

# Feasibility Study of a Bike Share Program on the Texas A&M University Campus

Master of Urban Planning Program

Texas A&M University

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## Introduction

The bike share programs have become increasingly popular in recent years. Several large cities, such as Washington D.C., Minneapolis, and New York City, have launched their bike share programs. Many college campuses are investigating the feasibility of this alternative transportation mode for the students and faculties to get around campus. A recent report<sup>1</sup> shows there are close to 100 college campuses with bike share programs. In addition to being one of the largest campus populations in the nation with more than 55,000 students, Texas A&M University also functions as the downtown of College Station—the primary destination for the majority of the city’s population.

Transportation Services is a university department that addresses alternative transportation on campus. For years, according to manager Ron Steedly, the department had considered implementing a bike share program, but lacked the research and data needed to assess the feasibility, cost, and implementation of such a program (see LTRSteedly.doc).

The feasibility of a sustainable bike share program at the Texas A&M University campus may impact the university in many positive ways. From the perspective of the university, bicycling may help eliminate the need for additional vehicle parking spaces and reduce traffic congestion on campus. In addition, the ridership of the university shuttle on campus would likely to go down because some students who would switch to the bicycles from shuttles. This, in turn, would also result in the reduction of the numbers and frequency of university shuttles, which would also help the environment by reducing emissions and traffic congestion. From the perspective of the individual who would use the bike share program, cycling promotes a healthy lifestyle and has many health benefits including decreasing obesity, blood pressure, insulin levels and triglyceride levels.

## Problem Statement

Students were asked to imagine themselves as the manager of the transport service for the university considering piloting a bike share program on the Texas A&M University campus for the benefits introduced above. One of the many concerns is the demand for the bike share program. In other words, how many people would use the bike share? Students were asked to investigate the current transportation mode share for the students to come to the campus from home as well as to get around campus.

This project explored the feasibility of piloting a bike share program on the Texas A&M University campus through a demand analysis. Students estimated the number of students would use the bike share as the first mode of transportation once on campus (assuming the first stage of bike share program is only available on campus) as well as the spatial and temporal distribution of the bike share flow. Students collected both primary and secondary data, including

- Dormitory occupancy;

- Building square footage and occupancy;
- Class registration numbers and room location;
- Recreation center user trips by time of day;
- Pedestrian and bicycle count data at the Wellborn Road underpass;
- Bicycle and pedestrian condition survey;
- Campus bus trip data;
- Parking lot utilization data, and;
- Two years of campus transportation-related accident reports.

**With these analyses, student answered the following questions:**

1. What system generation 1, 2, 3, or 4 is most suitable for TAMU?
2. What percent of TAMU intra-campus travel demand may shift?
3. Where are the most suitable locations for the stations?
4. What bike system improvements are necessary to improve safety and utility for the user?

The analyses indicated that a hybrid 2-3 generation design was the most suitable for campus, and that a convenient bike share system would induce 400-4000 bike-share trips a day from bus riders alone. A careful GIS-based suitability analysis revealed the most convenient locations for stations (see Project Report). Major improvements needed included bike route connectivity.

The results gave the client the information needed to begin implementation of the program. Transportation Services is moving forward with the plan by launching the largest round-trip bike share program in the United States. The system launched in the fall of 2013 by targeting commuters and dorm residents. The client reports that the program has over 900 members and nearly 100 rides per day. It is the intention of Transportation Services to collect data on the system to develop best practices for university-based round trip bike share systems for implementation at other large universities (see LTRSteadly.doc).

A story on the program can be found here: <http://one.arch.tamu.edu/news/2013/10/31/study-campus-bikeshare/>

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<sup>i</sup> Ashley, Jennifer (2012). Bike Sharing as Alternative Transportation at Bridgewater State University. Undergraduate Review, 8, 16-25. Available at: [http://vc.bridgew.edu/undergrad\\_rev/vol8/iss1/6](http://vc.bridgew.edu/undergrad_rev/vol8/iss1/6)