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## Overview of Proposition to Implement a Bike Rental Program at Villanova University

### **Abstract**

Bike rental programs have generated considerable interest on many college campuses across the country and around the globe; Villanova University has not yet joined the movement. Our group studied the various dynamics of personal transportation at Villanova University to determine if a bike rental program would be successful on campus. We hypothesized that the student body at Villanova would increase its overall bike usage if a convenient rental program was established and safe storage facilities were made readily available for students' bikes. We distributed a survey that asked questions pertaining to the popularity of biking at Villanova, the factors that hinder biking, and if we overcame these obstacles, the probability that people would be willing to utilize the biking program. Lack of storage, lack of access to a bike, and inclement weather were the main reasons people did not bike around campus. If a bike program were successfully implemented, 68% of the students surveyed would either definitely or possibly use the service. The results indicate that with adequate storage facilities and bike availability, Villanova students would be likely to join the biking phenomenon. Looking towards the future, we would like to recommend that student government, the cycling team, and other campus groups interested in campus biking, utilize our project results to implement a bike rental and storage initiative.

## **Introduction**

Biking is a great non-carbon emitting form of transportation that is especially practical in close communities, walking cities, and college campuses. Recently, bike rental programs have sprouted up all over the world and are experiencing growing success. In the late 1960s, European cities like Amsterdam and Milan provided donated bikes for residents to ride free of charge, hoping to provide citizens with an ecologically friendly mode of travel. Amsterdam's "white bicycle" plan, in which idealistic hippies repaired scores of bicycles, painted them white, and left them on the streets for anyone to use for free, was among the most famous examples. In the end, the bikes were stolen and became too beat-up to ride. Vandalism and theft sank nearly all of the early campaigns (Beardsley, 2007).

However, lessons have been learned, and now there are electronic payment, tracking and locking systems that have helped to reduce crime and revive bike-sharing efforts worldwide. New bikes are more sturdy, durable, and recognizable. Combined with a reliable rental system, theft is strongly discouraged. In rental programs in France, riders must leave a credit card or refundable deposit of about \$195, and certain personal information. Lyon, France has only about 10% of these bikes are stolen each year, but many are later recovered.

Recently, Paris, France has implemented one of the most comprehensive and successful bike sharing programs, called Velib. Formed from the French words for "bike" and "liberty," Velib placed 10,600 bikes at 750 stations for use by Parisians and tourists alike. It provides a cheap, healthy, fun and earth-friendly way to see the city (Anderson, 2007). The system involves lots of available bike racks and specific information cards to

swipe at bike stations to obtain rental bicycles. Parisians are able to grab an available two-wheeler, ride it across town and leave it for others at their new destination. Paris officials intend to double the fleet by 2008. According to a report in *Business Week*, more than 6 million rides were recorded in the first three months of the program, with each bike being rented an average of 10 times a day. The mayor of Paris, Bertrand Delano endorses the biking program as it could change Paris's image to a quieter, less polluted city with a nicer atmosphere. Moreover, a recent study analyzed different trips in the city by way of car, bicycle, taxi and walking; bikes were always the fastest. Another important point to make is that, the bike program only starts charging after the first 30 minutes. Consequently, people have been using the bikes for rides that last under 30 minutes. In fact, 95 % of the roughly 20,000 daily bike rentals are free because of their length.

Bike-sharing has even spread to the United States. The country has traditionally lacked a robust bike culture, however car-sharing is thriving in recent years and biking is becoming more mainstream. In San Francisco, the city Board of Supervisors is set to vote on a contract with Clear Channel Outdoor Inc. that would establish a bike-sharing program in return for advertising rights on transit shelters. Chicago Mayor Richard Daley visited Paris in September to test the Vélib in action and is considering a similar program for the Windy City. New York City, Portland and Washington, D.C. officials have also expressed interest (Maus, 2008).

Margo O'Hara, the communications director for the Chicago Land Bicycle Federation, points out that reducing dependency on the automobile, and the carbon emissions, pollution, and traffic it creates, is the most obvious attribute of bike-sharing,

but a well-designed system has other virtues. People are also attracted to bike sharing being because its public service that allows communication and interaction with other riders, versus their daily community in an isolated car. Bike-sharing also provides a cheap, sustainable appendage to under-funded and overcrowded mass transit systems. While bike sharing may not replace bus or rail transit, it does extend and compliment other modes of transit's reach.

