CYC Proposal V1
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**Problem Statement**

**Who?** People on the fence about cycling at the Georgia Institute of Technology, more specifically those who are not acclimated to biking in an urban environment

**What?** Cycling is underutilized by the Georgia Tech community due to poor relationships between cyclists and pedestrians, a lack of accessible resources for novice cyclists, and a general apprehension to biking in an urban environment

**Where?** Georgia Tech and its surrounding areas

**Why?** To increase biking and commuting by bike throughout Tech’s campus and around Atlanta

**How might we inculcate a positive biking culture and community on Tech’s campus?**

**Significance**

The long term shift from automobiles to bicycles will lead to drastic changes in the grand challenge areas of health, energy, infrastructure, and environment. Regarding health, the sedentary lifestyle of the typical American could be transformed into one of fitness and wellness if biking was common way of commuting. New full-time bicycle commuters can expect to lose an average 13 pounds in their first year of bicycle commuting if they maintain the same eating habits (Woodruff, 2012). In the area of energy, dependence upon foreign powers or internal reserves is reduced due as biking increases. Average commuters in Atlanta use over 3 gallons of gas to get to and from work each day and biking is one of the most energy-efficient form of transportation on the planet (“Science of Cycling”). The infamous Atlanta traffic congestion would be relieved by a shift to the biking populous. Protected bike lanes can be part of street redesigns that greatly boost retail performance. Finally, the environment would benefit greatly from a reduction in the burning of fossil fuels and create a more sustainable Atlanta. A four mile bicycle trip keeps about 15 pounds of pollutants out of the air we breathe (“60 Benefits of Cycling”).

**Stakeholders**

Our stakeholders are Georgia Tech student and faculty bikers, other transportation users at Georgia Tech (motor vehicles and pedestrians), Georgia Tech administration (Bicycle Infrastructure Improvement Committee (BIIC) and the Student Government Association), and the citizens in the neighborhood surrounding Atlanta.

Current bikers at Georgia Tech would highly encourage more investment into targeting freshman to enter the biking sphere. Bikers would be a potential resource for advice on how to best teach others to bike on and off campus because of their first-hand experiences. Bikers at GT (both faculty and student) are not our primary target because they already bike. The biking club that is well-established at GT is there to serve the already biking populous, but there isn’t a service for people who don’t bike at all. However, current bikers from the biking club would be able provide more immediate support for our project.

Non-bikers at Georgia Tech make up the great majority of our population at GT. This includes all motor-vehicles and pedestrians. This would be our target audience. Roger Geller, the biking coordinator from the Portland Bureau of Transportation, told us about the continuum of transportation cyclists. According to Geller, 1% of the population are characterized as “the Strong and the Fearless,” 6-12% as “Enthused and Confident”, 60% as “Interested and
Concerned”, 30-35% as “No way”. We hypothesize that non-bikers at Georgia Tech would have less of the “Enthused and Confident” population and be mostly a mixture of the “Interested and Concerned” and the “No way” group. This group might display an apathetic or even hostile view of bikers because of unfortunate experiences between the biker group and the non-biker group. We could lessen the animosity by decreasing the ignorance of bikers’ rights on the road. More bikers themselves would benefit from learning and abiding to the rules of the road. We would have to make sure that pedestrians and motor vehicle users see the importance of biking improvements on campus.

The Georgia Tech administration plays a key stakeholder role in our project. The BIIC has been very supportive of our efforts to try and increase ridership at GT. The BIIC especially likes that we are undergraduates because not many undergraduates are part of the BIIC and we provide fresh perspective. The BIIC has published a Bike Master Plan and they plan to deal with the infrastructure problems that are around campus including improvements to intersections. We realize that the possible improvements to Tech’s biking infrastructure would not cause great change if the biking culture at Tech does not expand to include novice bikers. The Parking and Transportation committee in the Campus Services department of SGA would be interested in our proposal for alternative transportation. Furthermore, we might be able to talk to the Georgia Tech administrators that are in charge of the Quality Enhancement Plan (Georgia). The new 10-year plan focus on community and sustainability and increasing ridership on campus would address both aspects of their goal.

