11/1/2011 8:17 PM [View Responses](#)

I prefer taking the bus

10/31/2011 12:47 AM [View Responses](#)

Just another thing to worry about.

10/31/2011 12:39 AM [View Responses](#)

I don't like biking

10/31/2011 12:13 AM [View Responses](#)

There are too many sets of stairs between my classes that I would have to carry my bike up/down and it would defeat the purpose of convenience.

10/31/2011 11:46 AM [View Responses](#)

Safety. Bikes are so dangerous and people dont even wear helmets.

10/31/2011 10:13 AM [View Responses](#)

My bike was stolen

10/31/2011 9:31 AM [View Responses](#)

My bike breaks

10/31/2011 8:20 AM [View Responses](#)

my bike is broken

10/30/2011 11:19 PM [View Responses](#)

Prefer to walk

10/30/2011 10:16 PM [View Responses](#)

Bike mechanical issues (flats and no means to fix)

10/30/2011 9:34 PM [View Responses](#)

Ride very often, but sometimes don't ride because of weather, need to wear a suit, laziness, need to walk somewhere with non-bike riding friends, etc.

10/30/2011 9:31 PM [View Responses](#)

I don't want to make the initial investment by buying a bike.

10/30/2011 8:30 PM [View Responses](#)

I don't want to get hit by a car or hit a pedestrian

10/30/2011 3:14 PM [View Responses](#)

Parking is hard; it seems like a hassle

10/30/2011 3:10 PM [View Responses](#)

I'm from out of state and didn't want to buy a bike when i got here, also bike racks aren't conveniently located

10/30/2011 11:38 AM [View Responses](#)

People on bikes are pretty stupid and don't follow traffic rules. I'm a bus driver. Trust me on this one.

10/29/2011 12:50 AM [View Responses](#)

My bike was stolen last year!

10/28/2011 4:54 PM [View Responses](#)

my bike got stolen :(

10/28/2011 3:57 PM [View Responses](#)

I'm clumsy

10/27/2011 11:04 PM [View Responses](#)

It's hard to transport it from home to school.

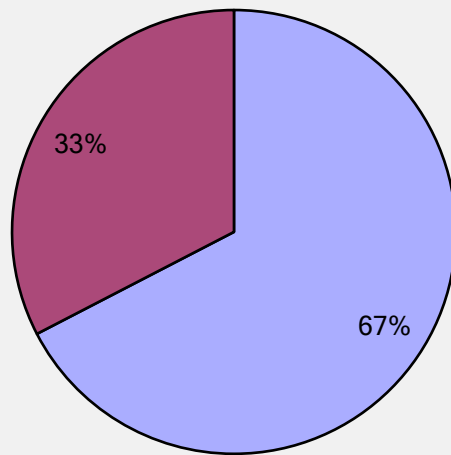
10/27/2011 10:12 PM [View Responses](#)

Question 9

Would you be interested in discounts on bikes and biking gear from local bike shops specifically for UVA students?

Answer Options	Response Percent	Response Count
Yes	67.4%	118
No	32.6%	57
<i>answered question</i>		175
<i>skipped question</i>		0

Would you be interested in discounts on bikes and biking gear from local bike shops specifically for UVA students?



Appendix II-Communications with Blue Ridge Cyclery

bike project

11 messages

Jacqueline <jq.gannon@gmail.com>
To: BlueRidgeCyclery@me.com

Tue, Oct 25, 2011 at 1:05 PM

Hi,

I am a student at the University of Virginia, who is working in collaboration with other students in our Global Sustainability class to create a Bike Share program at the university, as well to encourage more people to bike- students, professors, and staff. As part of our efforts, we are reaching out to local bike shops to see if they would be interested in creating any type of deals on bike equipment in their store that would help encourage more people to use bikes as a mode of transportation. We are contacting you for this purpose, and would love to hear back from you if you are interested in creating any type of deal or promotion for this cause!

Thank you,

Jacqueline Gannon
jmg2cc@virginia.edu

Shawn Tevendale <blueridgecyclery@me.com>
To: Jacqueline <jq.gannon@gmail.com>
Cc: "Monceaux, Jonathan (jcm9ec)" <jcm9ec@eservices.virginia.edu>

Tue, Oct 25, 2011 at 1:13 PM

Jacqueline,
We are interested in helping out with anything that is pro-bike around the grounds, deals/discounts included. Of note, we already offer a "bike up" discount for anyone that arrives to the store on their bike.

There are a few other groups doing similar things on campus well including the UVA Transportation group. I have CC'd Jon Monceaux who is heading up the UVA efforts, he can probably tell you what programs exist already and how to tap into those to build some foundations for your own.

-Shawn

[Quoted text hidden]

Jacqueline Gannon <jq.gannon@gmail.com>
To: Kelsey Vitullo <kmv7f@virginia.edu>, Andy Stafford <astafford64@gmail.com>

Wed, Oct 26, 2011 at 12:12 PM

I emailed a few local bike places about setting up deals...Here is what Blue Ridge Cycle responded with. How do you think we should follow up?

[Quoted text hidden]

Kelsey Vitullo <kmv7f@virginia.edu>
To: jq.gannon@gmail.com, astafford64@gmail.com

Wed, Oct 26, 2011 at 3:42 PM

Maybe email again or call and set up a meeting to go and talk with them personally?