We are studying the potential implementation of a bike rental program at Villanova University, in southeastern Pennsylvania. To determine interest in the program, we surveyed student transportation habits, including especially how often students drive distances that are short enough to be biked or walked. We focused the surveys on elucidating what factors stop students from biking such as storage, inadequate paths, weather, laziness, etc. Using this information, we will determine if there is a latent desire for a bike rental program, and the feasibility of implementing one on the Villanova campus.

### **Methods**

The main objective of our study was to spread overall awareness to alternative transportation and gauge interest in a bike renting program which would reduce carbon emissions. To determine if such a program would be successful at Villanova University we created a survey. With the final information, if a positive response was observed, we would be able to support a proposal for a biking program to public safety with the help of our previously established Villanova Cycling Club. We polled 406 students to find the overall interest in biking on campus. The survey was set up through a website titled my3q and a group on Facebook was created to advertise participation of Villanova University

students. We first collected the basic demographics from the participants. We asked the following questions: (1) how often does the participant drive distances that are short enough to be walked, (2) does the student have a bike currently on campus, (3) does the student show interest in an off campus recreational/fitness biking group, (4) what are reasons that might impede students from biking, (5) how much are participants willing to spend on the use of a bike if a bike rental service was implemented, and (6) would participants use the bike rental service for travel to places to which they would have previously driven? These questions provide a comprehensive understanding of the student body's preferred modes of transportation and their interest in a biking program.

## **Results**

A total of 406 students at Villanova University were surveyed. Sixty-seven percent were female and 77% came from either the sophomore or junior classes, with an approximately equal split between the two. Forty one percent had a car and 10% had a bike on campus. Lack of storage, lack of access to a bike, and inclement weather were the main reasons people did not bike around campus (fig. 2). One quarter of the total group would not use the rental service while nearly a half would use it if it was free, and another quarter would pay a small sum for the rental (fig. 3). If a bike program were successfully implemented, 68% of the students surveyed would either definitely or possibly use the service (fig. 1). When asked if a successful bike program would change their driving habits, 27.3% said that they would definitely bike to places they had previously driven, 46.3% said they would possibly bike instead of drive, and 26.3%

would continue to drive and not alter their habits (Fig. 4). The overall trends point to a moderate interest of the student body in a low cost bike rental and bike storage program.

Fig. 1- Would you use a bike rental program if successfully implemented?

Question #9

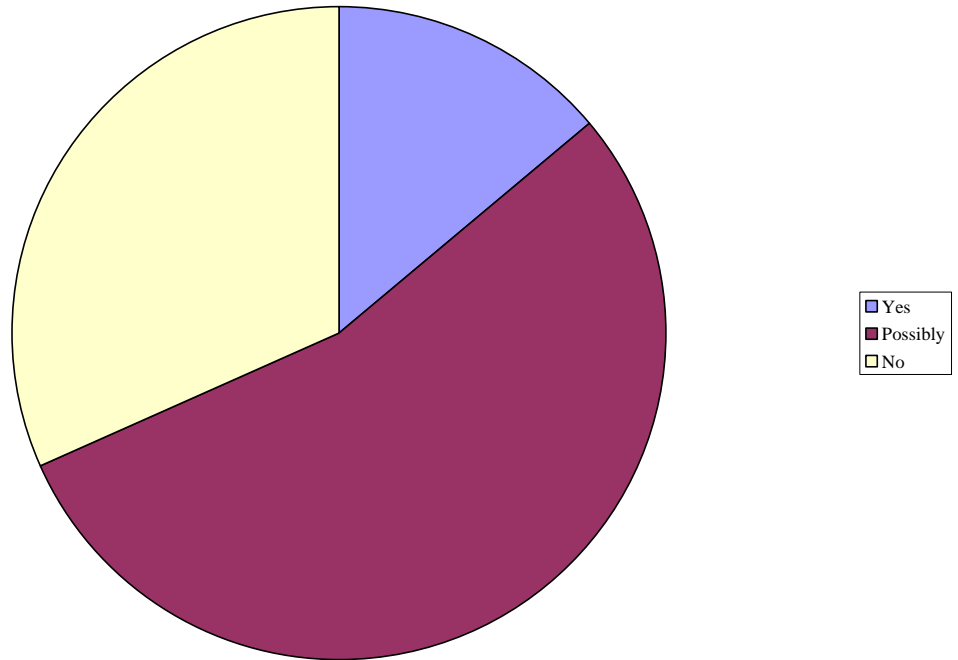


Fig 2.- What is your primary reason for not biking?