Context and Existing Solutions

The underutilization of bicycles as commuter vehicle is not a problem that is unique to Georgia Tech, or even Atlanta. The problem is widespread - only about 0.56% of people in the United States bike to work (Maciag). However, many cities in the U.S. have turned their attention to this problem. New York, Chicago, Minneapolis, and Portland are now the most bike-friendly cities in the U.S. (Dille), and boast biking rates of up to 6% (The City of Portland). What are these cities doing to encourage biking, and how can Atlanta learn from these endeavors?

In order to find out, we sent a team of three students to Portland, Oregon to speak with Roger Geller, the city’s bicycle coordinator. The first piece of advice he gave us was “If you build it, they will come.” That is, creating infrastructure for cyclists is the best way to attract cyclists. Portland began building its 319 miles of bike lanes in the late 1990’s, but the city didn’t begin to see a significant increase in the number of cyclists until about 2007 (personal conversation, Geller). Geller attributes this to the fact that the first bike lanes and bike paths in Portland were scattered and isolated from each other. One of the most important aspects of creating successful biking infrastructure, he explained to us, is creating a cohesive network.

So far, agencies like the Atlanta Bicycle Coalition and the PATH Foundation seem to be on the right track; they spend the majority of their resources on the creation of biking infrastructure. While they’ve certainly made progress, there is still plenty of room for improvement. With only 45.2 miles of bike lanes, and a complete lack of a cohesive network, Atlanta needs more infrastructure to increase its cycling population above 1.1% (Torres).

We additionally received early access to the Campus Bicycle Master Plan, created by the BIIC. The document is not yet public, so any references made here can not be utilized until the final version is released, and it might have changed since we saw it. The Bike Master Plan
provided us with a firm understanding on what the BIIC is pushing towards on campus and helped us narrow down our solution as we did not want to overlap with something the BIIC already planned. The Master Plan is a comprehensive plan on infrastructure and has details about improving intersections, paths, and parking, so that lead us to abandon these potential solution areas in favor for something else. It discusses multi-staged reworkings of current infrastructure as well as incorporates and adheres to other campus plans to maintain consistency (Campus Bicycle Master Plan).

**Why is it still a problem?**

One of the primary reasons there is no simple solution to increasing the number of bikers is because many individuals do not understand the inherent advantages of cycling. Rather than biking to work or any function within cycling distance, many individuals choose to simply drive as they perceive this to be more convenient. For this reason, it is difficult to find a solution to this particular problem since the only way to convince such individuals is to either directly show them the personal advantages of cycling or encourage them to try it for themselves.

Piedmontian denizens are unaware of the resources available to bikers in their area and even fear that the resources are insufficient to be safe. One member visited the Georgia Tech cycling club and found that it was just four people that liked to go on advanced bike rides together, and they were not very accommodating to beginning cycling. Other freshmen may be discouraged by the professional atmosphere and desire something more accessible.

**Goal**

As said in our problem statement, we want to create a positive biking culture and community on Tech’s campus by increasing confidence in beginning bikers; fostering positive relationships between cyclists, drivers, and pedestrians; and increasing resource availability for cyclists. After discussing our options and the feasibility and amount of impact each would have, we decided the demographic we could potentially have the most effect on would be incoming freshman. Although the objectives stated below are meant to focus on people new to the Georgia Tech community, they will be designed to be applicable and accessible to anyone. In order to increase biking on Tech’s campus, we plan to focus on increasing confidence for beginning cyclists, by teaching techniques to stay safe and paths to take, as well as informing everyone of proper biking etiquette, to avoid accidents between drivers and cyclists, and pedestrians and cyclists. At the end of our project, we would like to have more of the Tech community comfortable using bikes both on and off campus because of their newly learned tips and skills. From our stated problem, we plan to focus on the aspect of informing and teaching potential or new cyclists. If our solution is successful, Georgia Tech has the potential to earn a higher honor of being a bike-friendly campus, the health and environment of and around Georgia Tech could significantly improve, as well as decreasing the number of incursions or near-accidents between, pedestrians and cyclists and drivers and cyclists.