Date: Wed, 26 Oct 2011 12:12:06 -0400
Subject: Fwd: bike project
From: jq.gannon@gmail.com
To: kmv7f@virginia.edu; astafford64@gmail.com
[Quoted text hidden]

Jacqueline Gannon <jq.gannon@gmail.com>
To: Kelsey Vitullo <kmv7f@virginia.edu>
Cc: astafford64@gmail.com

Wed, Oct 26, 2011 at 7:35 PM

Okay I'll follow up with him. Another bike shop got back to me, and I'm going to forward you guys the email.

[Quoted text hidden]

Jacqueline Gannon <jq.gannon@gmail.com>
To: Shawn Tevendale <blueridgecyclery@me.com>

Thu, Oct 27, 2011 at 6:12 PM

Thank you for getting back to me Shawn. We are actually working in collaboration with UVA Transportation (they are our community partners in this project, i.e. we are partially doing it on their behalf), but thank you for forwarding along my email to him- it's always good for everyone to stay updated!

Your bike up discount is awesome, and definitely a great way to encourage people to keep riding. Because we are also trying to target people who do not currently have equipment/ride to encourage them to start biking, we were wondering if you would be willing to create a discount for UVA students, faculty, and staff (must show their ID). We believe it would encourage people who do not currently bike to start biking and that this, in addition to your bike up discount which encourages current bikers to continue, would broaden the population of bikers. Let me know your thoughts!

Thanks,

Jacqueline Gannon
[Quoted text hidden]

Jacqueline Gannon <jq.gannon@gmail.com>
To: Kelsey Vitullo <kmv7f@virginia.edu>

Sun, Oct 30, 2011 at 8:01 PM

----- Forwarded message -----
From: Jacqueline Gannon <jq.gannon@gmail.com>
Date: Thu, Oct 27, 2011 at 6:12 PM
Subject: Re: bike project
[Quoted text hidden]

Jacqueline Gannon <jq.gannon@gmail.com>
To: Shawn Tevendale <blueridgecyclery@me.com>

Wed, Nov 16, 2011 at 7:18 PM

Hi Shawn,

I just wanted to touch base again about creating bike gear deals. I had sent you an email around Oct. 27th and never heard back, so I just wanted to see if you received it and what your thoughts were!

Thanks,

Jacqueline Gannon

On Tue, Oct 25, 2011 at 1:13 PM, Shawn Tevendale <blueridgecyclery@me.com> wrote:
[Quoted text hidden]

Blue Ridge Cyclery <blueridgecyclery@me.com>
To: Jacqueline Gannon <jq.gannon@gmail.com>

Wed, Nov 16, 2011 at 8:22 PM

We are on board, let me know what exactly you need me to get together and offer

Shawn

Sent from my iPhone
Typos thanks to Apple.

[Quoted text hidden]

Jacqueline Gannon <jq.gannon@gmail.com>
To: Blue Ridge Cyclery <blueridgecyclery@me.com>

Fri, Dec 9, 2011 at 6:34 PM

Hi Shawn,

A 10% discount on biking gear including bikes, helmets, and any safety equipment with their UVA student ID card would be wonderful. Thank you very much for your support.

Jacqueline Gannon
[Quoted text hidden]

Blue Ridge Cyclery <blueridgecyclery@me.com>
To: Jacqueline Gannon <jq.gannon@gmail.com>

Fri, Dec 9, 2011 at 6:39 PM

perfect. Put us down for it.

-Shawn

[Quoted text hidden]

Shawn M. Tevendale
Blue Ridge Cyclery
1043 Millmont Street
Charlottesville, VA. 22903
(434) 995-2453
www.blueridgecyclery.com
Follow us on [Facebook](#), [Twitter](#) and our [Blog!](#)

RIDE YOUR BIKE!

Enjoy the benefits!



\$0/Gallon

time efficiency
health benefits
energy efficient

ride
your
bike!!





time efficiency
health benefits
energy effiecient



I want to ride my bicycle....
I want to ride my bike where I LIKE!

Be GREEN like Kermit the frog



and

Ride a BIKE!!!!!!!



Appendix VI-Cross-Tab: School Year and Bus Riding Frequency

The screenshot displays a Microsoft Excel spreadsheet with a PivotTable and its corresponding PivotTable Field List. The PivotTable is titled "Count of How often do you ride a bus during the week on average?". The PivotTable Field List shows that the report filter is "Year" (with "Year2" selected) and the column labels are "How often do you ride a bus during the week on average?". The PivotTable data is as follows:

Row Labels	Never	Group2	Group1	Grand Total	Chi-Squared				
1&2					14.0170987	0.27827184			
One	5	17	7	29	3.7834696	1.76936074	0.76601138	0	
Two	12	18	10	40	1.02103852	0.0581007	1.34265951	0	
Three	26	19	7	52	1.26526052	0.43687436	0.45633269	0	
Four	24	17	5	46	1.66599183	0.33428978	1.11770911	0	
Grand Total	67	71	29	167					
					12	12	5	29	
					16	17	7	40	
	17	35	17	69	21	22	9	52	
	50	36	12	98	18	20	8	46	
	67	71	29	167	167	67	71	29	167
								167	
	28	29	12	69					
	39	42	17	98	5	17	7	29	
	67	71	29	167	12	18	10	40	
			167		26	19	7	52	
					24	17	5	46	
	4.122392464	1.0939	2.1015		67	71	29	167	
	2.902500816	0.7702	1.4796	12.4699925					

The PivotTable Field List on the right shows the following configuration:

- Choose fields to add to report:
 - Sex
 - Year
 - How often do you ride a bus during the week on average?
 - Do you have a bike here at school?
 - If you answered yes, how often do you ride a bike here at school?
 - Would you be interested in discounts on bus tickets?
 - How often do you ride a bus during the week on average?
 - Year2
 - If you answered yes, how often do you ride a bike here at school?
- Drag fields between areas below:
 - Report Filter: Year
 - Column Labels: How often do you ride a bus during the week on average?
 - Row Labels: Year2
 - Values: Count of How often do you ride a bus during the week on average?