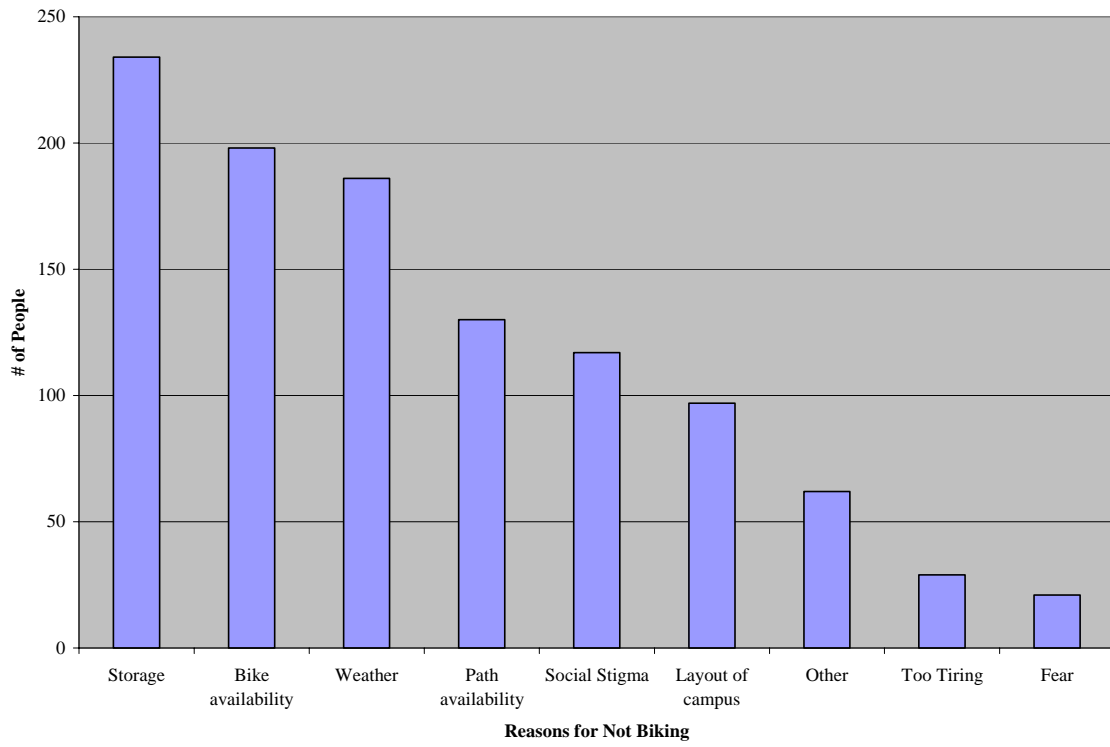


Fig. 3- How much would you pay for this service?