**Objective 1: Club**

From our meetings and talking with experts, we decided the first step we need to take in making an impact on Tech’s biking habits is to form a biking club on campus. Unlike current clubs at Tech, our club will be focused on providing resources for novice bikers, from quick tips on paths and maintenance of their bikes, to how to stay safe on campus and off. We have quite a
few “sub-objectives” of this goal which include, but won’t be limited to: establishing the club and being recognized by JacketPages, having monthly meetings, weekly bike rides/tours, and providing student labor to bike related projects on campus.

First, we will establish the club and begin advertising it and the programs and events we will offer. We also plan to publicize our club with the posters we make (explained in Objective 2). One of the main aspects of this objective we feel will benefit our overall goal the most is running weekly bike rides/tours throughout Atlanta. Our plan is to start with very simple rides, such as the Pi Mile, while emphasizing very basic strategies and tricks to bike. As the semester progresses, the difficulty, length, and distance from Tech’s campus will increase gradually, probably every 2 weeks, in case some members missed a ride. By incrementally increasing these three aspects of the rides, we hope to have the members of our club very comfortable with navigating the roads of Atlanta both safely and efficiently. While there is no specific number or set of data that will define success, if we have a group of students who stuck with the club over the semester and increased their biking skills and knowledge, we will consider this objective successful. Another part of this objective is the meetings. By holding monthly meetings, we can offer more resources to the members, from speakers and presentations to trivia and movies. We will have to take time each week to meet and plan the coming weeks’ rides and meetings in order to maintain interest and organization.

We feel this is the most important objective because it will have the most direct impact on the Georgia Tech community and it will provide a platform for future projects. It is also necessary because without proving our practicality, the following objectives will be much more difficult to accomplish. If this objective is unsuccessful, we will be able to continue working to reach our goal, but we will need to reasses what went wrong and find new approaches to try. Potential obstacles can include insufficient funds or membership, busy schedules (resulting in less effort being put forth than is necessary), or logistical problems with providing resources (bikes, helmets, etc.) to members. Publicizing this club will also prove to be a challenge, and if not enough students know about it, the effect it has on our overall goal will be significantly decreased.

Putting parts of this goal into a timeline, we aim to have the first few paths we will bike throughout the semester planned by the beginning of the Fall 2015 semester, as well as the agenda of the first few monthly meetings planned.

Objective 2: Etiquette posters spring 2016

One thing that the cyclist population of Georgia Tech lacks, in general, is a knowledge and understanding of the rules of proper biking etiquette. This has resulted in numerous complaints about cyclists, especially from the pedestrian population. In order to meet our goals of creating a positive biking culture and fostering positive relationships between pedestrians and cyclists, we’ve decided to start a campaign to educate the campus population on the dos and don’ts of cycling in crowded places.

Our goal for this campaign is to educate as many students as possible about proper biking etiquette. With this in mind, we decided to use posters as our primary tool of reaching the majority of the student body. These posters would feature short, memorable messages about
biking etiquette. By hanging these public locations, we hope to inform a large number of students about the intricacies of biking in close proximity with pedestrians and other cyclists. The desired outcome of this campaign would be improved relations between pedestrians and cyclists. However, this metric may prove difficult to measure over a time period as short as a semester. As a proxy for these data, we would measure observable instances of proper biking etiquette in crowded spaces, such as tech green.

There are many ways in which this campaign could be unsuccessful. For example, posters have the potential to reach a large number of students, but they also have the potential to be completely ignored. If the posters prove to be ineffective, we will need to investigate why. If the problem is simply that they are going unnoticed by a large number of students, we will have to turn our attention to making our campaign more visible. If, instead, it is discovered that cyclists breach etiquette for reasons other than ignorance of the rules, then we will have to take this campaign in an entirely new direction.

Objective 3: FASET summer 2016

The best way to promote awareness about our beginners biking club is to advertise it during the FASET club fair. Since we are targeting people who are new to biking in the pseudo-urban environment we call Georgia Tech, new first year students are most likely going to be the largest demographic participating in our club. Assuming objective one is complete by the end of the Fall 2015 semester, we can apply to be at the FASET club fair in the summer of 2016 to start recruiting new students into our club.