Appendix VII-Cross-Tab: School Year and Bike Ownership

The screenshot displays a Microsoft Excel spreadsheet with a PivotTable summarizing bike ownership data. The PivotTable is structured as follows:

Count of Do you have a bike here at school?	Column Labels				
Row Labels	<input checked="" type="checkbox"/> No (skip to #8)	<input checked="" type="checkbox"/> Yes	Grand Total		
Group1					
Three	39	14	53		
Four	33	13	46		
Group2					
One	20	9	29		
Two	25	15	40		
Grand Total	117	51	168		
	72	27	99	73%	27%
	45	24	69	65%	35%
	117	51	168		
	69	30	99		
	48	21	69		
	117	51	168		
	0.13523976	0.3			
	0.194039656	0.4		1.084685	

The PivotTable Field List on the right shows the following configuration:

- Report Filter:** None
- Column Labels:** Do you have a bike here at school?
- Row Labels:** Year2, Year
- Values:** Count of Do you have a bike here at school?

The taskbar at the bottom shows several open applications: Final Report-Biking..., Biking, Crosstabs-biking, and Appendices - Micro...

Appendix IX-Cross Tab: School Year and Bike Riding Frequency

The screenshot shows a Microsoft Excel spreadsheet with a PivotTable. The PivotTable is titled "Count of If you answered yes, how often do you ride a bike during the school year?" and is located in the range A4:F11. The PivotTable has "Year" as the Row Labels and "If you answered yes, how often do you ride a bike during the school year?" as the Column Labels. The data is summarized in the following table:

Year	Never	Group1	Frequently	Grand Total
Year2	3	7	14	24
Year	6	11	10	27
Grand Total	9	18	24	51

Below the PivotTable, there are two rows of calculated values:

	0.360294118	0.255	0.6483	
	0.320261438	0.227	0.5763	2.38734568

The PivotTable Field List on the right side of the screen shows the following fields:

- Report Filter: If you answered yes, how often do you ride a bike during the school year?
- Column Labels: If you answered yes, how often do you ride a bike during the school year?
- Row Labels: Year2, Year
- Values: Count of If you answered yes, how often do you ride a bike during the school year?

Appendix X-Cross-Tab: Gender and Bus Riding Frequency

The screenshot displays a Microsoft Excel PivotTable with the following data:

Count of How often do you ride a bus during the week on average?	Column Labels	Never	Occasionally	Frequently	Grand Total
Female		48	48	21	117
Male		22	25	10	57
Grand Total		70	73	31	174

Below the PivotTable, a task pane shows calculated values for each gender:

Gender	Never	Occasionally	Frequently	Grand Total
Female	0.018416067	0.024036191	0.00115513	
Male	0.0378014	0.049337444	0.00237106	0.13311729

Appendix XI-Cross-tab: Gender and Bike Ownership

PivotTable Data:

Count of Do you have a bike here at school?	Column Labels		Grand Total
Row Labels	No (skip to #8)	Yes	
Female	86	32	118
Male	36	21	57
Grand Total	122	53	175

Calculated Fields:

0.169775731	0.3908045	1.72108
0.351465549	0.8090339	0.098686

Appendix XII-Cross-tab: Gender and Bike Riding Frequency

The screenshot displays a Microsoft Excel PivotTable titled "Count of If you answered yes, how often do Column Labels". The PivotTable is structured as follows:

Row Labels	Never	Occasionally	Frequently	Grand Total
Female	6	14	12	32
Male	3	6	12	21
Grand Total	9	20	24	53

Below the main PivotTable, there are sections for "Actual" and "Expected" data, and a row of calculated values:

Actual	6	14	12	32
	3	6	12	21
	9	20	24	53
Expected	5	12	14	
	4	8	10	
	0.058962264	0.306721698	0.42806604	2.00327381
	0.08984726	0.467385445	0.65229111	0.19084285

The PivotTable Field List on the right shows the following configuration:

- Report Filter: None
- Column Labels: If you answered...
- Row Labels: Sex
- Values: Count of if y...

The task pane at the bottom shows the following options:

- Report Filter:
- Column Labels:
- Row Labels:
- Values:
- Defer Layout Update:

Appendix XIV-Cross-Tab: Bike Riding Ownership and Bus Riding Frequency

Count of How often do you ride a bus during the week on average?