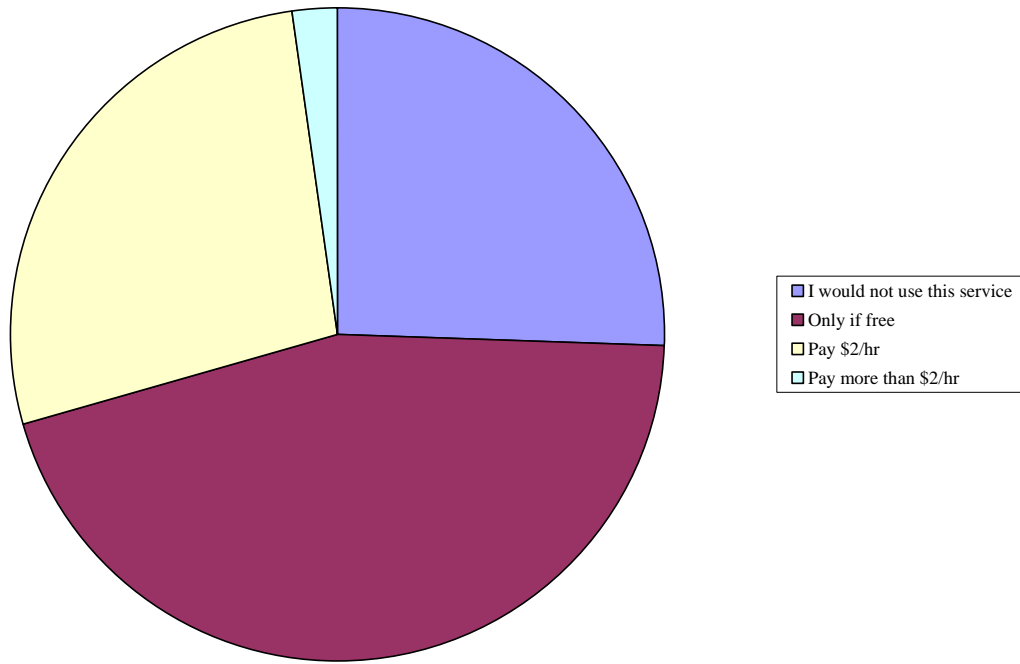
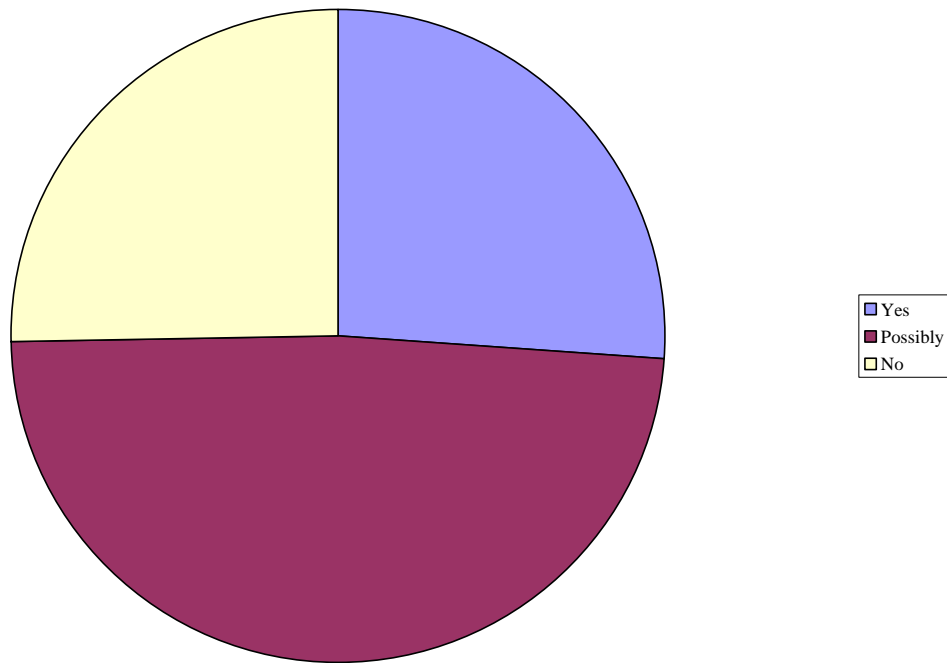


Fig. 4- While utilizing this service, would you possibly bike to places to where you would have previously driven?



### **Discussion**

We proposed the idea of a Villanova bike rental program in order to cut down on carbon emissions on or near the school's campus, with the secondary objective of creating a healthier student body. We casually observed that biking is not prevalent on campus and that there might even be apathy towards it, so we were having concerns about the program's success. Nevertheless, we surveyed 406 Villanova students regarding our idea so as to quantitatively establish if the campus would support the cause. Our results discounted some of our speculations about biking apathy and gave us insight as to why there is such a lack of biking culture at Villanova. We discovered that the primary reason for not biking was a lack of storage space (22%, fig.2). The next most popular



reason for not biking on or around campus was the sheer unavailability of bicycles (18.3%, fig.2). This information indicates that the main reason for the lack of biking on campus is that school does not adequately provide a convenient means to use and maintain a bicycle. The survey also indicates that there is general willingness to reduce car pollution: 67.9% of students said they would potentially use the program if successfully implemented (fig. 1). A majority also said that they would be interested in using the bikes to go places to where they had previously driven (fig. 4). This previous finding is important as 82% of students claimed that they occasionally drive to places that are within walking distances.

This survey indicates to us that a biking program could be hugely successful if the administration were to try to implement it. Currently, we have no formalized plans to submit this information to the university, but we would gladly comply if we were approached to give a presentation. As a next step in this experiment, and making the transition from field work to implementation, we would suggest that approximately two dozen bicycles be advertised somewhere near the newly built gym on main campus. Students would possibly associate the bikes with the thriving social scene at the gym and thus the popularity of the bike sharing program would begin. We do not have any idea if the administration would charge a small fee for these initial test bikes, but we would suggest that they do not for the time being so that they do not quash any enthusiasm the student body might have for the idea of biking in and of itself. If this enthusiasm could be triggered at first, students might not have much of a problem if they ultimately do have to pay later.

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