Assuming we are permitted to present our club at FASET 2016, we will have to create posters and pamphlets in order to successfully advertise for our club. We can potentially reuse some of the poster designs from objective two, but we will most likely have to create new ones as well that focus more on the club itself and when the meetings are. We would also have to bring some attention grabbing things to attract an audience to our booth at the fair. We could bring things like prototype bikes from one of the industrial design labs on campus as well as basic, cheap bikes to maintain a reasonable level of accessibility to the students. A successful outcome to this objective would consist mainly of a high level of engagement from the students at the FASET club fair. This high level of engagement would hopefully correspond to a spike in new members in our club during the fall semester following FASET. Ideally, these new club members will participate avidly throughout their freshman year and continue the biking habit into their upperclassman years at tech.

This objective relies heavily on being able to present our club at the FASET club fair. If something goes wrong in that realm, then the rest of this objective will have to be abandoned entirely. Another potential problem we might run into is finding people to present at FASET over the summer. Most people do not stay over the summer semester meaning we would need to find Georgia residents or people who do happen to be staying at Tech over the summer to represent us at this fair. This issue will become easier and easier to deal with as our club grows and matures since we will have more people willing to help out. Overall, this objective is very doable and would most likely bring in a lot of new members to our budding club.
SUMMARY TIMELINE in terms of semester/year

Summer 2015: Plan bike tours, apply to be an official club

Fall 2015: Establish club and advertise, beginner bike tours

Spring 2015: Club recruitment and expansion, intermediate bike tours

Summer 2016: FASET

Research Team

Our research team will consist of the seven current members of CYC and our facilitator, Mindy Kao. Our end goal is to form a club at Georgia Tech that is accessible to incoming freshmen or existing students that are interested in cycling. In order to accomplish this goal we need an organized and highly efficient team. Each group member will be assigned to one of the following subgroups:

- poster making
- webmaster
- student outreach
- faculty ambassador
- cycling tour guide
- 3 possible Mentors/advisors
  - Lisa Safstrom - Campus transportation planner, Officer in the BIIC
  - Johann Webber - Graduate student dedicated to spreading biking throughout campus
  - Mindy Kao - Graduate student dedicated to helping young Grand Challenges teams

The poster making group will be responsible for the production and distribution of posters around campus that advocate for the club and inform students about proper cycling etiquette. The webmaster will be responsible for creating and maintaining a user friendly website/facebook page that will inform GT students about CYC. The student outreach group will be responsible for organizing events to introduce students to CYC and cycling in the Atlanta area. The faculty ambassador will speak to our faculty advisors about group decisions and report their input back to the group. The tour guide will be responsible for looking up exciting and safe cycling routes for students to take who are interested in exploring the campus and surrounding Atlanta area. Once the club has been formed on campus, positions such as president, vice-president, secretary, treasurer, webmaster, etc. will be delegated between the members of CYC.

Budget

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**Expected Outcomes and Future Directions**

The main, overarching goal of our project is to create a sustainable organization aimed at introducing biking to new students at Georgia Tech. At the end of year two of this project, it would be reasonable to expect a stable start to the beginner biking club on top of plans to recruit more members during summer 2016’s FASET programs. Another thing to expect after the second year of this project is a number of poster designs aimed at promoting proper bicycle and pedestrian etiquette. Ideally, we will have put up a lot of these posters around campus as well. In the realm of expansion, once our club gains some traction in the community, we can start collaborating with the existing bike club on campus so that we can pass off our members onto them once they feel comfortable enough to join the more avid cyclists.

For funding, we can turn to the Georgia Tech SGA since they are in charge of allocating money to on campus organizations. Also, once we get a decent amount of members in the club, we can conduct fundraisers to compliment any funding that the SGA would give us. There is also potential in seeking a relationship with Atlanta-level biking organizations such as the Atlanta Bicycle Coalition. These bigger organizations might see the benefit in our club and provide some form of funding to us.
References