Row Labels	Never	Occasionally	Frequently	Grand Total
No (skip to #8)	54	43	24	121
Yes	16	30	7	53
Grand Total	70	73	31	174

	0.581820896	1.187553597	0.276746124	
	1.328308083	2.711207268	0.631816624	Chi-Squared 6.71745259 0.19279788

Appendix XV-Cross-tab: Bike Riding Frequency and Bus Riding Frequency

The screenshot shows an Excel PivotTable with the following data:

Row Labels	Never	Occasionally	Frequently	Grand Total
Never	2	4	3	9
Occasionally	7	10	3	20
Frequently	7	16	1	24
Grand Total	16	30	7	53

	2	4	3	9
	7	10	3	20
	7	16	1	24
	16	30	7	53
	3	5	1	9
	6	11	3	20
	7	14	3	24
	16	30	7	

	0.189203354	0.235080363	2.760107817	
	0.153360849	0.15408805	0.048652291	Chi-squared
	0.008303852	0.429350105	1.485287511	5.46343419

The PivotTable Field List on the right shows the following configuration:

- Report Filter:** None
- Column Labels:** How often do you ride a bus during t...
- Row Labels:** If you answered yes, how often do you bike on grounds?
- Values:** Count of If you answered yes, how often do you bike on grounds?

Appendix XVI-Original Project Definition
Biking Project Definition- Encouragement
Jacqueline Gannon, Andy Stafford, and Kelsey Vitullo
Harsh Jain
Global Sustainability
September 21, 2011

The main issue that our project addresses is encouraging people to ride bikes. Primarily, the project will aim to encourage those who currently do not ride bikes to begin using it as a common mode of transportation. Then also continue to appeal to people who do bike to keep biking, and urge people to bike multiple places such as to class, to downtown, to friends places, etc.

Our community partner is the UVA Department of Parking and Transportation. They are looking for assistance in creating an effective bike share program on a broad level, and on a more encouragement-specific scale, they want students more aware of the opportunities and benefits of biking on grounds, as well as making it easier for people to do so. The main stakeholders of this project are the students, professors, UVA staff, UVA and Charlottesville police, and the Charlottesville residents. The students, professors, and staff would get to their respective classes and jobs more efficiently, while also decreasing traffic and emissions. With more bikers comes more police involvement in enforcing bike laws as well as more traffic violations and probably more accidents. Charlottesville residents would have less congestion in the university area; however, they are going to be impacted by the increased biking traffic, which will lead to more dangerous situations on the road.

To approach this issue from the encouragement side, promotion would be key for all subsets of bikers. Promoting the personal benefits, as well as the community benefits would likely create more enthusiasm and increase the likelihood to bike. Creating more biking infrastructure such as bike fix-it stations, bike racks, implementing a bike-share program on grounds, would also be key, as well as making people aware of how they can bike safely. Additionally, we propose holding safety seminars, putting up basic advertisement around grounds citing the benefits of riding your bike as opposed to driving or walking, and going through the social media networks- Twitter, Facebook, YouTube, etc.- to encourage biking and reach a broad audience. Having signs next to bus stops that would tell people how long it would take to bike to certain buildings as opposed to riding the bus would be another way to approach the issue. Advertising on the UVA website and other forums like Collab and SIS, as well as TV monitors showing slideshows on grounds, chalking, flier, tabling- anything to get the word out. In addition, creative advertising techniques (i.e. walking parallel to a student saying “you know I wouldn’t be able to do this to you if you were biking”) would be worth trying. Maybe taking into consideration the idea of setting up deals or discounts with local bike shops on gear and paraphernalia would encourage new riders. Promotion will appeal to the people aesthetically, factually, and personally.

Appendix XVII-Original Conceptual Design

Conceptual Design

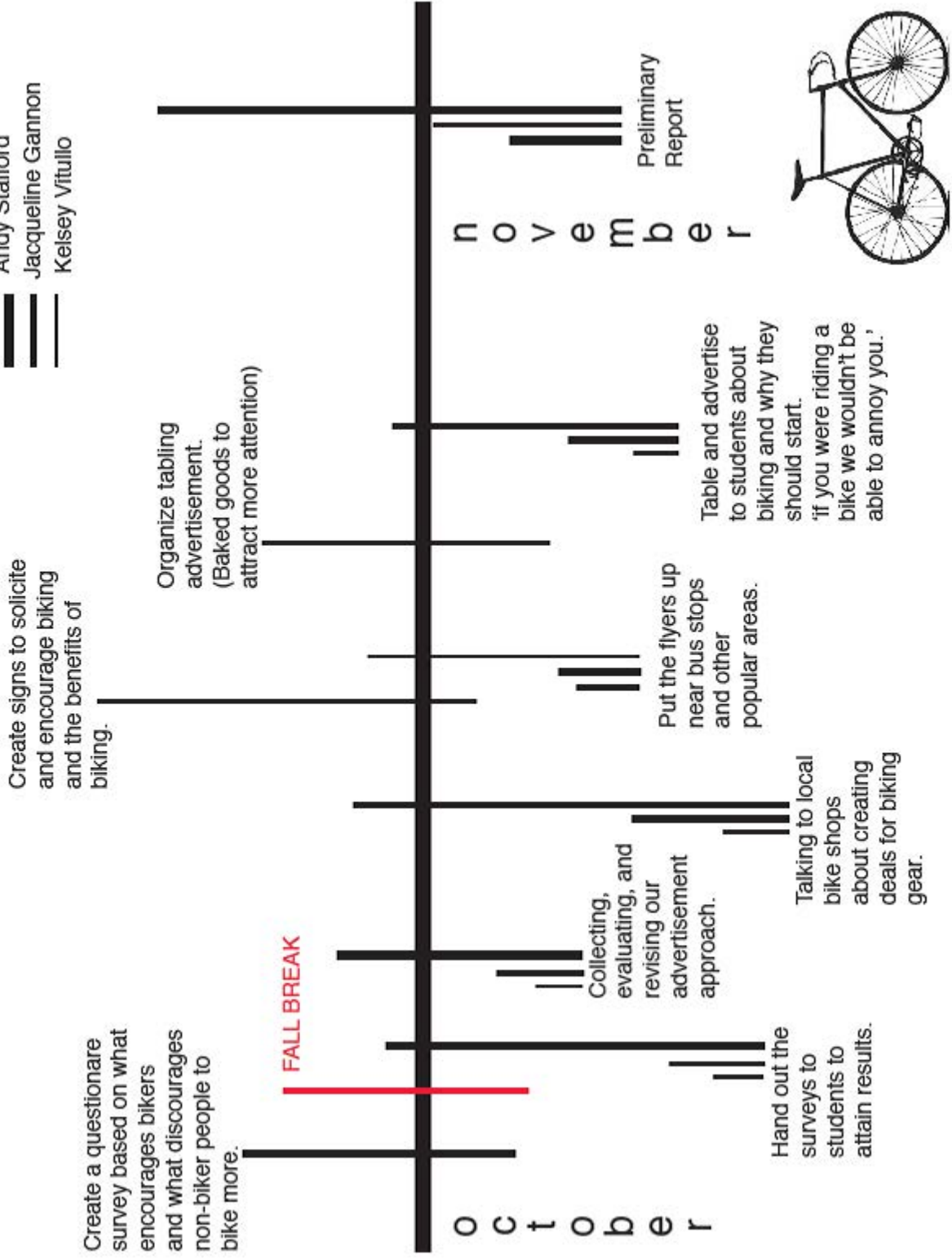
Bicycling on Grounds and Beyond: Encouraging the Community on Bicycling

Our role in the Bicycling on Grounds and Beyond Project is to encourage people to ride bikes more, focusing particularly on people who currently do not use bikes as a mode of transportation at all, while also urging people who already bike to bike more often. As the “Encouragement” group, we plan on promoting the benefits of biking as a mode of transportation; the health, efficiency, and environmental benefits, and the positive impact it can have on our community. We have come up with a number of specific ways to address this problem. Our promotion methods will include conducting a questionnaire to find out what is discouraging those who do not bike from biking, while also finding out what encourages current bikers, putting up fliers, tabling, putting up signs next to the bus stops informing riders of the benefits of biking instead of taking the bus, and creating deals with local bike shops on biking gear.

Conducting a survey among UVA students and faculty and analyzing the results is our first task, in order to determine what approaches will be the most effective. The intent of our research will be both exploratory and descriptive. We aim to explore what causes or discourages people from biking on grounds, as well as to collect descriptive information regarding the UVA community. The questionnaire will be designed so that the data collected can be turned into actionable information. First, we hope to use the information gathered to narrow the focus of whom to target with our encouragement marketing. Second, we will use the information to best select how to market to this group. Third, the results should provide accurate and valuable biking demographics for all of our target market of UVA students.

After getting the results from the questionnaire, we will focus our promotion methods depending on the feedback that we receive (for example, if it seems that people are hesitant to bike because of safety, we will focus some of our promotion on wearing helmets or the proper places to bike). At this time, however, we plan on carrying out all of these proposed approaches. For the fliers, we plan on putting the benefits of biking- lowers your risk for heart disease, low-impact exercise, time-efficient, most energy-efficient form of transportation ever invented, reduces stress, and reduces greenhouse emissions. For the tabling part of our advertising, we plan on drawing people in with baked goods, and hound them by saying phrases such as “if you were riding a bike, we wouldn’t be able to do this to you!”, as well as handing out bike maps. For our next marketing method, we will be putting signs next to every bus stop on grounds that point out the benefits of biking (some of which we have already stated), and also comparing it to aspects of taking a bus (ex: time it takes to bike vs. time it takes to ride the bus, energy output of biking vs. energy output of buses). We also intend on going to different local bike shops in the hope that they will create deals that will encourage people who do not already own biking gear to purchase and use it, as well as encourage those who do currently bike to help sustain their practices (bike repairs, etc.).

■ Andy Stafford
 ■■ Jacqueline Gannon
 — Kelsey Vitullo



Appendix XVIII-Feedback on Conceptual Design From Harsh Jain

12/10/11

Gmail - concept design review



Andy Stafford <adafford84@gmail.com>

concept design review

1 message

Harsh Jain <hj8au@virginia.edu>

To: andy stafford <aks5yk@virginia.edu>, austin angulo <awa7gw@virginia.edu>, bergen hubert <beh2sa@virginia.edu>, cally piumig <clp4u@virginia.edu>, chloe tara osborne <cto2bg@virginia.edu>, clem7gh@virginia.edu>, david sherill <dss5m@virginia.edu>, demi skipper <des5mc@virginia.edu>, jacqueline gannon <jmg2cc@virginia.edu>, jasmine drake <jjd2tw@virginia.edu>, kelsey michael sions <msj4k@virginia.edu>, ryan shaw <rcs7j@virginia.edu>, sam white <sjw6mc@virginia.edu>, sergi benet <sb4wa@virginia.edu>, ted kin chen <tkc4gy@virginia.edu>

Class

Only a couple of teams had an elaborate sense of what and how they wish to achieve in their concept design submittal. The other groups need to start being more specific and detailed in their approach towards their goal. The concept design needs to be further detailed from your suggested intervention in the project definition stage. Comments on each group's concept design are as below -

Team: Education

Your concept design needs to be further developed from the project definition. Elaborate on the many ideas you have and evaluate their effectiveness. Is creating a Facebook page the goal of your project and how viable is this proposition for educating people as well as its outreach? What will be the structure of your presentation that you propose to hold during the freshman orientation? How will you go about tagging bikes? All points that you have mentioned in your concept design needs to be elaborated and their feasibility needs to be established.

Team: Engineering

Are there other issues you can address beyond the design of bike racks? Will you have a universal design for the bike rack implemented in all conditions? Does space constraints have an impact on the rack design? Who pays for the bike racks and how do you define property lines to delineate public and private property? Will you look into prototyping of bike racks? How and to what extent do you engage the community partners?

Team: Encouragement

You need to further elaborate on points that were already stated in your project definitions. How and when will you hand out questionnaires and what challenges do you face in retrieving them? You need to define the target group of people with whom you wish to address your concerns. How do you establish the viability and effectiveness of nudging non bikers? Elaborate further on your advertising techniques. How do you engage your community partners as well as local bike shops? What do you wish to achieve as a final product for your workshop.

Team: Enforcement

Your concept design needs to be more elaborate, highlighting details of your approach towards bike safety. A thorough assessment of the conditions where road safety rules are fouled is necessary. The basis of establishing the quiz needs to be defined. How do you bring students (why students only?) to take the short course, especially those who wish to walk or drive? How do you establish budgeting and development of signage? What is the level of engagement with the community partners?

Team: Evaluation and Planning

Are there other ways of marketing outside the meal plan (given concerns raised by the community partners, that it will involve a third agency)? If the grant proposal has been filed, then there must be some survey work already done, the data from which you can use for your project. Look into things that can be achieved in the current semester, that can assist the on going efforts on the program. How are the kiosks, bike stands going to be designed? Look at precedents of existing programs and evaluate them based on their successes and short comings.

Please feel free to ask any questions or seek clarity on any issue you may be facing.

Regards

Harsh Vardhan Jain

Appendix XIX-Original Preliminary Report
Jacqueline Gannon, Kelsey Vitullo, Andy Stafford
Preliminary Report

Our main objective of our group in the Bicycling on Grounds Project is to encourage people to ride bikes more, focusing particularly on people who currently do not use bikes as a mode of transportation at all, while also urging people who already bike to bike more often. As the encouragement group, our goal is to promote the benefits of biking as a mode of transportation; the health, efficiency, and environmental benefits, and the positive impact it can have on our community.

We are approaching these issues by using as many different promotional methods as possible to solicit and advertise the benefits of biking. In order to do this, we have come up with a number of specific ways to address the problem. We have conducted a questionnaire to find out what is discouraging those who do not bike from biking, while also finding out what encourages current bikers, putting up fliers, tabling, putting up signs next to the bus stops informing riders of the benefits of biking instead of taking the bus, and creating deals with local bike shops on biking gear.

Beginning with the questionnaire portion of our promotion, we sent it out via email to the entire global sustainability class, as well as have given it to roommates, friends, the entire undergrad architecture school population and other classmates to complete. We face the challenge of getting enough responses to have a viable data sample, as well as getting a spread of demographics. We are addressing this issue, however, by in addition to having it emailed out to our class, giving hard copies to people we know and having them do it immediately (while we wait) and give it back to us. This increases our chances of having an accurate data pool. In order to establish the viability and effectiveness of nudging non-bikers, we will resend the survey right before the final report is due, assessing the changes in people's habits. Although different people may answer the survey the second time than did the first, the sample will still be representative of the general population here at UVA as long as the sample size is large enough. Finally, we are going to send out one additional survey at the very end of the semester with questions explicitly asking people if the advertisement and promotion methods encouraged them to ride bikes (ex: were you influenced by advertisements, signs, and tabling that you saw on grounds?)

Another promotion approach we are using is putting up fliers (see flier drafts below), with the benefits of biking- lowers your risk for heart disease, low-impact exercise, time-efficient, most energy-efficient form of transportation ever invented, reduces stress and greenhouse emissions. We are going to strategically place these fliers in places we know are frequently traveled around grounds- Newcomb dining hall, the corner, the amphitheater, the lawn, around Ohill and dorms so that the chances of them being seen are the greatest.

I want to ride my bicycle....

BICYCLE....



BICYCLE!!!!

MORE time efficient
MORE health benefits
MORE energy efficient



\$0/Gallon

I want to ride my bicycle....

I want to ride it where I LIKE!!!!

(you either get it or you don't. if you don't look up the song Bicycle Race by Queen)

An additional approach we are taking in encouraging people to bike more is tabling. In order to do this, we have contacted the Student Activities Center to get a table for the date of November 11th, at 11:30 AM until around 2:00 PM. We are making cookies and brownies to entice people, when we will then hand them informational fliers about why biking is such a good mode of transportation. In addition to enticing them with treats, we will make the point that “if you were riding a bike, we wouldn’t be able to annoy you like this”.



time efficiency

- biking is to 3 to 5 times faster than walking

health benefits

- the easiest ways to exercise
- builds strength and muscle tone
- builds stamina
- improves cardio-vascular fitness
- eats up calories
- improves heart health
- improves coordination
- reduces stress



energy efficient

- the most energy efficient form of transportation ever invented.
- has virtually NO carbon footprint
- reduces air pollution -- bicyclist emit few poisonous gases. A four mile bicycle trip keeps about 15 pounds of pollutants out of the air we breathe.

I want to ride my bicycle....

I want to ride my bike where I LIKE!

(you either get it or you don't. if you don't look up the song Bicycle Race by Queen)

Furthermore, we are putting up additional informational signs next to the bus stops and inside the buses, which have the information about why biking is advantageous to taking the bus. We have emailed Jon Monceaux about being able to put the fliers in the buses. They will market the benefits of not waiting for buses to come, the avoidance of the unpredictability that sometimes ensues with bus routes, and the health benefits. Some of these posters for inside the buses (which we are in the process of making) will have witty comments such as “exercise tip number 137: get off the bus and ride a bike!”

Lastly, creating deals with local bike shops on biking equipment and gear is one of our main encouragement methods. We have contacted three bike shops around Charlottesville by email, and are in the process of creating specific deals with them. Two have expressed interest in setting up these deals, and we are waiting to hear back on the exact discount that they are willing to give. We have also copied the UVA Parking and Transportation’s Jon Monceaux on the emails to the bike shops, so that they are kept in the loop with our efforts to encourage biking. Currently, Blue Ridge Cyclery and Cville Bike and Tri are working on creating discounts per our request. We have also emailed Performance Bicycle and Blue Wheel Bicycles about discounts, and are waiting to hear back. We will be following up with phone calls if they don’t respond to our emails within the next couple of days.

Although we thought about other approaches such as using Facebook and other social networks to promote biking, we feel that these methods are unique to our group and will contribute to the overall bike project of our section, which is why we have chosen these approaches. Additionally, we feel that proactive methods like tabling, fliering, and engaging with the community will have a greater impact on getting the message out across the UVA student body and faculty. Although social networks can be powerful, there is so much information already on them that sometimes important things can be glazed over. This is how we came to choose our unique and specific approaches, in also thinking about the larger context of the project and other teams.

What we expect to accomplish by the end of the semester is to have encouraged a broad group of people to ride bikes more often. Although this is somewhat subjective and hard to gather actual data on, resending out the survey towards the very end of the semester to compare the sets of data (from when we first sent the survey out to after our promotion methods are complete) will help give us factual information. We will be able to see the number of people we encouraged, and how many people started to ride their bikes more often as a result of our section's efforts.

Timeline for Accomplishments:

October 30th: sent out survey to students to take for statistics and data- Andy

October 31st: Final touches to posters, pamphlet, and fliers- printing them on November 3rd from the A-school printers- Kelsey

November 4th: put fliers around grounds, and the signs next to the bus stops- Jacqueline, Andy, Kelsey

November 7th: Call student activities Center to reserve a table for tabling- Jacqueline

November 9th: Bake goods and get candy to entice people to come visit our table- Jacqueline, Kelsey, Andy

November 11th: Table on the lawn with baked goods and informational fliers- Jacqueline, Andy, Kelsey

November 13th: review progress so far, statistics from the survey and add or adjust marketing methods- Jacqueline, Andy, Kelsey

November 20th: revise and edit previous questionnaire- Andy

December 1st: send out the revised questionnaire, as well as the additional survey marking the influence our promotion had on encouraging people to bike- Andy

December 5th: analyze data, mark changes in the two sample groups- Jacqueline, Kelsey, Andy

December 10th: send in final report!- Jacqueline, Andy, Kelsey

The costs for the implementation of our project are very minimal. The only costs that we foresee are the costs of printing the fliers, pamphlets, and posters, and the money it takes to get candy and baking materials (in total, around \$15). Currently, because we don't know of any other options, we are planning on splitting the costs and using our own money.

We will document our project in various ways. From the survey provider, we will obtain graphs that show the simple demographics of gender and year divisions with statistics about bike usage and bus usage. We will then be able to use these numbers to more specifically target the groups that are less likely to bike than others. For example, if we find that people primarily ride the bus over biking because they think it is more time efficient, we will be sure to emphasize the comparative time advantage of biking to make people more informed. In terms of metrics for measuring the success of our project, we are going to send out an additional questionnaire at the end of the semester that explicitly asks people if the promotion and advertisement that they have seen or experienced for the encouragement of biking has led them to bike more often or use it as an alternative mode of transportation. This will give us concrete numbers on the amount of people we have reached and influenced. In our opinions, if we can get as little as 1% increase in biking in this short amount of time, we will consider it successful. We also believe that these results can be exponential because of the domino effect: if by December, five more people are biking, but then they encourage their friends, who in turn encourage their friends, the numbers could increase greatly over time.

In our final presentation and powerpoint, we will have pictures of the methods that we have used (tabling, the fliers, graphs comparing the data we collect from the two surveys and the additional questionnaire) to give our class a better sense of exactly what we have done.

We plan on disseminating our project results mainly to the UVA Parking and Transportation department, so that they can see the positive effects (hopefully) of encouragement and the ability that it has to promote biking. With that information, they can make changes to continue our work on the bike projects even after we have finished the class! Additionally, for

them to have the information that we gather and have researched will allow them to more easily promote biking in the future and use it in any ways that they think are advantageous.

Appendix XX-Preliminary Report Feedback From Harsh Jain

12/10/11

Gmail - Preliminary report review



Andy Stafford <adafford84@gmail.com>

Preliminary report review

1 message

Harsh Jain <hj8au@virginia.edu>

To: andy stafford <adafford84@gmail.com>, austin angulo <ava7gw@virginia.edu>, bergen hubert <beh2sa@virginia.edu>, cally piming <clp4u@virginia.edu>, chloe tara osborne <cto2bg@virginia.edu>, david sherill <dss5m@virginia.edu>, demi skipper <des5mc@virginia.edu>, jacqueline gannon <jmg2cc@virginia.edu>, jasmine drake <jrd2tw@virginia.edu>, kelsey michael stons <kmj44@virginia.edu>, ryan shaw <rcs7j@virginia.edu>, sam white <sjw6mc@virginia.edu>, sergi benet <sb4wa@virginia.edu>, ted kin chen <tkc4gy@virginia.edu>

Class

One of each group meet me after the Tuesday lecture (outside the lecture hall door) to collect your reports with specific comments on them and to briefly discuss what they are. If you are inclined to discuss the reports during the Thursday workshop class, that is also possible. In that case carry the marked copy of your reports with you on Thursday.

The general comments on your reports are as follows -

Team: Education

Add project title, table of contents and sub-headings for the structure of your report. Add background, describe the problem and goals. Briefly talk about your community partners, who they are, what are their objectives and what is the level of engagement you have with them. You need to elaborate on the design, feasibility and distribution of flyers, tags etc. Everything that you are creating / designing should have a rationale and a draft copy of the product. Add to appendices all information you have gathered, correspondence with the community partners, images, etc.

Team: Engineering

Add project title, table of contents. Add background and briefly talk about your community partners, who they are, what are their objectives and what is the level of engagement you have with them. Your group seems to have a good grip on the report. Work on establishing a rationale for your assumptions and data analysis. Also for the different rack designs, it might help to have some case studies, which can be added to the appendices. Other information that should be added to the appendices are the raw data collected, correspondence with community partners, images etc.

Team: Encouragement

Add project title, table of contents and sub-headings for the structure of your report. Add background, describe the problem and goals. Briefly talk about your community partners, who they are, what are their objectives and what is the level of engagement you have with them. You need to elaborate on the design, feasibility and distribution of flyers, tags etc. Where is the survey? It needs to be added to the report. Your group needs to establish the basis for the questions you are asking. Everything that you are creating / designing should have a rationale and a draft copy of the product. Add to appendices all information you have gathered, correspondence with the community partners, images, etc.

Team: Enforcement

Add project title and table of contents for the structure of your report. Add background, describe the problem and goals. Briefly talk about your community partners, who they are, what are their objectives and what is the level of engagement you have with them. The current state of your report seems insufficient in terms of content. You need to elaborate on the survey, its rationale etc. Where is the survey? It needs to be added to the report. Your group needs to establish the basis for the questions you are asking. Everything that you are creating / designing should have a rationale and a draft copy of the product. Add to appendices all information you have gathered, correspondence with the community partners, images, etc.

Team: Evaluation and Planning

Add project title, table of contents. Add background and briefly talk about your community partners, who they are, what are their objectives and what is the level of engagement you have with them. Establish a basis for the questions you are asking. Elaborate on your engagement with the CIOs etc. Over all the structure of the report seems to be working, but clarity is required on the goals you expect to achieve towards the end of this semester. Otherwise add to the appendices all information you have gathered, correspondence with different agencies, survey, images etc.

I know this is an ongoing project and you don't have all the information at your disposal, but the way you are drafting the report should follow a format closer to the final report where you would be established and tested with the outcomes ready.

You guys are putting in a great effort, but be sure to collect your reports from me after the lecture.

Best

Harsh Vardhan Jain

Encouragement for Bicycles

- Main Goal:
 - is to encourage people to ride bikes more, focusing particularly on people who currently do not use bikes as a mode of transportation at all, while also urging people who already bike to bike more often.
 - promoting the benefits of biking as a mode of transportation; the health, efficiency, and environmental benefits, and the positive impact it can have on our community.
- How we plan to encourage:
 - flyers with the benefits of biking, tabling, comparative signs next to bus stops that inform riders of the benefits of biking instead of taking the bus to their destination, create deals with local bike shops on bike gear to encourage new riders

Encouragement for Bicycles

To Encourage those that...

- don't bike → start biking
- do bike → bike more

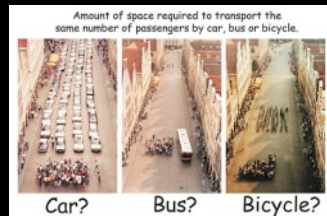


By promoting the...

- health, efficiency, and environmental benefits
- positive impact it can have on our community

Through...

- flyers and signs
- social media
- innovative tabling techniques
- student discounts at local bike shops



Encouragement for Bicycles

To Encourage those that...

- don't bike → start biking
- do bike → bike more



By promoting the...

- health, efficiency, and environmental benefits
- positive impact it can have on our community

Through...

- flyers and signs
- social media
- innovative tabling techniques
- student discounts at local bike shops

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